1.0 Introduction and General Information

Pursuant to the Florida Electrical Power Plant Siting Act (PPSA),[1] Seminole Electric Cooperative, Inc. (SECI or the Applicant), is filing this site certification application (SCA) for the proposed construction and operation of new electrical generating facilities at its existing Seminole Generating Station (SGS) site in Putnam County, Florida. The SGS site currently includes two approximately 650-megawatt (MW) (winter net) coal-fired electrical generating units (SGS Units 1 and 2)[2] certified under the PPSA in 1979 and in commercial operation since 1984 (Division of Administrative Hearings [DOAH] Case No. 78-1388). SECI obtained a certification for a third coal-fired power plant at the SGS site under the PPSA in 2008 (DOAH Case No. 06-0929). That unit was not constructed. Figure 1.0.0-1 shows the regional location of the SGS site.

SECI proposes construction and operation of a new natural gas-fired generation facility on currently wooded and undeveloped portions of the SGS site immediately south of the Existing SGS Units. The new facility will be configured and designed as a two-on-one, combined-cycle generating plant utilizing two advanced combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs), one steam turbine generator (STG), and directly associated onsite facilities.[3] The Seminole Combined Cycle Facility (SCCF or Project) will have a gross nominal generating capacity of 1,183 MW, with a nominal net generating capacity of approximately 1,050 MW. Coincident with the declared commercial operation of the SCCF as detailed throughout this SCA, SECI intends to remove from service one of the two Existing SGS Units.[4]

This SCA has been prepared in accordance with the PPSA, Chapter 62-17, Part I, Florida Administrative Code (F.A.C.), and the draft Florida Department of Environmental Protection (FDEP) Application Instruction Guide (September 1, 2009). This chapter provides information regarding SECI, an overview of

[1] Chapter 403, Part II, Florida Statutes (F.S.),
[2] Also referred to herein and throughout the SCA as the Existing SGS Units and/or SGS Units 1 and 2. Units 1 and 2 are certified to operate at 1,472 MW (nominal), with an estimated winter net capacity of approximately 650 MW each.
[3] In this SCA, the proposed new combined-cycle generating plant will be referred to as the Seminole Combined-Cycle Facility (SCCF or Project).
[4] Remaining SGS Unit as used throughout the SCA is intended to refer to the Existing SGS Unit that will continue to be operated beyond achieving commercial operation of the proposed SCCF. A decision as to which of the two Existing SGS Units will be removed from service will be made in the future.

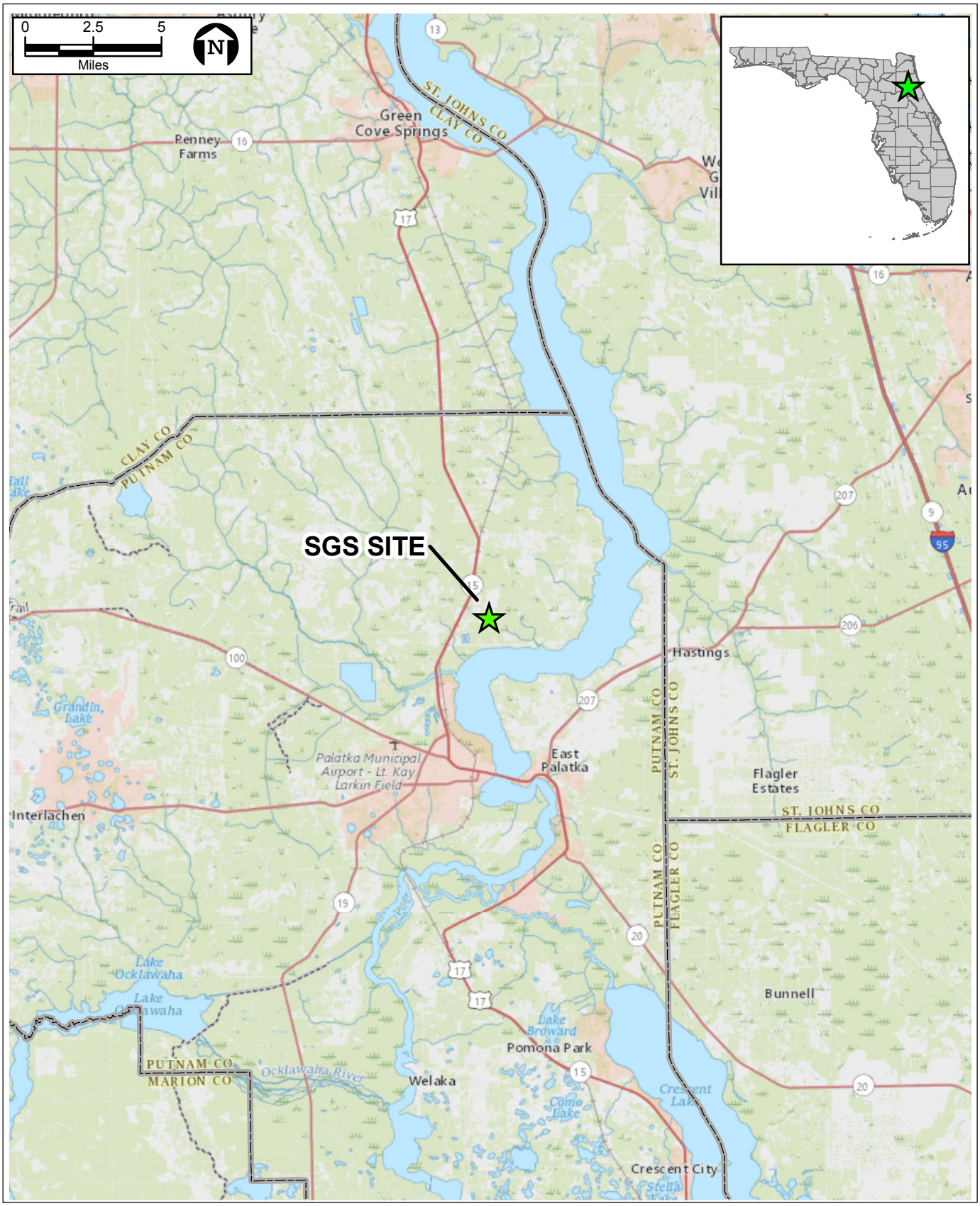

FIGURE 1.0.0-1.
REGIONAL LOCATION OF SGS SITE

Sources: USGS, 2017; ECT, 2017.

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the existing SGS site and the proposed SCCF, a summary of public outreach activities, and the purpose of the SCA.

1.1 Applicant Information

1.1.1 Applicant Identification

SECI is the Applicant for this SCA for the proposed SCCF. Table 1.1.1-1 provides the basic information to identify SECI as prescribed in FDEP's Application Instruction Guide.

Table 1.1.1-1. Applicant Information

Applicant's Official Name:	Seminole Electric Cooperative, Inc.
Address of Applicant:	16313 North Dale Mabry Highway, Tampa, Florida 33688
Address of Official Headquarters:	16313 North Dale Mabry Highway, Tampa, Florida 33688
Business Entity (corporation, partnership, cooperative):	Cooperative
Name and Title of Chief Executive Officer:	Lisa D. Johnson CEO and General Manager
Name, Address, and Telephone Number of Official Representative Responsible for Obtaining Certification:	James R. Frauen Vice President, Power Delivery and Technical Services Seminole Electric Cooperative, Inc. 16313 North Dale Mabry Highway, Tampa, Florida 33688 (813) 739-1213
Site Location—County:	Putnam County
Nearest Incorporated City:	City of Palatka
Latitude and Longitude:	Latitude: 29° 43′ 40″ Longitude: 81° 37′ 47″
Universal Transverse Mercators (UTM), Northerly and Easterly:	Northerly: 3288793.4 Easterly: 439094.5
Section, Township, Range:	All or portions of Sections 5, 6, 7, 8, 17, and 18, Township 9 south, Range 27 east; Section 31, Township 8 south, Range 27 east; and Sections 1 and 2, Township 9 south, Range 26 east
Location of Any Directly Associated Linear Facilities (Counties):	No linear facilities are proposed for certification.
Name Plate Generating Capacity of Additional Unit:	1,183 MW
Ultimate Site Capacity:	No ultimate site capacity is requested.
Additional Information:	Project Name: Seminole Combined-Cycle Facility (SCCF) at previously certified Seminole Generating Station (SGS), Site Certification No. PA 78-10

Source: SECI, 2017.

1.1.2 SECI Information

SECI is one of the largest electric generation and transmission (G&T) cooperatives in the country. SECI is led by an experienced management group and governed by a 27-member Board of Trustees comprised of three representatives from each of its nine Member distribution cooperatives (Members). As a G&T cooperative, SECI provides wholesale electric power to its Members. The Members, in turn, distribute the electricity to their member consumers. SECI's nine Member cooperatives provide electricity to approximately 1.6 million people and businesses in parts of 42 of Florida's 67 counties, stretching from the eastern portion of the Florida Panhandle to the southern portion of the state. Figure 1.1.2-1 shows the general service areas of SECI's nine Members.

Currently, SECI serves its Members' electricity demand needs through a balanced and diversified power portfolio, which includes SECI-owned generation facilities and energy provided through purchased power agreements of varying terms with other utilities, independent power producers, municipalities, and/or counties. Available resources include a mix of generation technologies and fuel types, including waste-to-energy, landfill gas-to-energy, solar, and biomass. As of December 31, 2016, SECI had total summer capacity resources of approximately 3,700 MW, consisting of owned, installed net capacity of 2,012 MW with the remaining capacity in firm purchased power.

SECI's generation resources include the Existing SGS Units in Putnam County and resources located at the Richard J. Midulla Generating Station (MGS) in south-central Florida (see Figure 1.1.2-1). The MGS site includes a 500-MW, natural gas-fired, two-on-one, combined-cycle facility; five aero-derivative combustion turbine peaking units with a total capacity of 310 MW; and a 2-MW photovoltaic solar facility. SECI also owns and maintains more than 381 miles of transmission lines. SECI contracts with other utilities for firm transmission service and interchange as required to serve loads.

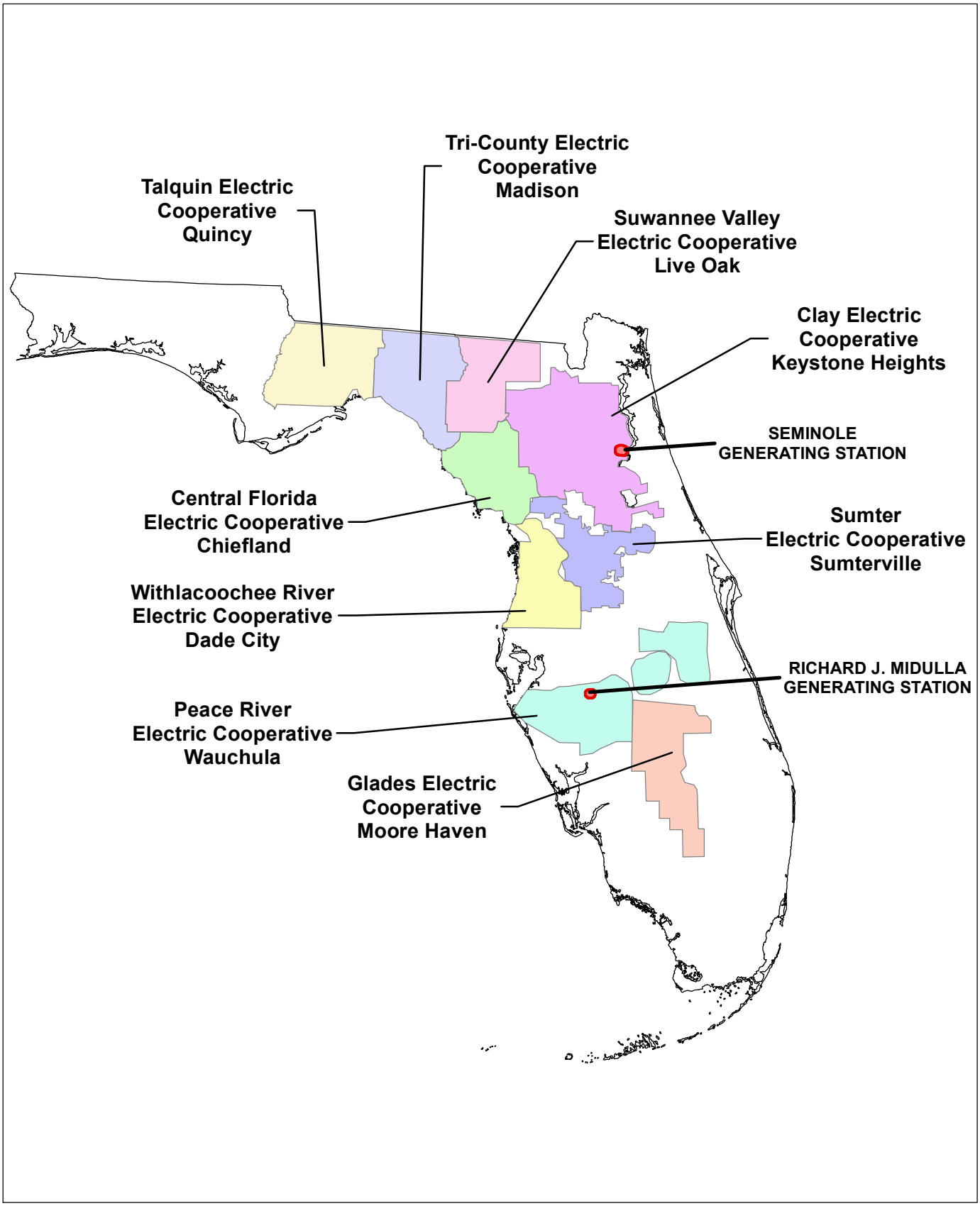

FIGURE 1.1.2-1.
SECI'S MEMBER DISTRIBUTION COOPERATIVES

Sources: SECI, 2016; ECT, 2017.

1.2 Overview of Existing SGS Site and Facilities

The proposed SCCF will be located on SECI's existing SGS site. As shown in Figure 1.2.0-1, the existing SECI-owned SGS property consists of approximately 1,996 acres, including an access road and water pipeline corridors running south to County Road (CR) 209 (West River Road) and a water pipeline corridor running south to the St. Johns River. SECI also has a submerged sovereign lands easement from the state of Florida running from the end of its water pipeline corridor into the St. Johns River for water intake and discharge related structures. Undeveloped areas of the SGS site are primarily forested upland and wetland areas.

The Existing SGS Units, certified under the PPSA in 1979, have been in commercial operation since 1984. The original certification also includes onsite directly associated facilities, as well as offsite associated 230-kilovolt (kV) transmission lines. Figure 1.2.0-2 shows the locations of the Existing SGS Units and major associated facilities along with the location of the proposed SCCF (in red). Major existing associated facilities on the site include the 695′ exhaust stack, two 450′ hyperbolic natural draft cooling towers, coal delivery and storage facilities, solid waste disposal areas area, a switchyard, water treatment and storage facilities, wastewater treatment facilities, an administration/control building, and stormwater management system/stormwater ponds. As noted in Section 1.0, one of the Existing SGS Units will be removed from service coincident with the declared commercial operation of the SCCF.

The certified site for the Existing SGS Units is approximately 1,917 acres. SECI subsequently purchased several adjacent parcels of land, including approximately 61 acres southwest of the site and an approximately 18-acre parcel along portions of the water pipeline area (see Figure 1.2.0-1). As part of this SCA, SECI requests inclusion of these parcels in the SGS certified site boundary, increasing the certified site area to approximately 1,996 acres.

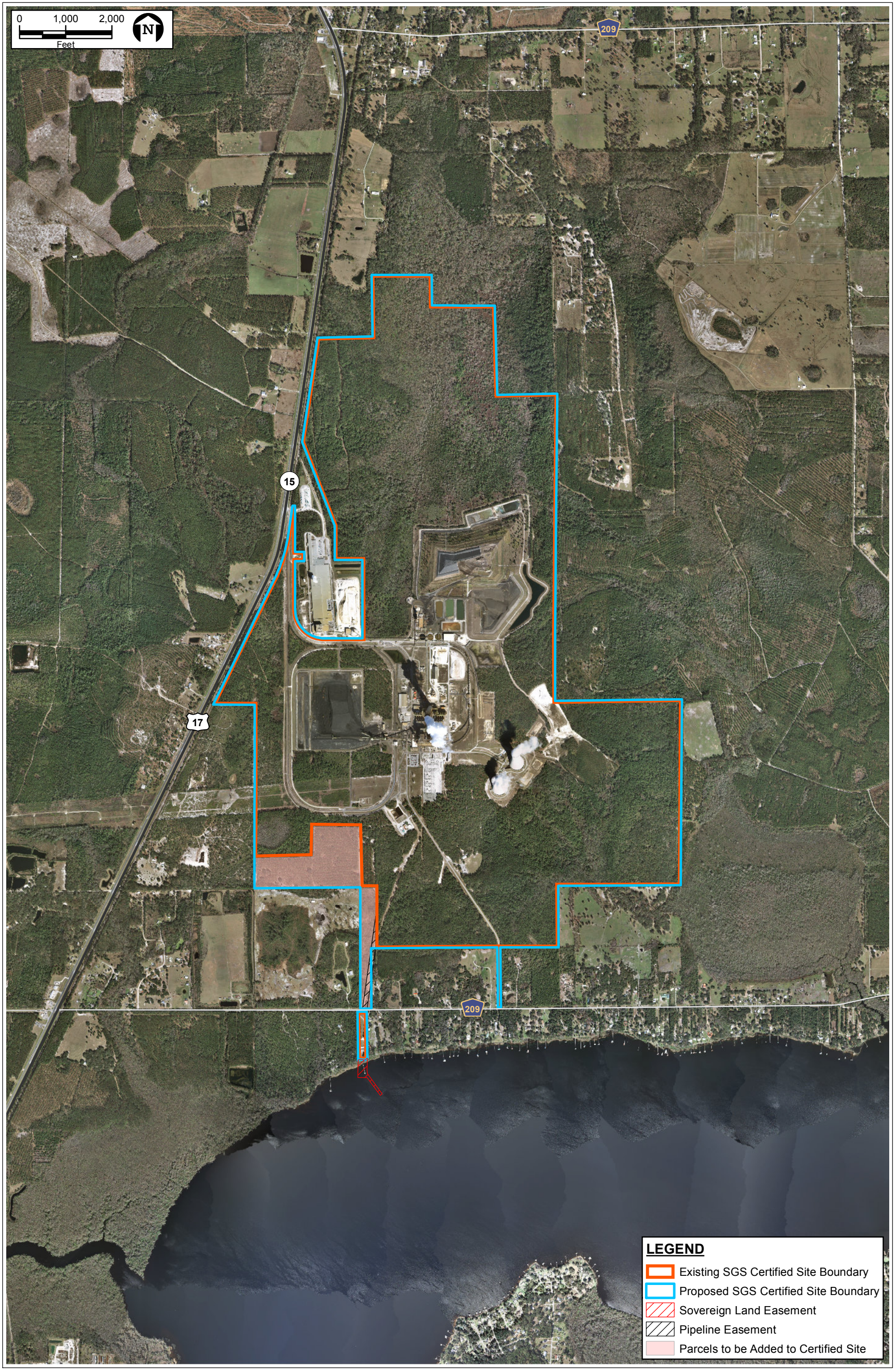

FIGURE 1.2.0-1.
SGS SITE AND GENERAL VICINITY

Sources: Putnum Co PA, 2016; FDOT, 2017; ECT, 2017.

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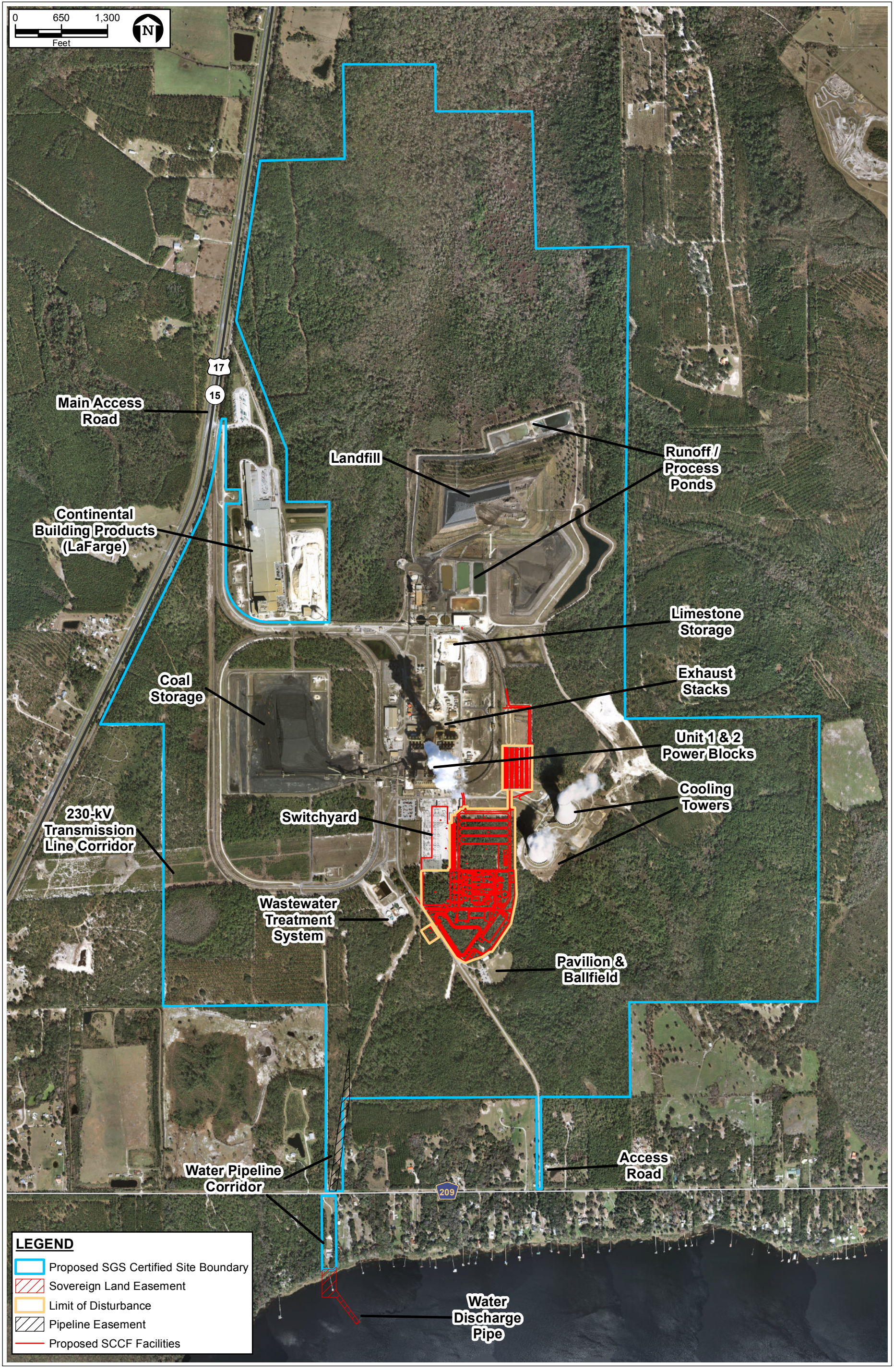

FIGURE 1.2.0-2.
EXISTING FACILITIES AND LOCATION OF SCCF PROJECT AT SGS

Sources: FDOT, 2017; Putnam Co PA, 2016; ECT, 2017.

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1.3 Overview of SCCF Project

Based on its integrated resource planning (IRP) process, SECI has determined the need for additional generating capacity beginning in the 2021 time frame. The results of the IRP process also found the SCCF to be a cost-effective and reliable component toward meeting identified future needs. The Project will involve the construction and operation of advanced electric generating facilities with state-of-the-art environmental control systems at SECI's existing SGS site.

The proposed SCCF will be located within an approximately 32-acre portion of the existing SGS site. As shown in Figure 1.3.0-1, the Project facilities will be situated directly south of existing Units 1 and 2, approximately 2,000′ north of the southern site boundary and approximately 3,000′ north of CR 209 (West River Road).

The SCCF will consist of a two-on-one, combined-cycle electric generating unit comprised of two advanced CTGs, two HRSGs, and one STG. The efficiency of electrical power generation is improved when a simple-cycle CTG is combined with a HRSG and STG for combined-cycle operation. When a stand-alone CTG is operated in a simple-cycle mode to generate electricity, the hot combustion gases are released to the atmosphere. In comparison, in combined-cycle configuration, the hot exhaust gases from the CTG are used to produce steam via flow-through piping within the HRSG, and the HRSG-produced steam is then used to drive the STG, thereby producing additional electricity without additional fuel use and air emissions. The SCCF will have a nominal net generating capacity of 1,050 MW and will be fired on natural gas only.

The SCCF will utilize existing infrastructure, including tie-ins to an extension of the existing electrical switchyard and transmission line corridor and tie-ins to water intake and discharge infrastructure supporting SGS Units 1 and 2. The Project includes onsite associated facilities such as electrical equipment enclosures, exhaust stacks, an administration building that will include a control room and maintenance area, a warehouse, parking, fuel gas regulation station, fuel gas heaters, mechanical draft cooling tower, diesel-fired emergency fire water pump, emergency aboveground service/fire water storage tank, aqueous ammonia tanks, a switchyard expansion, potable water and sanitary wastewater treatment facilities, step-up transformers, a stormwater management system/stormwater retention ponds, and piping tie-ins and other facilities necessary to integrate with existing intake and discharge water infrastructure. The proposed SCCF does not involve any offsite associated facilities. As shown in Figure 1.3.0-1, the Project will also utilize approximately 23 acres north of the proposed generating facilities for construction laydown and

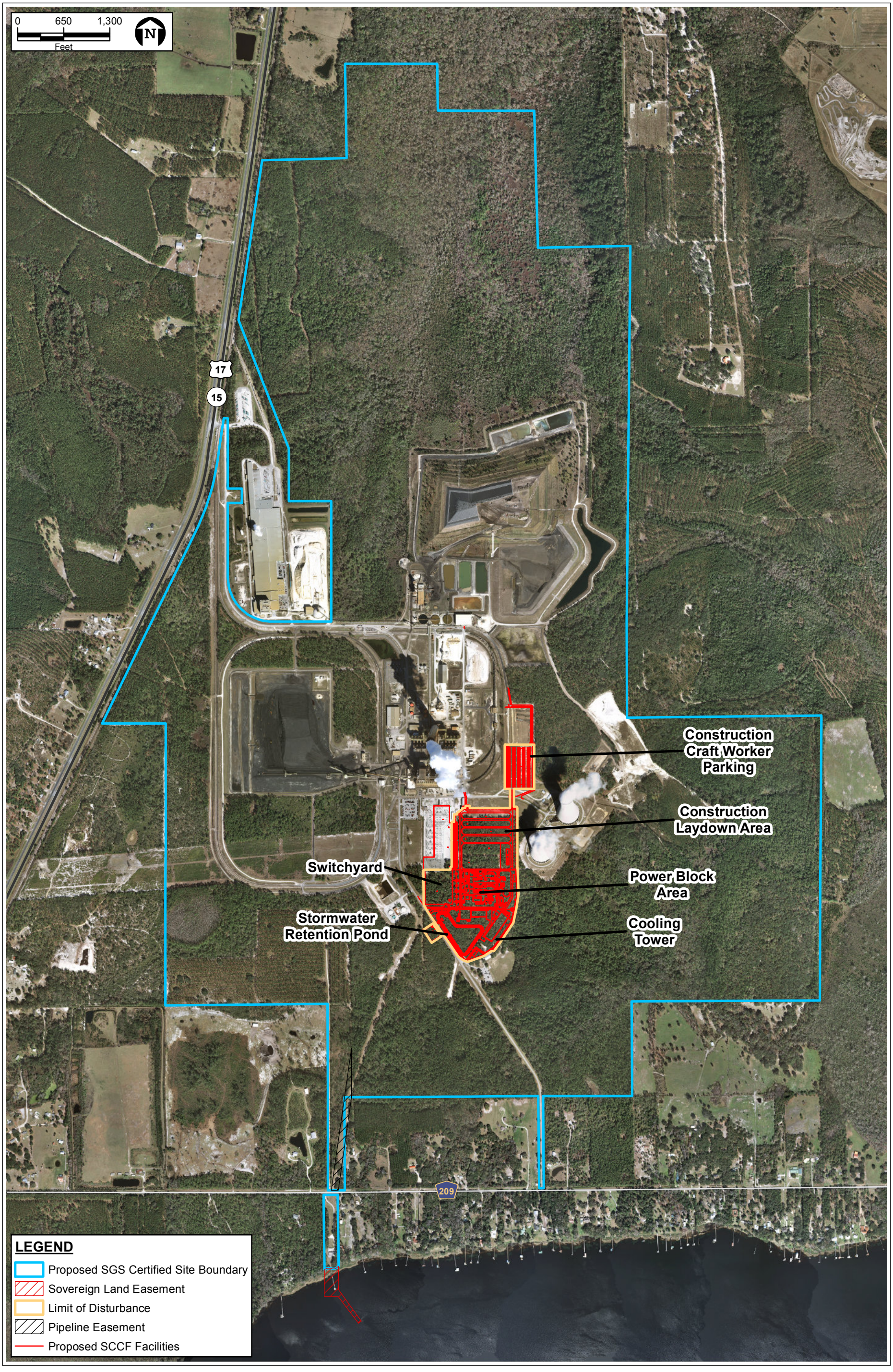

FIGURE 1.3.0-1.
LOCATION OF PROPOSED SCCF FACILITIES

Sources: FDOT, 2014, 2016; Putnam Co PA, 2016; ECT, 2017.

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construction worker parking. Construction activities for the SCCF are scheduled to begin sometime between mid-2019 and early 2020. or after all necessary regulatory approvals are obtained, with targeted commercial operation of the SCCF approximately 36 months later.

The proposed SCCF will be designed to utilize state-of-the-art technologies to minimize emissions. After detailed evaluations, SECI has selected the General Electric (GE) 7HA.02 advanced large-frame CTG model for the Project. The two CTGs will be equipped with dry low-nitrogen (DLN) oxide combustors to control nitrogen oxide (NO_x) emissions. The HRSGs will be equipped with selective catalytic reduction (SCR) systems to further reduce NO_x emissions. Emissions of carbon monoxide (CO) and volatile organic compounds (VOCs) will be limited through use of oxidation catalyst systems. Emissions of other air pollutants (i.e., sulfur dioxide [SO_2] and particulate matter [PM]) will be controlled and minimized through the sole utilization of natural gas, a low sulfur, clean fuel. Upon passing-through the various pollution controls, emissions will be exhausted through two approximately 199′ stacks. Sitewide emissions of most pollutants, including greenhouse gas (GHG), will decrease significantly via the cumulative effects of using clean burning natural gas and advanced combustion turbine and combined-cycle technologies and the removal from service of one of the Existing SGS Units.

In addition, the proposed SCCF will be designed to minimize the use of water and maximize the recycling/reuse of water. The condenser cooling system will be a closed-loop system consisting of a new 60′, 16-cell mechanical draft cooling tower. Cooling tower makeup water will be withdrawn from the St. Johns River through the existing SGS intake structure. The Project does not require an increase in the existing SGS surface water allocation. Groundwater use will be minimized through the use of tidally influenced river water for cooling, resulting in a minimal requested increased allocation of 0.12 million gallons per day (MGD). Cooling tower blowdown from the Project will be routed to a wastewater sump and then combined with the cooling tower blowdown and other wastewaters from the Remaining SGS Unit and discharged to the St. Johns River through the existing SGS discharge pipeline and diffuser system. Process and potable water needs for the proposed SCCF will be provided by groundwater through new wells in the vicinity of the proposed facilities. Low-volume wastewater will be collected and treated, as needed, prior to discharge in combination with the cooling tower blowdown to the St. Johns River.

The SCCF construction and operation on an existing power plant site minimizes impacts on wildlife in the vicinity and will not impact critical wildlife habitats. Further, the Project has been sited within the SGS site to avoid all wetland impacts. The SCCF will be designed with appropriate stormwater management systems, including temporary and permanent retention ponds to provide flood control and treatment of stormwater runoff from the Project area during construction and operation.

The SCCF will be interconnected to the bulk transmission system through the existing switchyard on the SGS site and the existing 230-kV transmission lines running west from the site. No associated offsite transmission lines will be needed for the proposed Project.

Natural gas fuel for the SCCF will be supplied through a new, approximately 21-mile pipeline lateral from the Florida Gas Transmission (FGT) natural gas transmission system. The pipeline lateral will originate from the FGT pipeline in western Putnam County and run generally east to the SGS site. The new natural gas pipeline lateral will not be permitted, majority-owned, constructed, or operated by SECI; therefore, the lateral is not included as an associated linear facility in this SCA.

1.4 Summary of Public Outreach Program

SECI is committed to keeping its neighbors, affected agencies, and the public informed on the SCCF and to consider input and feedback from these stakeholders. To meet this commitment, SECI has engaged in proactive public outreach to provide pertinent Project information.

Outreach activities began with a meeting in June 2016 to inform key Putnam County staff of SECI's potential plan to construct a new combined-cycle generating facility at its SGS site. Other outreach activities have included meetings with Putnam County officials; public meetings/hearings; and meetings with federal, state, and regional agency representatives. In addition, SECI hosted a four-hour open house at the Sam Hogg Pavilion adjacent to the proposed SCCF location on October 24, 2017, to provide interested neighbors and members of the public information regarding the Project, answer questions, and solicit comments. In advance of the open house, SECI mailed letters to over 2,000 property owners within a 3-mile radius of the SGS property boundary. SECI also published a half-page notice of the meeting in the Palatka Daily News. Copies of the letter invitation and newspaper notice are included in Appendix 10.1. Over 50 interested persons attended the open house, including many neighboring property owners. SECI solicited and received more than 20 written comments. The comments were overwhelmingly positive and demonstrated excitement for the Project from the community.

Appendix 10.1 provides additional details regarding SECI's public outreach activities. SECI will continue to keep key stakeholders informed throughout the SCCF licensing and construction process.

1.5 Purpose of the SCA

Since its enactment in 1973, all new power plants in Florida with a steam-generating capacity of 75 MW or greater are required to be certified (or licensed) in accordance with the PPSA. The PPSA provides for a centrally coordinated review and approval process of an SCA that incorporates applicable state, regional, and local substantive requirements. The SCA may include associated facilities, such as pipelines, roads, and transmission lines. The PPSA supersedes individual state, regional, and local agency permitting processes under Section 403.511, F.S., and certification is in lieu of separate state, regional, and local permits. Certification under the PPSA does not replace any licenses or permits required under federal law.

Under the PPSA, the SCA is prepared by the Applicant and filed with FDEP, with copies to other reviewing agencies. FDEP administers the processing of the SCA under the PPSA. The final certification (i.e., approval) is issued by Florida's Governor and Cabinet sitting as the Siting Board or, in undisputed and stipulated cases, by FDEP.

The purpose of this SCA is to obtain certification (i.e., approval) for the location, construction, operation, and maintenance of the SCCF at SECI's SGS site. As part of this certification, SECI also requests inclusion of approximately 79 acres of additional SECI-owned land adjacent to the site within the certified site boundary. Figure 1.2.0-1 highlights the additional lands to be added to the SGS site. With these additional lands, the certified SGS site will be approximately 1,996 acres.

This SCA demonstrates the proposed SCCF will comply and is consistent with applicable agency nonprocedural requirements as defined in Section 403.503(21), F.S., of the PPSA.