13	**AGENDA ITEM** **ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS**
	Deadline for Submission - Wednesday 9 a.m. – Thirteen Days Prior to BCC Meeting

10/20/2026

BCC MEETING DATE

TO: **Joy Andrews, County Administrator** **DATE:** **May 14, 2026**

FROM: **Neal Shinkre, Director, Utilities** **PHONE:** **904 209-2721**

SUBJECT OR TITLE: **Amending the Comprehensive Plan for Wellhead Protection -- Second Reading -- Final Hearing**

AGENDA TYPE: **Business Item, Ordinance, Public Hearing, Report**

BACKGROUND INFORMATION:

Since the original St. Johns County Land Development Code in 1999 and Comprehensive Plan, significant technological and regulatory advancements have been made related to wellhead protection. Based on increased density in the County and its need for future well sites, SJCUD proposes to bring the County Comp Plan and Land Development code into compliance with State law and alignment with current best practices. This is the second and final reading and public hearing of the proposed Comp Plan Amendment. It should be Ordinance 2026- with the corresponding changes to the Land Development Code.

1. IS FUNDING REQUIRED? No **2. IF YES, INDICATE IF BUDGETED.** No

IF FUNDING IS REQUIRED, MANDATORY OMB REVIEW IS REQUIRED:

INDICATE FUNDING SOURCE:

SUGGESTED MOTION/RECOMMENDATION/ACTION:

Motion to enact Ordinance 2026-_____, COMP Plan Amendment 2026-01 regarding updates to the Wellhead Protection Areas of the St. Johns County Comprehensive Plan.
Motion to deny COMP Plan Amendment 2026-01 regarding updates to the Wellhead Protection Areas of the St. Johns County Comprehensive Plan.

For Administration Use Only:
Legal: Lex Taylor 10/7/2026 **OMB: CR 10/7/2026** **Admin: Brad Bradley 10/8/2026**

Growth Management Department
COMP Plan Amendments 2026-01

To:	Board of County Commissioners
From:	Lex Taylor, Deputy County Attorney
Date:	October 20, 2026
Subject:	**Comprehensive Plan (COMP Plan) Amendments 2026-__ for Wellhead Protection - Second Reading – Final Hearing**
Hearing Dates:	PZA – August 20, 2026 (First Hearing -- PZA) BCC – September 1, 2026 (Transmittal Hearing -- BCC) PZA – October 15, 2026 (tentative Second PZA) BCC – October 20, 2026 (tentative Final Hearing)
Commissioner District:	N/A

BACKGROUND

Since the original St. Johns County Land Development Code in 1999 and that version of the Comprehensive Plan, significant technological and regulatory advancements have been made related to wellhead protection. Based on increased density in the County and its need for future well sites, SJCUD proposes to amend the restrictions related to wellhead protection. Aligning the restriction with current State of Florida regulations and the St. Johns Water Management District brings us into compliance with state law and allows for correct placement of new County wells.

SJCUD must secure 20-30 additional well sites to meet its future water supply projections. Due to increased density, obtaining these sites has become challenging. Many sites are not feasible, too expensive, or sellers are unwilling to negotiate the purchase of a site. The County has committed to serving approved developments, and water supply planning and well construction must stay ahead of the completion of these developments.

The Florida Administrative Code (FAC) 62-761 mandates the wellhead protection radius to be 500 feet. This has always been the distance prescribed, and the majority of Florida municipalities and utilities have aligned with the state requirement. For example, Clay, Duval, Flagler, Putnam, and Alachua Counties all state 500 feet as the wellhead protection area. SJCUD is not proposing to reduce the overall 1,000 feet wellhead protection area (Floridan Aquifer Secondary Zone), but only make an exception for retail fuel stations provided that such facilities incorporate storage systems installed with secondary containment as required in Chapter 62-761, F.A.C.

The current version of the LDC allows for special use permits within the 500-foot wellhead protection area which is in conflict with state law, so the change from 200 feet to 500 feet from the County is what the County has been required to enforce and matches State law.

A typical SJCUD well is 450 feet deep so does not impact anything that a surficial well would impact. Well construction includes a casing covering the shaft fully until the pumping zone. It is capped at the surficial aquifer and only draws from the Floridan aquifer. St. Johns County's geology is not karst like other parts of Florida that have natural springs. The confining layer in St. Johns County protects the aquifer from surficial impacts. The attached hydrogeological report and standard well construction detail contain more information.

In addition, the SJRWMD issues the consumptive use permits for SJCUD wells and therefore dictates much of the wellfield management. SJCUD must protect water quality for its wells, as well as surrounding wells. Pumping rates are lowered for this protection, which necessitates more wells. SJCUD's Wellfield Optimization Plan Report (June 2015) is available if more detail is needed on SJCUD's wellfield management.

SJCUD staff reached out to other water providers in St. Johns County to verify their support. There were no objections to this proposed change.

AMENDMENT SUMMARY

A red-line copy of the amendments is included as **Attachments** to this report. Changes consist of the following:

Objective D.4.4 and D.5.4 are modified to bring the Comprehensive Plan into alignment with the proposed Land Development Code changes. The changes increase the primary zone of protection from 200 feet to 500 feet to mirror state law and mirror what the County is required to enforce. They remove the ability to get a special use permit within the primary zone to comply with State law. Minor changes to stormwater regulation

are modified because St. Johns Water Management District monitors the position of all wellheads and regulates stormwater accordingly.

CORRESPONDENCE/PHONE CALLS

As of the writing of this staff report, Staff has not received related calls.

BOARD DIRECTION

Comprehensive Plan Amendment 2026-01 was transmitted to Tallahassee. Action today may include transmitting adopting the Comprehensive Plan amendment as presented or with modifications or moving to deny the Comprehensive Plan Amendment. If the direction given today is to transmit this item to Tallahassee with or without modifications, the State's recommendation will be brought back to the Board at a future meeting for further action.

ATTACHMENTS

1. Ordinance
2. Exhibit A and Exhibit B (clean)
3. Hydrogeological Report
4. Well Standard Detail
5. Proof of Advertising

ORDINANCE NO. 2026 - _____

AN ORDINANCE OF ST. JOHNS COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA, AMENDING PORTIONS OF THE 2025 COMPREHENSIVE PLAN (ORDINANCE NO. 2010-38, AS AMENDED) SPECIFICALLY AMENDING SECTION D (INFRASTRUCTURE ELEMENT – POTABLE WATER SUB-ELEMENT) OBJECTIVE D.4.4 (SURFACE WATER AND GROUNDWATER QUALITY) AND OBJECTIVE D.5.4 (WELLHEAD PROTECTION) TO AMEND AND CLARIFY USES AND ACTIVITIES WITHIN THE COUNTY'S WELLHEAD RESOURCE PROTECTION AREA FOR CONSISTENCY WITH CHAPTER 62-521, FLORIDA ADMINISTRATIVE CODE AND CURRENT BEST PRACTICES; PROVIDING FOR FINDINGS OF FACT; PROVIDING FINDINGS OF CONSISTENCY; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Chapter 125 and 163, Florida Statutes authorizes the Board of County Commissioners to prepare, adopt, implement, and enforce Comprehensive Plans and Land Development Regulations to guide and control development within the County; and

WHEREAS, Section 163.3184 and 163.3187 Florida Statutes establish the procedures for the process for the adoption and amendment of local comprehensive plans; and

WHEREAS, protection of potable water supplies and groundwater resources is a matter of public health, safety, and environmental concern; and

WHEREAS, the Florida Department of Environmental Protection (FDEP) has adopted Wellhead Protection requirements pursuant to Chapter 62-521, Florida Administrative Code, which establish a Wellhead Protection Area defined as a five hundred (500) foot radial setback distance around a potable water well to provide protection from contamination of groundwater resources; and

WHEREAS, St. Johns County currently implements a Wellhead Protection Area of one thousand (1,000) feet surrounding public potable water supply wells, which consists of a primary and secondary protection zone intended to provide enhanced local protection of groundwater resources beyond the minimum protections established by Chapter 62-521, Florida Administrative Code; and

WHEREAS, St. Johns County desires to amend certain provisions of the Comprehensive Plan to maintain consistency with FDEP standards within the primary zone and to update prohibitions sand restriction within secondary zone based on current best practices and to provide greater flexibility in water supply planning; and

WHEREAS, these proposed Comprehensive Plan amendments are designed to be compliant with 2025 Senate Bill 180, and does not any more burdensome or restrictive procedures, the effect of these proposed amendments will be to reduce burdens and restrictions bringing County regulations into compliance with state law and allow for the use of modern best practices; and

WHEREAS, the proposed Comprehensive Plan amendments are attached hereto as ***Exhibit "A"*** and ***Exhibit "B"*** respectively; and

WHEREAS, the Board of County Commissioners finds that adoption of this Ordinance will continue the protection of potable water supplies and groundwater resources and is in the best interests of the public health, safety, and welfare of the citizens of St. Johns County.

NOW THEREFORE BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA:

SECTION 1. COMPREHENSIVE PLAN AMENDMENT. Objectives D.4.4 and D.5.4 of the St. Johns County Comprehensive Plan are amended to read as provided in the attached as ***Exhibit "A"*** and ***Exhibit "B"*** respectively, incorporated herein as part of this Ordinance.

SECTION 2. LEGISLATIVE FINDINGS OF FACT. The above recitals and WHEREAS clauses are true and correct and are hereby adopted as legislative findings and incorporated herein by reference and made a part hereof**.** The 2026 Comprehensive Plan amendments described in Section 1 hereof are based upon the following Findings of Fact:

(a) The amendments were fully considered after public hearing pursuant to legal notice duly published as required by Law.

(b) The amendments are consistent with the Florida Department of Environmental Protection Wellhead Protection Rules.

(c) The amendments are consistent with the applicable sections of the St. Johns County Comprehensive Plan and the Land Development Code.

SECTION 3. The remaining portions of the St. Johns County Comprehensive Plan, Ordinance No. 2010-38, as amended, and the 2026 Future Land Use Map, as amended, which are not in conflict with the provisions of this ordinance, shall remain in full force and effect. Nothing in this Ordinance shall be deemed as amending or rescinding portions of the St. Johns County Comprehensive Plan unless specifically addressed.

SECTION 4. Inclusion and Codification into the Comprehensive Plan. It is the intent of the St. Johns County Board of County Commissioners that the provisions of this Ordinance shall be codified and made part of the St. Johns County Comprehensive Plan, Ordinance No. 2010-38, as previously amended, and that the sections and attachments of this ordinance may be renumbered, reorganized, re-lettered, and appropriately incorporated into the Comprehensive Plan in order to accomplish such intentions. It is the intent of the St. Johns County Board of County Commissioners that scriveners and typographic errors which do not change the tone or tenor of this Ordinance may be corrected during codification and may be authorized by the County Administrator or designee, without public hearing, by filing a corrected or recodified copy of the same with the Clerk of the Board.

SECTION 5. Should any section, subsection, sentence, clause, phrase or portion of this ordinance be held invalid or unconstitutional by any court of competent jurisdiction, such portions shall be deemed a separate, distinct and independent provision and shall not affect the validity of the remaining portions.

SECTION 6. These amendments to the St. Johns County Comprehensive Plan shall be effective thirty-one (31) days after the state land planning agency notifies the local government that the plan amendment package is complete. If timely, challenged, within thirty (30) days after adoption, the amendment does not become effective until the state land planning agency or Administration Commission enters a final order determining the adopted amendment to be in compliance.

SECTION 7. This ordinance shall be recorded in a book of land use regulation ordinances kept and maintained by the Clerk of Court in accordance with Section 125.68, Florida Statutes.

PASSED AND ENACTED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, THIS _____ DAY OF _____ 2026.

BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA

BY: _____
Clay Murphy, Chair

ATTEST: Brandon J. Patty
Clerk of the Circuit Court & Comptroller

BY: _____
Deputy Clerk

Objective D.4.4
Surface Water and Groundwater Quality

The County's potable water system shall continue to meet the standards of Federal, State, and Regional drinking water regulations. These standards shall help ensure drinking water quality.

Policies

D.4.4.1 The County shall establish a mechanism to protect the SJRWMD designated Surficial and Floridan Aquifer Recharge Areas. The County will work with the SJRWMD to educate the public on major ground water issues of concern in the county.

D.4.4.2 Future public water supply well fields shall be located in areas where development and potential future contamination impacts are minimized.

D.4.4.4 The County shall utilize water quality data and appropriate biological indicators to design water management practices that facilitate the maintenance or improvement of the existing water quality of the available resources to meet state water quality standards.

D.4.4.5 The County shall maximize the use of conservation measures before considering the use of alternative water supplies or interbasin transfer of water.

D.4.4.6 The County shall continue to implement the wellhead protection regulations in the Land Development Code, which include primary and secondary zones restrictions as specified below:

A. Primary Zone-Surficial and Floridan Aquifer

The Primary Zone of the Wellhead Protection Area is established as a zone of exclusion intended to prevent contamination of public potable water supplies. Except as expressly permitted herein no new Uses or Structures shall be allowed within the Primary Zone of the Surficial or Floridan Aquifer.

1. Permitted Uses within the Primary Zone.

a. Residential Uses, lawfully permitted by the St. Johns

River Water Management District.

b. Uses functionally related to and essential to the operation, maintenance, or protection of the water supply system.

c. Open space Uses, including passive recreation areas.

d. Parks, playgrounds, and similar low-impact recreational Uses.

e. Roads, utility infrastructure, and ponds, lawfully permitted by the St. Johns River Water Management District.

f. Agricultural Uses, not otherwise regulated by State law or this ordinance.

2. Additional Limitations Applicable to the Surficial Aquifer Primary Zone.

Within the Primary Zone for the Surficial Aquifer the following additional restrictions apply:

a. No parking areas, Structures, or impervious surfaces shall be permitted, except impervious surfaces that are clearly accessory to existing residential Uses lawfully established prior to adoption of the Comprehensive Plan.

b. Playing courts, open-air shelters, and similar low-impact recreation facilities may be permitted, provided they do not result in direct discharge to the Surficial Aquifer and are designed to minimize pollutant loading.

3. Prohibited Uses and Activities.

a. New sanitary landfills, including new phosphogypsum stacks, a solid waste disposal sites, or solid waste transfer facilities, including any solid waste activities under Rule 17-701.020, F.A.C.

b. New Industrial Land Use designations, industrial Uses, or

industrial wastewater discharges.

c. New Interim wastewater treatment plants that do not meet Advanced Wastewater Treatment (AWT) standards and all regulatory requirements applicable to Community Wastewater Treatment Plants are met.

d. New concentrated animal feeding operations as defined in Rule 17-670.200, F.A.C.

e. New dairy farm storage and treatment facilities, including high intensity use areas, and land application areas, as defined in Rule 17-670.200, F.A.C.

f. Discharge or infiltration of stormwater into depressions or features with direct or demonstrated hydrologic connection to the Surficial Aquifer.

g. New land applications of sludge or septage.

h. New underground storage tanks or underground storage facilities. Except, replacement of an existing underground storage tank system regulated under Chapter 62-761, F.A.C., within the same excavation, or the addition of new underground storage tanks regulated under Chapter 62-761, F.A.C., at a facility with other such existing underground storage tanks is exempt from this provision, provided that the replacement or new underground storage tank system is installed with secondary containment as required in Chapter 62-761, F.A.C.

i. New Class I and Class III injection wells, and new Class V injection wells except for those specifically exempted by Rule 62-521.400, F.A.C.

j. New hazardous-waste treatment, storage, or disposal facilities.

k. New aboveground storage tanks and aboveground storage tank facilities. Except replacement or upgrading of

an existing aboveground storage tank or addition of new aboveground storage tanks which are regulated under Chapter 62-762, F.A.C., at a facility with other such aboveground storage tanks is exempt from this provision, provided that the replacement or new aboveground storage tank system meets the applicable provisions of Chapter 62-762, F.A.C.

B. Secondary Zone, Floridan Aquifer

The following Uses and activities are restricted within the Secondary Zone of the Wellhead Resource Protection Areas, for the Floridan Aquifer and may be allowed subject to review and approval of a Special Use Permit and where applicable a Development Permit pursuant to Part 9.01.00 of the Land Development Code.

1. Sludges

Existing sludge spreading activities in an RPA must have a current valid permit or regulatory authorization and remain in full compliance with all applicable state and local environmental permitting requirements and this Part.

2. Septages

Existing septage spreading activities in an RPA must have a current valid permit or regulatory authorization and remain in full compliance with all applicable state and local environmental permitting requirements and this Part.

3. Hazardous Wastes

Any new facility that uses, handles, stores, or generates hazardous wastes in an RPA exceeding thirty (30) gallons of liquid hazardous waste, or six (6) pounds of solid hazardous waste, shall require approval and must have a current valid permit or regulatory authorization and be in full compliance with

all local, state and federal and this Part.

4. New sanitary landfills, including new phosphogypsum stacks, solid waste disposal sies, or solid waste transfer facilities, including any solid waste activities regulated under Rule 17-701.020, F.A.C.

5. New concentrated animal feeding operations as defined in Rule 17-670.200, F.A.C.

6. New dairy farm storage and treatment facilities, high intensity use areas, and land application areas as defined in Rule 17-670.200, F.A.C.

7. Installation of new underground storage tanks or underground storage facilities. Except underground storage tanks or facilities regulated under Chapter 62-761, F.A.C., are exempt from this provision, provided that the new underground storage tank system or facility is installed with secondary containment as required in Chapter 62-761, F.A.C.

Objective D.5.4
Wellhead Protection

The County shall continue to protect the wellhead areas by continuing the application and enforcement of its existing Land Development Regulations. The County shall also coordinate with the St. Johns River Water Management District to ensure adequate recharge rates and water quality to support the present and future population, economic development opportunities, and natural system needs.

Policies

D.5.4.1 The County shall continue to implement the wellhead protection regulations in the Land Development Code, which include primary and secondary zones restrictions as specified below:

(a) preservation of native vegetation

(b) use of native drought tolerant plants

(c) construction limitations within the 100 year floodplain, environmentally sensitive lands, and SJRWMD designated surficial and Floridian aquifer recharge areas

(d) implementation of water loss prevention

D.5.4.2 The County shall protect wellfield protection areas of public potable water consistent with Chapter 62-521, F.A.C and the Land Development Code by:

(a) prohibiting the generation or manufacture of contaminants, solvents, pesticides, fertilizers, or other hazardous waste within wellfield protection areas.

(b) prohibiting or restricting the installation or establishment of petroleum pipelines, underground and aboveground storage tanks, or hazardous industrial uses within wellfield protection areas.

(c) prohibiting or restricting the storage or use of contaminants, solvents, pesticides, fertilizers, hazardous waste, industrial uses within wellfield protection areas.

General Geology and Hydrogeology of St. Johns County

Proposed Ordinance Amendments for
Wellhead Protection
Supporting Information

Prepared by St. Johns County
Utility Department

August 25, 2025

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I. General Geology and Hydrogeology of St. Johns County

A review of the hydrogeology in St. Johns County, Florida (study area) was conducted using existing hydrogeologic data, published reports, drilling and geophysical logging data, and well construction and testing records obtained from wells located throughout the county. Data from these sources were compiled to illustrate cross sections of the generalized hydro stratigraphy underlying the study area.

Figure 1 presents a general summary and description of the hydrogeologic framework in the study area. Figure 2 provides a location map for the cross sections (A–A' and B–B') shown in Figures 3 and 4, respectively.

A. Hydrogeologic Framework

The geological setting of the study area consists of a thick sequence of carbonate rock and unconsolidated to semi-consolidated clay, silt, and sand deposits that overlie a basement of complex metamorphic strata. The principal aquifer systems underlying the study area are contained within sediments ranging in age from the Late Cretaceous to the Holocene. From shallowest to deepest, these aquifer systems include the Surficial Aquifer (SA), the Floridan Aquifer System (FAS), and the Cretaceous Aquifer System (CAS).

The geologic units that comprise the SA, FAS, and CAS, from youngest to oldest, include undifferentiated deposits of Pliocene and Late Miocene age, the Hawthorn Group of Miocene age, the Ocala Limestone of Late Eocene age, the Avon Park Formation of Middle Eocene age, the Oldsmar Formation of Early Eocene age, the Cedar Keys Formation of Paleocene age, and the Lawson Limestone and Navarro Group of Upper Gulfian age (Figure 1).

Rocks comprising these geologic formations generally dip to the north-northeast and are shallower in the southern portion of the county. Variations in the thickness and distribution of these stratigraphic units are depicted in Figures 3 and 4. Groundwater quality in the area is variable and generally degrades toward the south, becoming more mineralized with depth.

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SYSTEM	SERIES	GEOLOGIC FORMATION	LITHOLOGIC CLASSIFICATION	AQUIFER SYSTEM		HYDROLOGIC UNIT
Quaternary	Holocene/Pleistocene Pliocene Miocene	Undifferentiated Deposits	Sand, silt, and shell deposits	Surficial Aquifer		Surficial Aquifer
Tertiary	Holocene/Pleistocene Pliocene Miocene	Hawthorn Group	Clay, silt, sand, and carbonate deposits	FLORIDAN AQUIFER SYSTEM	UCU	Upper Confining Unit
Tertiary	Eocene	Ocala Limestone	Fossiliferous limestone porous	FLORIDAN AQUIFER SYSTEM	UFA	Upper Floridan Aquifer
Tertiary	Eocene	Avon Park	Fossiliferous and dolomitic limestone variable	FLORIDAN AQUIFER SYSTEM	MSCU	Middle Semi Confining Unit
Tertiary	Eocene	Avon Park	Fossiliferous and dolomitic limestone variable	FLORIDAN AQUIFER SYSTEM	Lower Floridan Aquifer	Upper Avon Park Permeable Zone
Tertiary	Eocene	Avon Park	Fossiliferous and dolomitic limestone variable	FLORIDAN AQUIFER SYSTEM	Lower Floridan Aquifer	Confining to Semi Confining Unit
Tertiary	Eocene	Avon Park	Fossiliferous and dolomitic limestone variable	FLORIDAN AQUIFER SYSTEM	Lower Floridan Aquifer	Semi-Confining Unit (MAPCU)
Tertiary	Eocene	Avon Park	Fossiliferous and dolomitic limestone variable	FLORIDAN AQUIFER SYSTEM	Lower Floridan Aquifer	Lower Avon Park Permeable Zone
Tertiary	Eocene	Oldsmar Formation	Micritic and dolomitic limestone	FLORIDAN AQUIFER SYSTEM	Lower Floridan Aquifer	GMU Confining Unit
Tertiary	Eocene	Oldsmar Formation	Micritic and dolomitic limestone	FLORIDAN AQUIFER SYSTEM	Lower Floridan Aquifer	Fernandina Permeable Zone
Tertiary	Paleocene	Cedar Keys Formation	Interbedded dolomite and anhydrites	FLORIDAN AQUIFER SYSTEM	LCU	Lower Confining Unit
Cretaceous	Upper Gulfian	Lawson Limestone	Dolomitic limestone, fossiliferous, porous	Cretaceous Aquifer System		Lawson Limestone
Cretaceous	Upper Gulfian	Rocks of Navarro Age	Chalk, Clay, and Sand	Cretaceous Aquifer System		Navarro Group

Figure 1: Generalized Hydro stratigraphy of St. Johns County, Florida

B. Surficial Aquifer

The geologic units comprising the Surficial Aquifer (SA) in the study area consist predominantly of discontinuous, interbedded lenses of unconsolidated, fine- to medium-grained quartz sand, shell, and clay deposits of the Pleistocene, Holocene, and Late Miocene series. The base of the SA is expected to occur at an elevation of approximately –25 to –100 feet mean sea level (msl) and generally lies between 25 and 120 feet below land surface (bls) in the study area.

The SA is underlain by approximately 50 to 310 feet of Miocene-age phosphatic sands, dolomitic silts, and clay deposits (Hawthorn Group) that comprise the upper confining unit (UCU) of the Floridan Aquifer System (FAS). As shown in Figure 3, the thickness of the UCU increases in the northern part of the county, where it generally ranges from 180 to 310 feet. In the southern part of the county, it decreases to roughly 50–150 feet. The silt and clay deposits of the UCU form an effective confining layer that restricts the exchange of water between the underlying FAS and the SA.

C. Floridan Aquifer System

The FAS is the principal underground source of drinking water in the region due to its water quality and production potential. Except for the UCU, the hydrogeologic units comprising the FAS, in descending order, include the Upper Floridan Aquifer (UFA), the middle semiconfining unit (MSCU), the Lower Floridan Aquifer (LFA), and the lower confining unit (LCU).

The LFA is subdivided into three distinct aquifer zones:

- Upper Avon Park permeable zone (UAPPZ)
- Lower Avon Park permeable zone (LAPPZ)
- Fernandina permeable zone (FPZ)

These zones are separated by two intervening confining units: the middle Avon Park Composite Unit (MAPCU) and the Glauconite Marker Unit (GMU). The geologic units comprising the FAS, from youngest to oldest, include the Ocala Limestone, the Avon Park Formation, and the Oldsmar Formation. The Cedar Keys Formation forms the lower boundary of the FAS.

D. Upper Floridan Aquifer

The UFA occurs below the Hawthorn Group and is contained within the carbonates of the Ocala Limestone. In the southern part of the county, it also includes the carbonate rocks of the upper Avon Park Formation. This sequence consists primarily of poorly to moderately indurated, fossiliferous limestone with relatively high effective porosity and permeability, grading into moderately indurated limestone and sparse dolomitic limestone.

In general, the UFA dips to the north-northeast and is inferred to occur at depths ranging from approximately –90 feet msl in the southwestern county to more than –350 feet msl in the extreme north. Based on lithologic and geophysical logging data from water-supply wells throughout the county, its thickness is estimated at 200–300 feet. Hydraulic data from the St. Johns River Water Management District (SJRWMD) Northeast Florida (NEF) regional model indicate transmissivity values generally range from 20,000 to 500,000 feet squared per day (ft^2/d). Constant-rate pumping tests in the Tillman Ridge Wellfield suggest transmissivity of the UFA in the CR 207 wastewater basin is on the order of 28,000–55,000 ft^2/d.

Water-quality conditions in the UFA were evaluated using existing groundwater sampling data from thirty UFA wells in the study area. These data, obtained from the SJRWMD water-quality database, were compiled into a TDS concentration contour map (Figure 5). Water in the UFA is fresh in the

northern county and brackish in the south. TDS concentrations range from about 200 mg/L in the northwest to approximately 5,000 mg/L in the southeast. The high-TDS water in the southern county is attributed to vertically induced migration of saline water from deeper FAS zones, driven by UFA discharge through submarine springs east of Crescent Beach (Spechler and Hampson, 1984).

E. Middle Semiconfining Unit (MSCU)

The MSCU underlies the UFA and is estimated to range from 100 to 400 feet in thickness across the study area. This unit separates the UFA from the underlying LFA and generally consists of low-permeability limestone and dolomite deposits within the Avon Park Formation. The degree of vertical fluid movement through the MSCU varies across the county, depending on its vertical hydraulic conductivity. Based on the SJRWMD NEF groundwater model, leakance through the MSCU is low in the northern part of the county (10^{-6} to 10^{-5} per day) and increases by several orders of magnitude in the southern half, which may have contributed to upward migration of deep saline water into shallower aquifer zones in this area (Figure 3).

F. Lower Floridan Aquifer (LFA)

The LFA underlies the MSCU and comprises three discrete water-producing zones separated by intra-aquifer confining units. These zones occur within the carbonates of the Avon Park Formation:

- Upper Avon Park permeable zone (UAPPZ)
- Lower Avon Park permeable zone (LAPPZ)
- Fernandina permeable zone (FPZ)

The UAPPZ occurs at depths of approximately –700 to –900 feet msl in the study area and generally ranges from 50 to 200 feet in thickness, depending on location. It supplies water to Duval County and parts of northeast St. Johns County, where its groundwater is fresh with relatively low TDS concentrations. As in the UFA, water quality in the UAPPZ degrades southward—TDS exceeds 10,000 mg/L in the middle to southern half of the county (Figure 3).

The middle Avon Park Composite Unit (MAPCU) separates the UAPPZ from the deeper LAPPZ, providing roughly 100 to 200 feet of confinement between them. The top of the LAPPZ lies between –1,050 and –1,200 feet msl and is several hundred feet thick. Water quality in the LAPPZ is poorly understood due to limited well data, but is expected to be brackish to saline throughout the study area, especially in the southern half of the county.

The Glauconite Marker Unit (GMU) underlies the LAPPZ and is composed of interbedded dolomite

and anhydrite deposits in the upper Oldsmar Formation. Its low-permeability rocks form an effective confining layer between the LAPPZ and the FPZ. In the study area, the GMU occurs at depths of –1,300 to –1,600 feet msl and ranges from 300 to 500 feet in thickness. Drilling, sampling, and geophysical-logging data from an FPZ test monitoring well (SJ0025) in northeast St. Johns County indicate that the GMU is an excellent confining unit: flow logs and head differences, as well as a sharp chloride increase—from 38 mg/L in the LAPPZ to 16,210 mg/L in the FPZ—demonstrate its effectiveness.

G. Fernandina Permeable Zone

The FPZ underlies the GMU and is the lowermost permeable zone of the LFA. It is composed of highly permeable, fractured limestone and dolomite that make up the lower portion of the Oldsmar Formation. The FPZ is estimated to occur at depths ranging from –1,650 to –1,950 feet mean sea level (msl) and is 150 to 300 feet thick in the study area. It contains saline, highly mineralized groundwater. Based on recent water-quality samples from the FPZ monitoring well in northeast St. Johns County, TDS concentrations in this zone are on the order of 30,000 mg/L and are expected to exceed 10,000 mg/L elsewhere in the county.

H. Lower Confining Unit

The LCU lies below the FPZ and consists of lower Eocene to Paleocene, gypsiferous carbonates of the Cedar Keys Formation. It is estimated to occur from –1,950 to –2,200 feet msl and range from 250 to 500 feet in thickness. Primary porosity in these rocks is filled with anhydrite or gypsum, making them nearly impermeable and thus an effective confining unit. This unit forms the base of the Floridan Aquifer System (FAS) in the area and separates it from the underlying Cretaceous Aquifer System.

I. Lawson Limestone

In the study area, the Lawson Limestone is the uppermost permeable zone of the CAS, separated from the FPZ by the Cedar Keys Formation. This sequence of carbonate rock consists primarily of light-colored, fossiliferous, dolomitic limestone with relatively high effective porosity and permeability.

The Lawson Limestone is estimated to occur at depths between –2,200 and –2,600 feet msl and to range from 200 to 300 feet in thickness. Based on fluid-resistivity logs obtained from previous oil- and gas-exploratory wells, the TDS concentration in the Lawson Limestone is inferred to be on the order of 50,000 mg/L or more.

J. Navarro Confining Unit

The Navarro Confining Unit underlies the Lawson Limestone and consists of low-permeability sand, clay, and chalk deposits. Drilling records from exploratory oil- and gas-wells in the study area indicate that this unit is composed predominantly of white chalk grading into well-indurated shale.

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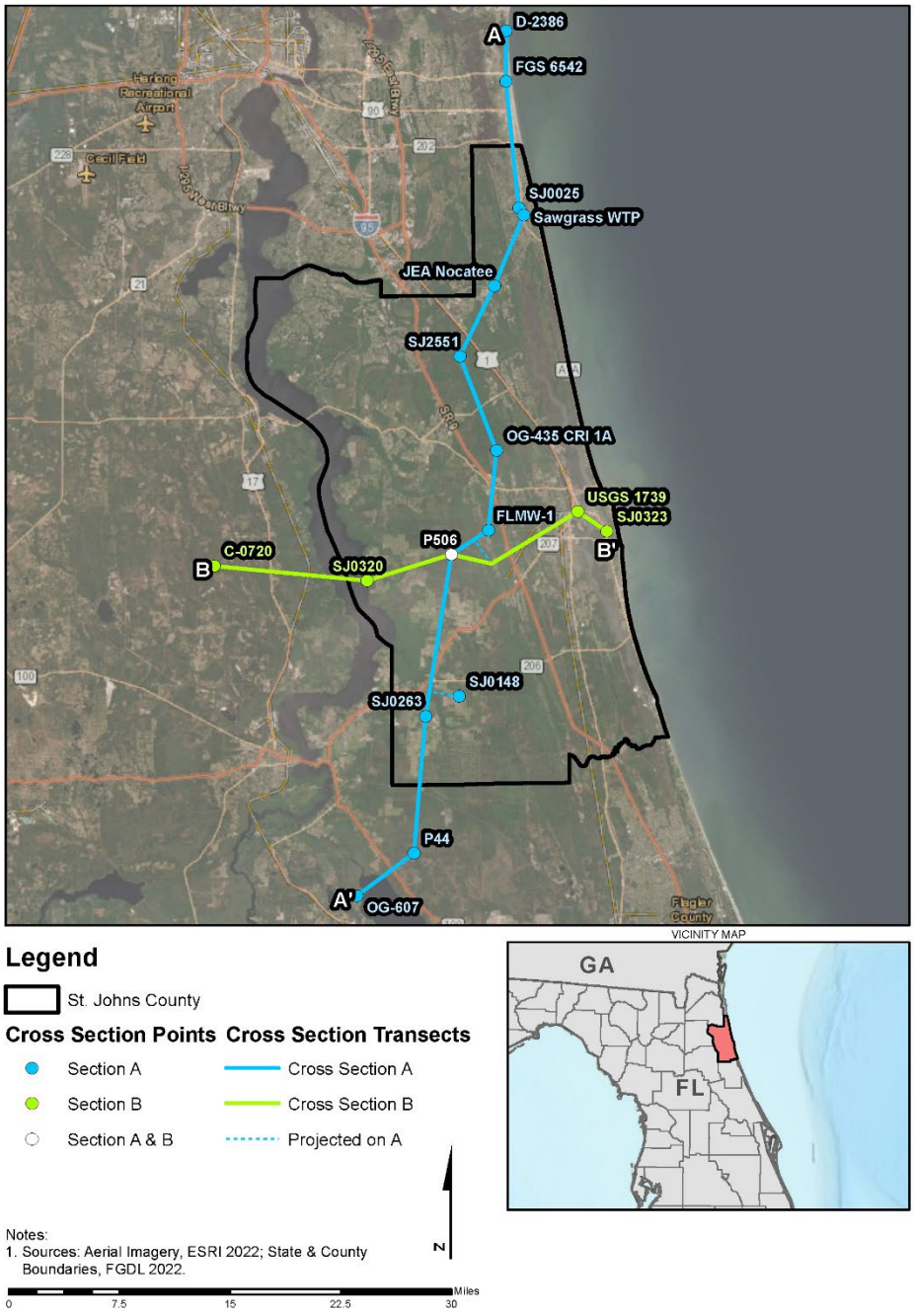


Figure 2: Cross Section Location Map

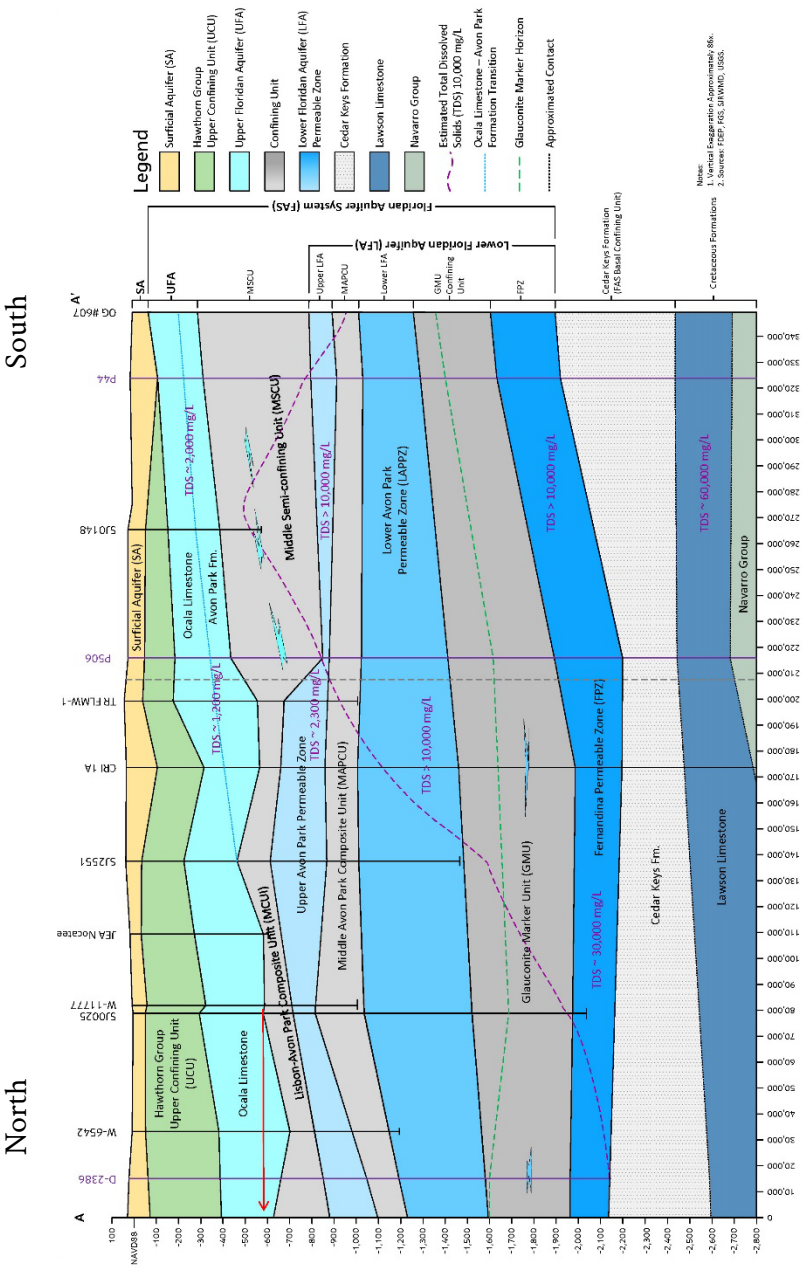


Figure 3 Cross Section A (North – South)

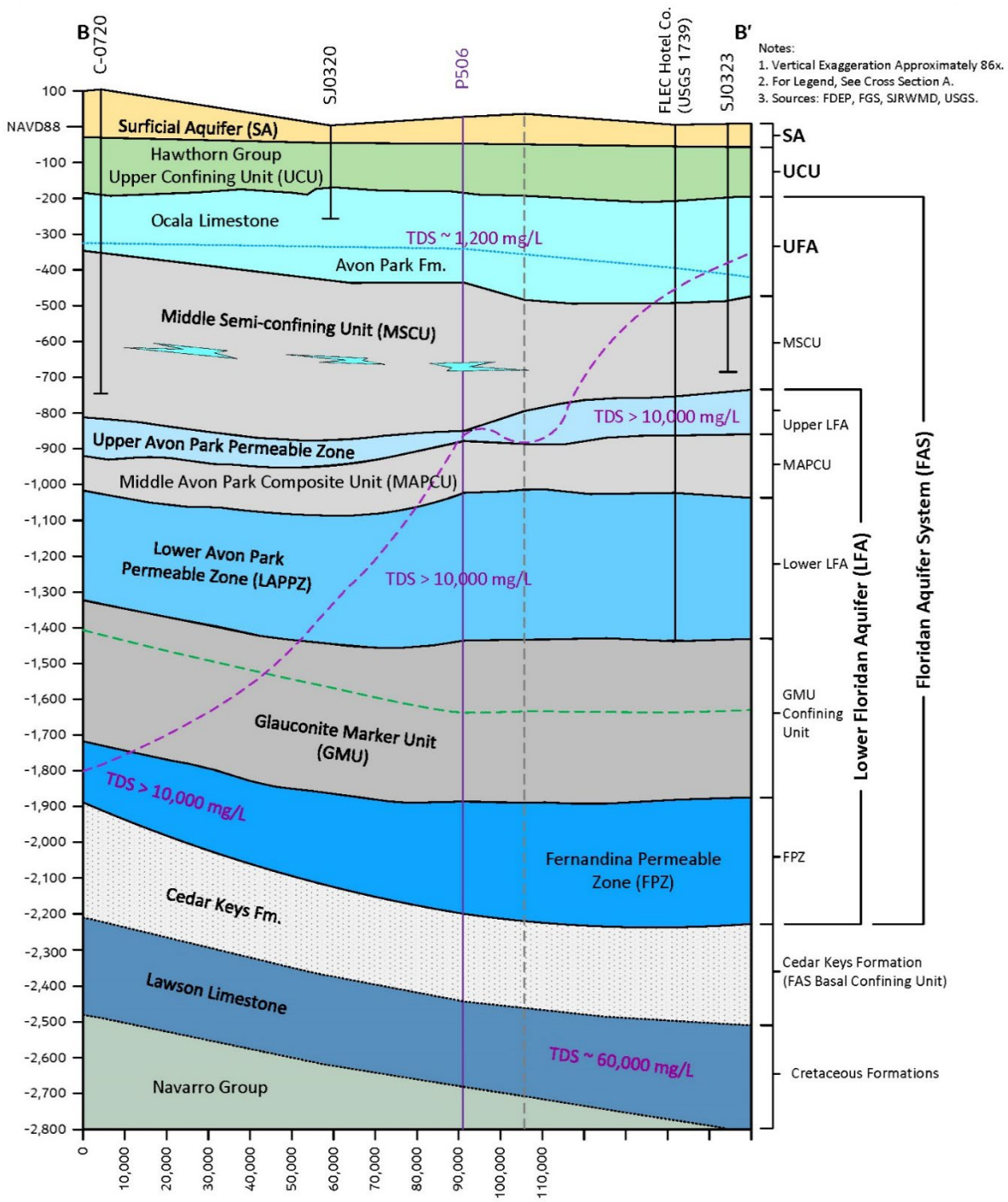


Figure 4: Cross Section B (West – East)

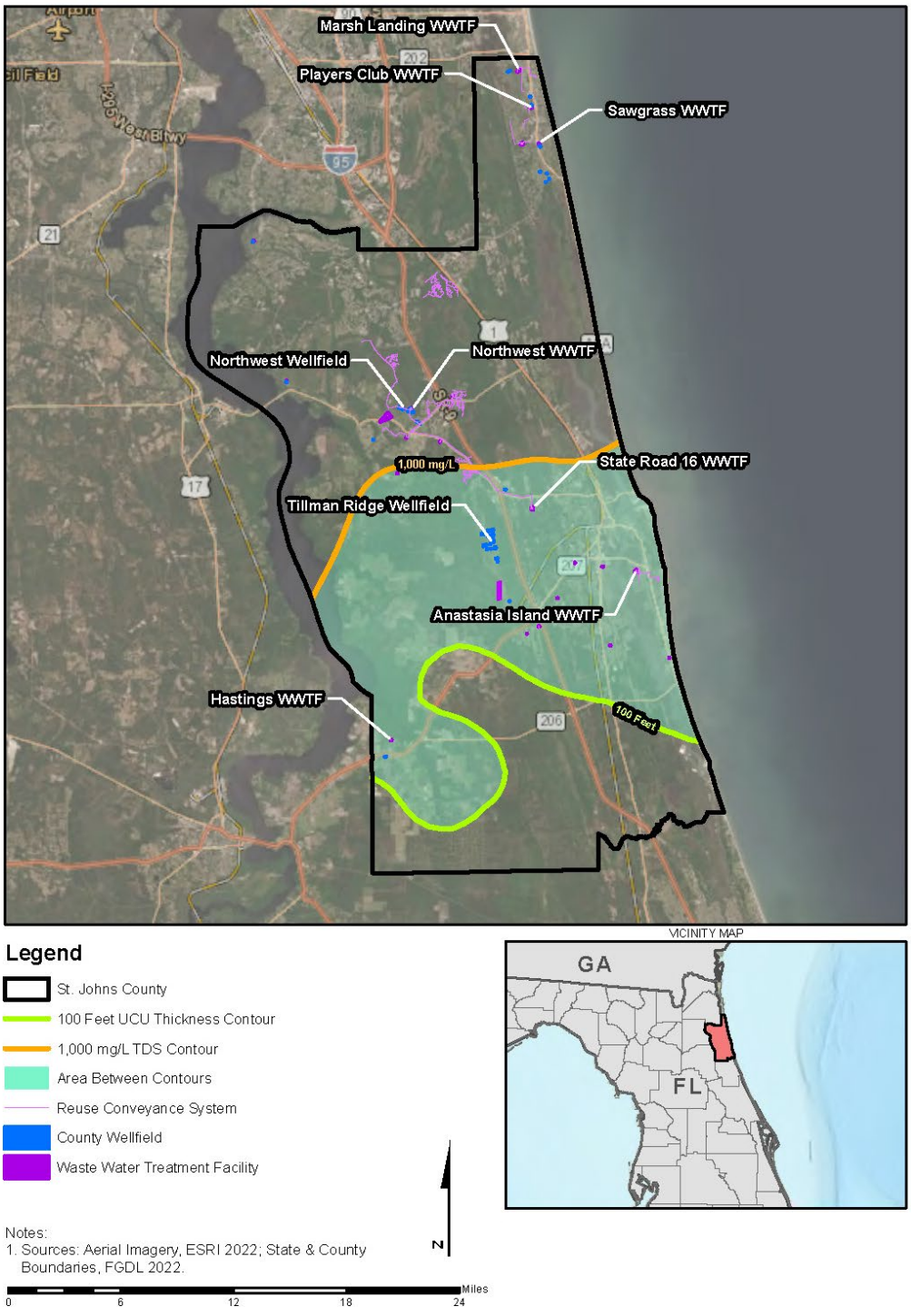


Figure 5: TDS Concentration Contour Map

II. Typical St. Johns County Public Supply Well

The construction of a typical public water-supply well in St. Johns County involves installing and grouting a production casing into the top of the Ocala Limestone, the geologic formation that contains the Upper Floridan Aquifer (UFA). The production casing seals off the discontinuous, interbedded lenses of unconsolidated sand, silt, and clay that form the Upper Confining Unit (UCU) and provides a conduit for safe, efficient groundwater extraction from the Floridan Aquifer System (FAS). Additionally, the casing and grout seal create a protective barrier against potential surface or near-surface contaminants.

A typical well also includes a concentric outer (surface) casing of larger diameter, installed and grouted prior to the production casing. The surface casing is normally set within the upper 80 feet of the borehole and seated into the top of the UCU, sealing off the Surficial Aquifer (SA) from deeper formations during drilling. Its primary purposes are to stabilize the borehole for production-casing installation and to provide an additional layer of protection against contaminants.

Once casing is in place, an open borehole is drilled below the production casing and typically completed within the carbonate rocks of the UFA. The silt and clay of the UCU form an effective confining layer that restricts water exchange between the UFA and the SA, offering natural protection of the groundwater source.

In summary, public-supply wells in St. Johns County are completed into the FAS and constructed with at least two steel casings—surface and production—grouted with cement from casing shoe to land surface. A 5- to 7-inch-thick cement grout seal protects the well from potential surface or near-surface contamination in the shallower SA.

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A. Typical Detail for Public Supply Well

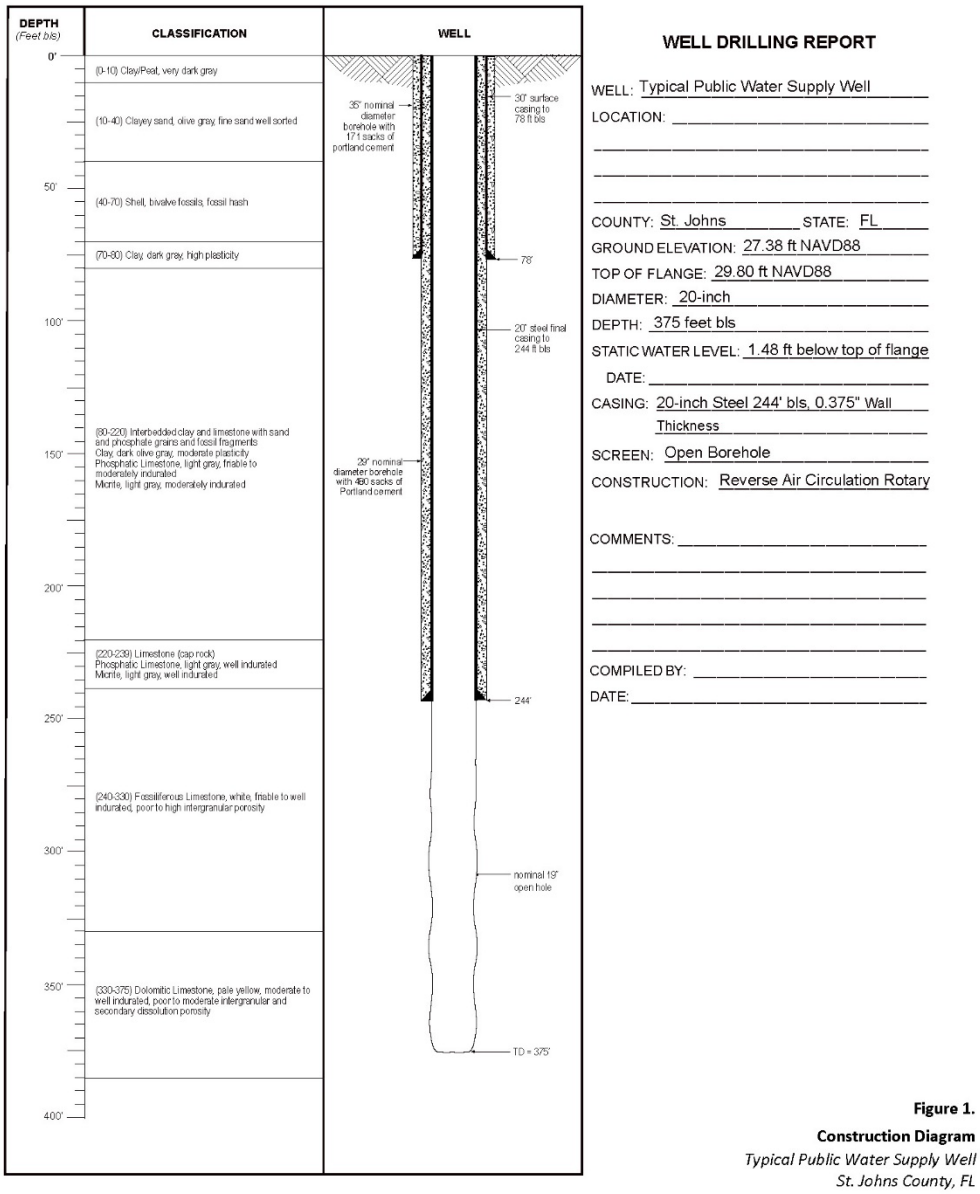


Figure 6: Typical Public Supply Well Detail

III. FDEP Wellhead Protection Area Supporting Information

Under Chapter 62-521, Florida Administrative Code (F.A.C.), the Florida Department of Environmental Protection (FDEP) designates a wellhead protection area (WPA) as a 500-foot radial setback around a potable-water well. Within this area, the most stringent measures apply to safeguard the groundwater source. Section 62-521.400, F.A.C., prohibits installing new aboveground or underground hazardous-waste tanks regulated under Chapter 62-730, F.A.C.

Reducing the radial setback for a new underground storage tank from 1,000 feet to 500 feet within the WPA secondary zone for the Floridan Aquifer would meet the minimum FDEP requirements in Chapter 62-521, F.A.C., and align with surrounding counties' practices.

- In Duval County, the WPA consists of a 750-foot radial setback. However, within a 500-foot radius of an existing potable water well, the prohibitions and uses established by Section 62-521.400, F.A.C., are adopted by reference.
- In Putnam County, a well-field protection zone consists of a 500-foot fixed radius around all community water-system wellheads, as defined by the FDEP.
- Clay County, Florida follows the FDEP guidelines for wellhead protection that establishes a 500-foot radius Wellhead Protection Area (WPA) around wells serving community and non-transient non-community public water systems.
- Flagler County's wellhead protection requirements are codified in Section 6.03.00 (Wellfield Protection) of the Flagler County Code of Ordinances. Owners or developers must furnish copies of all applicable EPA, DEP, DOH, or SJRWMD permits, permit applications, amendments, and monitoring reports to the county. This WPA defines a "zone of exclusion" as all land within a 200-foot radius of an existing or designated protected wellhead.

A. Duval County – Link to code

https://library.municode.com/fl/jacksonville/codes/code_of_ordinances/286353?nodeId=TITXENAF_CH366GRSUWAREMA_PT4WEPR_S366.404ESMAWEPRAR

B. Putnam County – Link to code

https://library.municode.com/fl/putnam_county/codes/code_of_ordinances?nodeId=COOR_CH45LADECO_ARTVIREPRST_DIV6POWAWEFIPR

C. Clay County – Link to code

https://library.municode.com/fl/clay_county/codes/code_of_ordinances?nodeId=CO_CH19WAWAWAMA_ARTIIPE_DIV1GE

D. Flagler County – Link to code

https://library.municode.com/fl/flagler_county/codes/code_of_ordinances?nodeId=FLCOCOOR_APXCLADECO_ARTVIREPRST_6.03.00WEPR_6.03.01PUIN

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STATE OF WISCONSIN, COUNTY OF BROWN

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SAG St Augustine Record 10/02/2026

Affiant further says that the website or newspaper complies with all legal requirements for publication in chapter 50, Florida Statutes.
Subscribed and sworn to before me, by the legal clerk, who is personally known to me, on 10/02/2026

Legal Clerk

Notary, State of WI, County of Brown

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My commission expires

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State of Wisconsin

NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTION OF A PROPOSED COMPREHENSIVE PLAN AMENDMENT TO THE ST. JOHNS COUNTY 2050 COMPREHENSIVE PLAN

NOTICE IS HEREBY GIVEN that the Planning and Zoning Agency on **Thursday, 10/15/2026 at 1:30 pm.** and the St. Johns County Board of County Commissioners on **Tuesday, 10/20/2026 at 9:00 am**, will each hold public hearings, as follows: The Planning and Zoning Agency to consider and issue a recommendation on the adoption of a proposed comprehensive plan amendment to the St. Johns County 2050 Comprehensive Plan and the Board of County Commissioners will consider whether or not to adopt the same proposed comprehensive plan amendment to the St. Johns County 2050 Comprehensive Plan, with the following styled ordinance:

AN ORDINANCE OF ST. JOHNS COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA, AMENDING THE 2050 COMPREHENSIVE PLAN, ORDINANCE NO. 2010-38, AS AMENDED, TO AMEND THE COMPREHENSIVE PLAN GOALS, OBJECTIVES AND POLICIES REGARDING WELLHEAD PROTECTION IN COMPLIANCE WITH STATE LAW AND UPDATED BEST PRACTICES; SPECIFICALLY AMENDING OBJECTIVE D.4.4 SURFACE WATER AND GROUND WATER QUALITY; AND OBJECTIVE D.5.4 WELLHEAD PROTECTION; PROVIDING FOR FINDINGS OF FACT; PROVIDING FINDINGS OF CONSISTENCY; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

Said hearings will be held in the County Auditorium, County Administration Building, 500 San Sebastian View, St. Augustine, Florida. All interested parties may appear at the public hearings to be heard regarding any or all of the proposed amendment. Board of County Commissioner items not heard by 6 pm shall automatically be continued until 9 am the following day, unless otherwise directed by the Board.

The subject property includes all of St. Johns County, Florida. See attached map generally depicting the location (Exhibit A). ***A complete description is available in the St. Johns County Planning and Zoning Office.***

The proposed change is known as File Number COMPAMD-2026000001, and is available for review in the Planning and Zoning Division of the Growth Management Department, at the Permit Center, 4040 Lewis Speedway, St. Augustine, Florida and may be examined by interested parties prior to said public hearings.

Interested parties may appear at the public hearings to be heard regarding the proposed amendment.

If a person decides to appeal any decision made with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

NOTICE TO PERSONS NEEDING SPECIAL ACCOMMODATIONS AND TO ALL HEARING

IMPAIRED PERSONS: In accordance with the Americans with Disabilities Act, persons needing special accommodations or an interpreter to participate in this proceeding should contact the County's ADA Coordinator at (904) 209-0650 or at the St. Johns County Facilities Management, 2416 Dobbs Road, St. Augustine, FL 32086. Hearing impaired persons, call Florida Relay Service (1-800-955-8770), no later than 5 days prior to the meeting.

PLANNING AND ZONING AGENCY
ST. JOHNS COUNTY, FLORIDA
Richard HILSENBECK, CHAIR

BOARD OF COUNTY COMMISSIONERS
ST. JOHNS COUNTY, FLORIDA
CLAY MURPHY, CHAIR

File Number: COMPAMD-2026000001, Wellhead Protection

