2020 - 2030
USF Master Plan Updates

Goals Objectives & Policies

Element 7: General Infrastructure & Utilities

UNIVERSITY OF SOUTH FLORIDA

ST PETERSBURG CAMPUS

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St Petersburg Infrastructure

Element 7 General Infrastructure and Utilities

STORMWATER MANAGEMENT SUB-ELEMENT

Plan Framework for Stormwater Management

The master plan does not specifically illustrate any aboveground stormwater facilities. There are 12 existing drainage basins within the campus boundaries. These drainage basins have direct outfall to Bayboro Harbor via two existing box culverts through the campus or through the City drainage collection system in 3rd St. S. Discharge from these drainage basins will not have adverse impacts on downstream conveyance systems.

(See Figure 7-a.)

Goal

The Stormwater Management goal for the USF St. Petersburg campus plan is to provide an adequate stormwater management system that accommodates future University stormwater needs while correcting any existing facility deficiencies.

Summary of Objectives and Policies

Objective 7.1:
Provide a sufficient stormwater management system in a design that is consistent and enhances the overall master plan scheme.

Policy 7.1.1: Stormwater management facilities shall comply with the design criteria established in the Cost Containment Guidelines and shall be in place and operational, at established levels of service, prior to occupancy of any new University building.

Policy 7.1.2: USF St. Petersburg campus shall coordinate through its capital improvement projects and building program to ensure that the stormwater vaults and pipes are located and constructed to avoid conflicts with future building programs.

Policy 7.1.3: USF St. Petersburg campus shall coordinate with the city to ensure that off-campus stormwater management facilities that may be affected by the implementation of the master plan are improved as appropriate. (See Intergovernmental Coordination Element for procedures).

Policy 7.1.4: USF St. Petersburg campus should annually review future construction programs and priorities for deficiency remediation as part of the capital improvements requirements and procedures of the Florida Board of Education to ensure capacity and capital improvements required to meet future University needs are provided when required, based on needs identified in other master plan elements.

Objective 7.2:
Coordinate and phase the increased stormwater facility capacity to meet the future needs of USF St. Petersburg campus.

Policy 7.2.1: USF St. Petersburg campus shall ensure that the detailed Stormwater Management Sub-Element complies with the City of St. Petersburg's levels of service of a 10-year return frequency, 1 hour storm event. In addition, the University shall adopt a level of service standard for stormwater quality and quantity as established in the Florida Administrative Code Chapters Chapter 40D-4, 40D-40 and 40D-400, the Governing Rules of the Southwest Florida Water Management District (SWFWMD).

Policy 7.2.2: Through the implementation of the stormwater management sub-element and the capital improvements program, projects within individual drainage basins shall be constructed to accommodate the future needs of the University and future development within those basins and shall be phased in accordance with the capital improvements program as described in the Capital Improvements Element (Table 11-a).

Stormwater facility improvements shall be constructed as identified generally on Figure 7-a.

Policy 7.2.3: USF St. Petersburg campus shall, as appropriate, establish a technical design standards manual for the new stormwater system to ensure the future adequate level of service and ease of maintenance.

Policy 7.2.4: USF St. Petersburg campus shall research and develop an overall stormwater treatment credit program for the campus. Once this has been developed, future development would be incorporated into one conceptual Environmental Resource Permit (ERP) in accordance with the rules of the Southwest Florida Water Management District (SWFWMD).

Objective 7.3:
Prevent any further degradation and improve the quality of receiving waters.

Policy 7.3.1: USF St. Petersburg campus should identify the stormwater detention systems within the plaza or underground vault areas as "no build" zones.

Policy 7.3.2: USF St. Petersburg campus should implement a regular stormwater facility maintenance program to ensure adequate water quality and design capacity of the facilities.

Policy 7.3.3: USF St. Petersburg campus should coordinate, as appropriate, with the host community regarding the National Pollutant Discharge Elimination System (NPDES) program.

Policy 7.3.4: USF St. Petersburg campus should mitigate University-generated stormwater and minimize stormwater-borne pollutants through the implementation of a system of Best Management Practices (BMPs), which includes, but is not limited to:

- Incorporating stormwater management retention and detention features into the design of parks, commons, and open spaces, where such features do not detract from the recreational or aesthetic value of a site.
- Use of slow release fertilizers and/or carefully managed fertilizer applications timed to ensure maximum root uptake and minimal surface water runoff or leaching to groundwater.
- Educating maintenance personnel about the need to maintain motor vehicles to prevent the accumulation of grease, oil and other fluids on impervious surfaces, where they might be conveyed to surface and ground waters by runoff, and the need to regularly collect and dispose of yard debris.
- Avoid the widespread application of broad spectrum pesticides by involving only purposeful and minimal application of pesticides, aimed at identified target species.
- Coordinating pesticide application with irrigation practices to reduce runoff and leaching into groundwater.
- Use of turf blocks and non-impervious surface treatments to minimize impervious surface area and reduce the flow of runoff pollutants.
- Incorporating features into the design of fertilizer and pesticide storage, mixing and loading areas that are designed to prevent or minimize spillage.
- Pursue licensing for grounds superintendents and staff to use restricted pesticides and to ensure that fertilizers will be selected and applied to minimize surface water runoff and leaching to ground water.

Policy 7.3.5: It shall be the policy of USF St. Petersburg campus that no stormwater discharges may cause or contribute to a violation of water quality or quantity standards in waters of the State. Post-development rates of discharge shall not exceed pre-development rates. Additional treatment must be provided since the University discharges into Outstanding Florida Waters (OFW).

Policy 7.3.6: USF St. Petersburg campus shall review all proposed construction and development on campus to ensure that any proposed increase in campus impervious surfaces shall be implemented only upon a finding that existing facility capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the time of need.

Objective 7.4:
Maintain and protect the natural drainage patterns and hydrological patterns of the USF St. Petersburg campus.

Policy 7.4.1: USF St. Petersburg campus, prior to the design and construction of any stormwater management facility, shall thoroughly investigate issues including geotechnical information, regulations, and existing utilities.

Potable Water Sub-Element

Plan Framework for Potable Water

The City of St. Petersburg provides potable water to the campus. This network of distribution lines within the City rights-of-way contain a 16-inch and 12-inch line along Sixth Avenue South and a 12-inch on 1st Street., 3rd Street, and 4th Street. The rest of the site is serviced by a network of 8-inch and 6-inch distribution lines. The City will upgrade its potable water system to serve the future needs, in accordance with the Development Agreement.

The master plan identifies an expansion of 189,769 square feet for the campus. The additional demand of 48 GPM is based upon an average minimum of 0.25 GPM per 1,000 gross square feet of building area. In addition, the City has a reclaimed water system available to the University for irrigation. A 24-inch reclaimed water line is located along Sixth Avenue South. A 30-inch reclaimed water line extends along First Street South to the Port of St. Petersburg.

(See Figure 8-a.)

Goal

The Potable Water goal for the USF St. Petersburg campus plan is to provide an adequate potable water system that accommodates the future University potable water needs while correcting any existing facility deficiencies.

Summary of Objectives and Policies
The potable water mains within the USFSP campus are owned and maintained by the City of St. Petersburg. Through a Development Agreement signed in ???, the City has agreed to support the growth at USFSP by maintaining and providing infrastructure, including infrastructure for potable water. According to the Development Agreement, the City is to provide a potable water level of service as follows:

- Provide for an Average Daily Demand (ADD) of 125 gallons per capita per day (gpcd), a Maximum Daily Demand (MDD) at 125 % of the ADD (156 gpcd), and a Peak Hourly Demand (PHD) at 210% of the ADD (263 gpcd).
- Minimum pressure of 20 psi at the curb.
- Storage capacity of 50% of the ADD (63 gpcd).

The Development Agreement does not reference a minimum fire-flow criterion. However, from discussions with the City's Water Resources Department, the City has established a minimum fire flow demand of 1,000 gpm. If future campus facilities require 3000 gpm service and adjacent hydrants could not provide the required flow, USFSP will work with the City to arrive at a reasonable solution.
Along with the Development Agreement, USFSP follows internal objectives and policies for potable water. These are:

Objective 7.5:
Cooperate with the City of St. Petersburg Water Department and all appropriate State and Federal agencies to ensure safe and sufficient water supply at a cost effective rate.

Policy 7.5.1: Improve, expand, and upgrade the potable water system as identified on Figure 7-b. The timing and phasing requirements and priorities for these improvements are identified in the Capital Improvements Element.

Policy 7.5.2: USF St. Petersburg campus shall coordinate the provision of on and off-campus potable water facilities required to meet future University needs with the host community or appropriate service provider as described in Intergovernmental Coordination Element. The University shall establish a procedure and assign responsibility for regularly scheduled coordination meetings with appropriate City of St. Petersburg officials relative to the University potable water needs. The University shall pursue any interlocal agreements or memoranda of understanding necessary to ensure that potable water will be supplied to the campus to meet the future needs of the University.

Policy 7.5.3: USF St. Petersburg campus shall, through its capital improvements program, ensure that the potable water system will be appropriately upgraded and replaced, as necessary to meet the future University needs as described in Capital Improvements Plan Element (Table 11-a).

Policy 7.5.4: Annually review future construction programs and priorities for deficiency remediation as part of the capital improvements requirements and procedures of the Florida Board of Education to ensure that potable water facility improvements required to meet future USF St. Petersburg campus needs are in place and operational, at the adopted levels of service, prior to occupancy of any new University building.

Policy 7.5.5: Proposed increases in consumptive uses, whether residential or non-residential, shall be approved only upon a finding that existing potable water treatment and distribution facility capacity is already online to accommodate the increased need, or that additional capacity will be funded and on-line when needed.

Objective 7.6:
Develop and promote a water conservation program.

Policy 7.6.1: USF St. Petersburg campus shall, through its capital improvements program, ensure that when a project requires relocation of utilities, that those utilities be appropriately upgraded and replaced as necessary in accordance with the capital improvements program as described in Capital Improvements Element (Table 11-a).

Policy 7.6.2: USF St. Petersburg campus should prepare, as appropriate, a technical design standards manual to ensure the compatibility of future lines for ease of on-going maintenance.

Policy 7.6.3: USF St. Petersburg campus shall continue a water conservation program as follows:

- Use of reclaimed water for irrigation.
- Require the use of xeric landscaping techniques, including the maintenance or installation of selected vegetative species, low irrigation and compact hydrazone concepts, shall be required for all new building and ancillary facility construction.
- Install a sub-metering system on existing and new facilities to be able to monitor accurately the amount of water being utilized in the various facilities.
- The University shall create an awareness program of water usage utilizing the information above.
- The irrigation system shall be upgraded to be controlled by a computerized, rain-sensitive system.
- Deleted
- Use of efficient low water volume plumbing fixtures in new and renovated University buildings is being implemented.

Objective 7.7:
USF St. Petersburg campus should periodically complete a potable water study, which identifies potable water management facility improvements necessary to accommodate projected potable water needs.

Policy 7.7.1: USF St. Petersburg campus, prior to the construction of campus housing, completed an engineering study to survey, document and assess the existing and future potable water system needs. This study addressed the data and analysis requirements contained in Rules 6C-21.207(4) and (5), F.A.C., and shall also:

- Establish priorities for replacement, correcting potable water facility deficiencies, and providing for future facility needs; and
- Establish the timing and phasing requirements and identify the projected funding sources for potable water facility improvements to meet future USF St. Petersburg campus needs.

Objective 7.8:
Protect and conserve potable water sources.

Policy 7.8.1: USF St. Petersburg campus shall identify the potable utility corridors as "no build" zones.

Policy 7.8.2: USF St. Petersburg campus shall investigate if any existing lines (installed prior to 1980) that are to be relocated, replaced or removed have the potential to contain asbestos or are also known as "Transite."

Sanitary Sewer Sub-Element

Bisecting the campus in an alley between Sixth and Seventh Avenues South is a 48-inch sanitary sewer main running in an east-west direction. Two 48-inch mains expand to 54 inches as they run to the east and terminate at the City of St. Petersburg's Albert Whitted Water Reclamation Facility (AWWRF). Note the AWWRF has been shut down. Flow to the plant will be pumped to the City's Southwest Water Reclamation Facility (SWWRF).The rest of the sewer mains within the campus are predominantly 6-inch, 8-inch and 12-inch mains. This system is maintained and operated by the City of St. Petersburg.

Utilizing the average daily flow factor of 0.25 gallons per minute (GPM) per 1,000 gross square feet of building area, an average flow rate can be anticipated for non-residential uses. Using this factor for future sanitary sewer demand (including 155,200 sf of student housing), this would generate an additional 48 GPM based on planned expansion. (See Figure 7-c.)

Goal

The Sanitary Sewer goal for the USF St. Petersburg campus plan is to provide an adequate sanitary sewer system that accommodates the future University sanitary sewer needs while correcting any existing facility deficiencies.

Objective 7.8:
Protect and conserve potable water sources.

Policy 7.8.3: USF St. Petersburg campus shall coordinate with the City of St. Petersburg and all applicable agencies to ensure capacity is available at the time of University development in accordance with procedures and timing, outlined in the Intergovernment Coordination Element.

Policy 7.8.4: Annually review future construction programs and priorities for deficiency remediation as part of the capital improvements requirements and procedures of the Florida Board of Education to ensure that sanitary sewer facility improvements required to meet future USF St. Petersburg campus needs are in place and operational, at the adopted levels of service, prior to occupancy of any new University building.

Objective 7.9:
Coordinate the sanitary sewer relocation and improvement program with the implementation of the capital improvement program and Master Plan.

Policy 7.9.1: USF St. Petersburg campus shall coordinate with the host community to ensure that off-campus sanitary sewer facilities that may be affected by the implementation of the master plan are improved as appropriate. (See Intergovernmental Coordination – Plan Element 10 for description of coordination procedures). The University should establish a procedure and assign responsibility for regularly scheduled coordination meetings with appropriate City officials relative to the University sewage requirements.

Policy 7.9.2: USF St. Petersburg campus shall through its capital improvements program, ensure that the sanitary sewer system will be appropriately upgraded and replaced on-campus, as necessary to meet the future University needs as described in the Capital Improvements Element (Table 11-a).

Policy 7.9.3: Improve, expand, and upgrade the sanitary sewer system as identified on Figure 7-c. The timing and phasing requirements and priorities for these improvements are identified in the Capital Improvements Element.

Policy 7.9.4: USF St. Petersburg campus shall continue with preventative maintenance program for existing lines. The Facilities Maintenance Element of the adopted master plan shall be amended as needed to incorporate the provisions of this maintenance program.

Objective 7.10:
Resolve minor utility conflicts through coordinated detailed utility study and building design.

Policy 7.10.1: Proposed increases in consumptive uses, whether residential or non-residential, shall be approved only upon a finding that existing sanitary sewer treatment and distribution facility capacity is already online to accommodate the increased need, or that additional capacity will be fund **O** ed and online when needed.

Objective 7.11:
Notify the City to correct any existing sanitary sewer deficiencies.

Policy 7.11.1: USF St. Petersburg campus shall annually review future construction programs and priorities for deficiency remediation as part of the capital improvements requirements and procedures of the Florida Board of Education to ensure capacity and capital improvements required to meet future campus needs are provided when required, based on needs identified in other master plan elements.

Objective 7.12:
To reduce the impacts of sewage generation.

Policy 7.12.1: USF St. Petersburg campus shall implement, where practical, the following techniques for reducing the impacts of sewage generated on the campus:

- Eliminating flush valves from all building plumbing.
- Utilizing low volume plumbing fixtures.
- Implementing a leak detection and repair program.
- Eliminating stormwater, swimming pool and other illegal connections.
- Deleted
- Using pump stations and force mains to by-pass bottlenecked gravity mains.
- Establish a schedule for the inspection of existing grease traps and clean, repair or replace as necessary. Where a grease trap has not been provided for a food preparation facility, it shall be reviewed and updated as required.

Solid Waste Sub-Element

Plan Framework for Solid Waste

The City of St. Petersburg is responsible for the collection of solid waste on the USFSP campus. The burnable waste is transported to the Pinellas County Refuse to Energy Incinerator located in Pinellas Park. The non-burnable, non recyclable, solid waste is transported to the Pinellas County landfill. The City of St. Petersburg currently has a mandated ten percent recycling program of all solid wastes. The USFSP campus generates approximately 8580 cubic yards of solid waste annually or 0.0146 cubic yards per square foot. By using this factor, it can be estimated that an additional 2,770 cubic yards of solid waste will be generated annually by the master plan.

Utilization of the urban geometric grid pattern for the master plan establishes convenient service corridors to the buildings. By using existing alleys as service corridors along with the pedestrian plazas during off-peak hours, solid waste collection appears to be sufficient. Although specific solid waste collection locations have not been identified, the master plan does establish that service areas will be separated from major pedestrian and front door access points.

(See Figure 5-c in the Transportation Element)

Goal

The Solid Waste goal for the USF St. Petersburg campus plan is to provide for future University solid waste collection and disposal requirements in a safe, cost effective, environmentally sound, and an aesthetically satisfactory manner.

Objective 7.13:
Coordinate with the City of St. Petersburg in establishing an appropriate level of service for solid waste collection.

Policy 7.13.1: USF St. Petersburg campus shall establish a level of service annually for solid waste collection.

Policy 7.13.2: USF St. Petersburg campus shall coordinate the provision of on and off-campus solid waste collection and disposal facilities required to meet future University's needs with the City of St. Petersburg or appropriate service provider as outlined in the Intergovernmental

Coordination Element. USF St. Petersburg campus shall pursue any interlocal agreements or memoranda of understanding necessary to ensure that solid waste collection and disposal services will be supplied to the campus to meet the future needs of the University.

Objective 7.14:
Procedures to reduce USF St. Petersburg campus generated solid waste and increasing recycling and reuse programs shall be defined.

Policy 7.14.1: USF St. Petersburg campus has continued to take steps to reduce the quantity of solid waste generated by expanding its recycling program to include additional drop-off locations. These drop-off facilities are installed in the individual buildings, residential areas, with convenient drive-through locations. Awareness programs directed toward students, faculty and staff shall also be included in this recycling program.

Objective 7.15:
Existing solid waste collection locations have been modified for easier service and to avoid potential pedestrian conflicts.

Policy 7.15.1: USF St. Petersburg campus should establish a unified screening program for solid waste collection locations. Included will be the implementation of aesthetic coordination as well as standardized solid waste containers.

Policy 7.15.2: USF St. Petersburg campus shall, during the design of specific building programs, evaluate the relationship of the proposed buildings with the existing buildings, and to identify opportunities to reconfigure, enhance or screen solid waste collection facilities from pedestrian corridors.

Objective 7.16:
Encourage and support proper management in the disposal of regulated and other special wastes.

Policy 7.16.1: USF St. Petersburg campus shall meet all Local, State and Federal regulations in the collection and transportation of its hazardous wastes and materials.

Policy 7.16.2: USF St. Petersburg campus shall monitor the volume and type of hazardous waste collection and temporary storage on site to determine feasibility of constructing and operating the next higher level of storage facility on campus. If such a determination is made to proceed, USF St. Petersburg campus shall amend the adopted campus master plan to reflect the timing, location, and scope of such a facility.

Policy 7.16.3: Education and awareness shall be developed and administered to all employees who handle regulated waste.

Objective 7.17:
Procedures to correct any existing solid waste facility deficiencies shall be established.

Policy 7.17.1: USF St. Petersburg campus should ensure that solid waste collection and disposal facilities are appropriately provided for and phased accordingly to meet the future University's needs while correcting any disposal facility deficiencies. USF St. Petersburg campus does not anticipate the need for any solid waste facility improvements at this time. If this condition changes, the University shall amend the adopted campus master plan to identify said improvements, and to establish the timing and phasing requirements and priorities for the improvements.

Policy 7.17.2: USF St. Petersburg campus shall establish that the timing and phasing of disposal facility improvements shall be coordinated with the Capital Improvements Element.

Policy 7.17.3: USF St. Petersburg campus shall annually review future construction programs and priorities for deficiency remediation as part of the capital improvements requirements and procedures of the Florida Board of Education to ensure capacity and capital improvements required to meet future University's needs are provided when required, based on needs identified in other master plan elements.

Element 7A:

St Petersburg Utilities

Element 7A Utilities Element

STEAM/HOT WATER SUB-ELEMENT

Goal

To provide adequate heating to the facilities in the most cost efficient manner, providing for flexibility in the future growth of the campus.

Summary of Objectives and Policies

Objective 7A.1:
To economically improve the distribution and production of heat.

Policy 7A.1.1: Local boilers are installed at the various buildings.

Policy 7A.1.2: USF St. Petersburg campus shall establish and adopt a level of service standard per Design and Construction Guidelines. (https://www.usf.edu/administrative-services/facilities/design-construction/guidelines-standards.aspx)

Chilled Water Sub-Element

Goal

To provide adequate cooling to the facilities in the most cost efficient manner, providing for future growth of the campus.

Summary of Objectives and Policies

Objective 7A.2:
To economically maintain and expand the chilled water system to provide adequate cooling and redundancy now and in the future.

Policy 7A.2.1: The existing chilled water distribution system will be extended to accommodate future buildings and renovated buildings.

Policy 7A.2.2: USF St. Petersburg campus shall implement chilled water improvements as identified on Figure 7-a. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 7A.2.3: USF St. Petersburg campus shall require design engineers to submit a computerized life cycle cost analysis to establish the most efficient HVAC system configuration for each new and renovated building.

Policy 7A.2.4: USF St. Petersburg campus shall require that cooling load data for new loads shall be supplied by the system designers to the University to determine what the impact will be on the chilled water system.

Policy 7A.2.5: USF St. Petersburg campus will update their chilled water system configuration based upon cooling load data.

Policy 7A.2.6: USF St. Petersburg campus shall establish and adopt a level of service standard per Design and Construction Guidelines. (https://www.usf.edu/administrative-services/facilities/design-construction/guidelines-standards.aspx)

Policy 7A.2.7: Since all chilled water production originates from within the campus, no outside sources from either private or public facilities will be required unless another more economical option exists.

Policy 7A.2.8: Chilled water facility improvements shall be implemented based on the following priorities:

- Elimination of existing system deficiencies;
- Maintaining the existing system; and
- Expanding the system to accommodate new chilled water needs.

Policy 7A.2.9: USF St. Petersburg campus' Facilities Management will be responsible for reviewing all proposed development projects to ensure that adequate chilled water capacity exists.

Policy 7A.2.10: Proposed increases in chilled water use, whether residential or non-residential, shall be approved only after a finding that existing chilled water distribution capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.

Policy 7A.2.11: The University will continue to evaluate utilized refrigerants in relation to applicable regulatory requirements and guidelines.

Policy 7A.2.12: Develop complete verified hydraulic models for the modifications and expansions of the piping system throughout the campus.

Policy 7A.2.13: Develop and implement non-destructive testing procedures and practices to evaluate the status of existing underground piping systems.

Policy 7A.2.14: Meter chilled water loads by building or building cluster to implement load management and load history for planning and conservation measures.

Policy 7A.2.15: Aggressively implement control strategies that would result in significant energy savings to include; but not limited to: Chilled water supply reset, Hot water reset, on-demand availability heating/cooling, and occupancy sensor zone resets when not occupied.

Electrical Power and Other Fuels Sub-Element

Goal

The Electrical Power and Other Fuels Sub-Element goal for the USF St. Petersburg Campus Master Plan is to provide adequate, reliable, and cost effective electrical service to support campus operations and expansions through the 10-year planning period.

Summary of Objectives and Policies

Goal

The Electrical Power and Other Fuels Sub-Element goal for the USF St. Petersburg Campus Master Plan is to provide adequate, reliable, and cost effective electrical service to support campus operations and expansions through the 10-year planning period.

Objective 7A.3:
Manage, maintain and expand the electrical power distribution system.

Policy 7A.3.1: USF St. Petersburg campus' Facilities Management shall establish a procedure and assign responsibility for regularly scheduled meetings with local electric utility provider to ensure continued high quality, reliable electrical service to the University.

Policy 7A.3.2: USF St. Petersburg campus' Facilities Management will be responsible for reviewing all proposed development projects to ensure that adequate electrical distribution system capacity exists.

Policy 7A.3.3: Proposed increases in electrical demand and consumption, residential or non-residential, shall be approved only after a finding that existing electrical power distribution system capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.

Policy 7A.3.4: A phasing schedule should be developed for upgrading the existing electric power supply capacity and distribution system to meet future University's needs when required. The adopted campus master plan shall be amended as needed to reflect any changes to the timing and phasing requirements.

Policy 7A.3.5: USF St. Petersburg campus shall implement electrical power distribution system improvements as identified on Figure 7A-b. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 7A.3.6: Electrical power distribution system changes shall be implemented based on the following priorities:

- Elimination of existing deficiencies;
- Maintenance of the existing system; and
- Expansion to accommodate new requirements.

Policy 7A.3.7: Fingerprint emergency electrical services in place. Identify electrical services required if utility power is not available for an extended period. Develop an emergency service plan.

Objective 7A.4:
Manage, maintain and expand the natural gas distribution system.

Policy 7A.4.1: USF St. Petersburg campus' Facilities Management shall establish a procedure and assign responsibility for regularly scheduled meetings with local natural gas provider to ensure continued high quality, reliable natural gas service to the University.

Policy 7A.4.2: USF St. Petersburg campus' Facilities Management will be responsible for reviewing all proposed development projects to ensure that adequate natural gas distribution system capacity exists.

Policy 7A.4.3: Proposed increases in natural gas demand and consumption, residential or non-residential, shall be approved only after a finding that existing natural gas distribution system capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.

Policy 7A.4.4: A phasing schedule should be developed for upgrading the existing natural gas supply capacity and distribution system to meet future USF St. Petersburg campus needs when required. The adopted campus master plan shall be amended as needed to reflect any changes to the timing and phasing requirements.

Policy 7A.4.5: USF St. Petersburg campus shall implement natural gas distribution system improvements as identified on Figure 7A-d. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 7A.4.6: Natural gas distribution system changes shall be implemented based on the following priorities:

- Elimination of existing deficiencies;
- Maintenance of the existing system; and
- Expansion to accommodate new requirements.

Objective 7A.5:
To provide energy efficient facilities and equipment.

Policy 7A.5.1: Energy design guidelines for all new buildings shall be in accordance with Florida Building Code Energy Efficiency chapter and University amendments.

Policy 7A.5.2: USF St. Petersburg campus shall require that a computerized life cycle cost analysis be submitted for all new and renovated facilities to determine whether natural gas and/or electricity will be the source of fuel for space heating and air conditioning.

Policy 7A.5.3: USF St. Petersburg campus shall require that a report be submitted for each new and/or renovated facility indicating the maximum demand and annual consumption of natural gas and/or electricity, which will be required for each renovated and/or new facility.

Policy 7A.5.4: USF St. Petersburg campus shall require the use of occupancy sensors, energy efficient lighting fixtures, electronic ballasts, and high lumen efficiency lamps in all new and renovated buildings.

Policy 7A.5.5: USF St. Petersburg campus shall require the use of energy efficient motors in appliances and equipment in all new and renovated buildings.

Policy 7A.5.6: USF St. Petersburg campus shall require the use of energy efficient natural gas appliances and equipment in all new and renovated buildings.

Policy 7A.5.7: USF St. Petersburg campus shall require the installation of electric and gas meters at each building or building cluster on campus. Electrical meters shall record both demand and energy consumption by time of day and natural gas meters shall record consumption by time of day.

Telecommunications Sub-Element

Goal

To manage, maintain and expand the telecommunications infrastructure and equipment to meet the needs of the University.

Objective 7A.6:
To manage, maintain and expand the communications infrastructure at USF St. Petersburg campus to meet the voice, data and video communications needs.

Policy 7A.6.1: USF St. Petersburg campus' Facilities Management will be responsible for reviewing all proposed development projects to ensure that adequate telecommunications capacity exists.

Policy 7A.6.2: USF St. Petersburg campus' Information Technologies Department will be responsible for reviewing new telecommunication technologies to increase the effective capacity of existing infrastructure in lieu of replacement.

Policy 7A.6.3: Proposed increases in telecommunications use, residential or non-residential, shall be approved only after a finding that existing telecommunications capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need.

Policy 7A.6.4: USF St. Petersburg campus shall expand the infrastructure from Davis Hall to the north and east most boundary, then west and south encompassing all properties owned by USF St. Petersburg and also provide for possible future connections to medical facilities (or other University related facilities) in the area.

Policy 7A.6.5: USF St. Petersburg campus shall provide adequate copper connectivity for voice, multi-mode fiber for data, and single mode fiber for video/data to all buildings USF St. Petersburg campus.

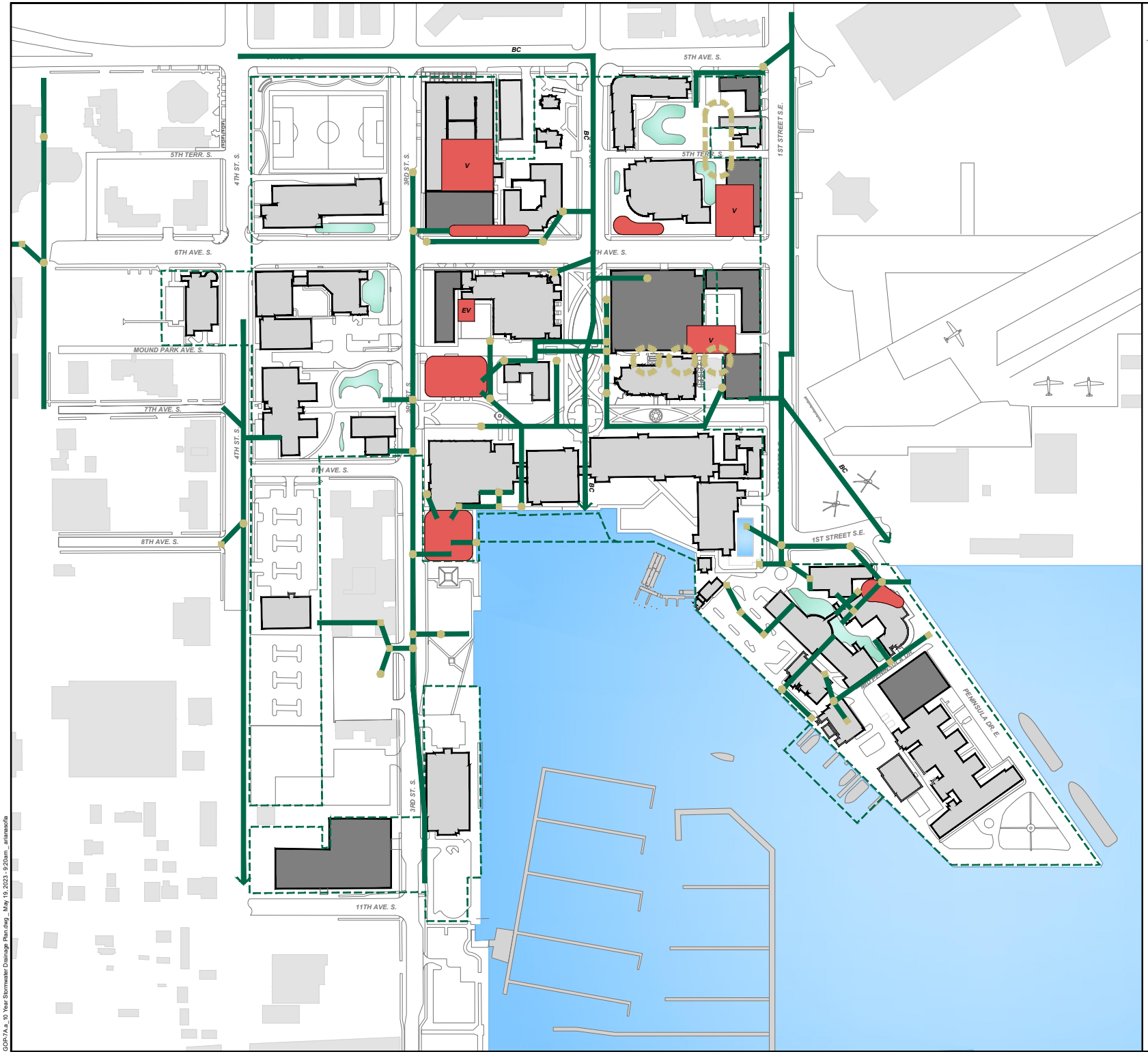
Policy 7A.6.6: USF St. Petersburg campus shall upgrade distribution wiring in all existing buildings and require that distribution wiring in all new buildings be provided at the current and/or appropriate technical levels.

Policy 7A.6.7: USF St. Petersburg campus shall implement telecommunications systems improvements as identified on Figure 7A-c. The timing and phasing requirements for these improvements are established in the Capital Improvements Element.

Policy 7A.6.8: Telecommunications system improvements shall be implemented based on the following priorities:

- Elimination of existing system efficiencies;
- Maintenance of the existing system; and
- Expanding the system to accommodate new telecommunications needs.

Policy 7A.6.9: Prepare for and plan the telecommunications infrastructure to support high band width video, telephone voice over IP and increased “to the desktop” data transfer.



UNIVERSITY of SOUTH FLORIDA

2020 - 2030
St. Petersburg Campus
Master Plan Update

- Planning Area
- Existing Stormwater
- Existing Manhole
- Existing Catch Basin
- Existing Corridor to be Relocated/Abandoned
- Existing Surface Detention
- EV — Existing Detention Vault
- V — Proposed Detention Vault
- BC — Denotes Box Culvert
- Existing USFSP Facilities
- Proposed USFSP Facilities

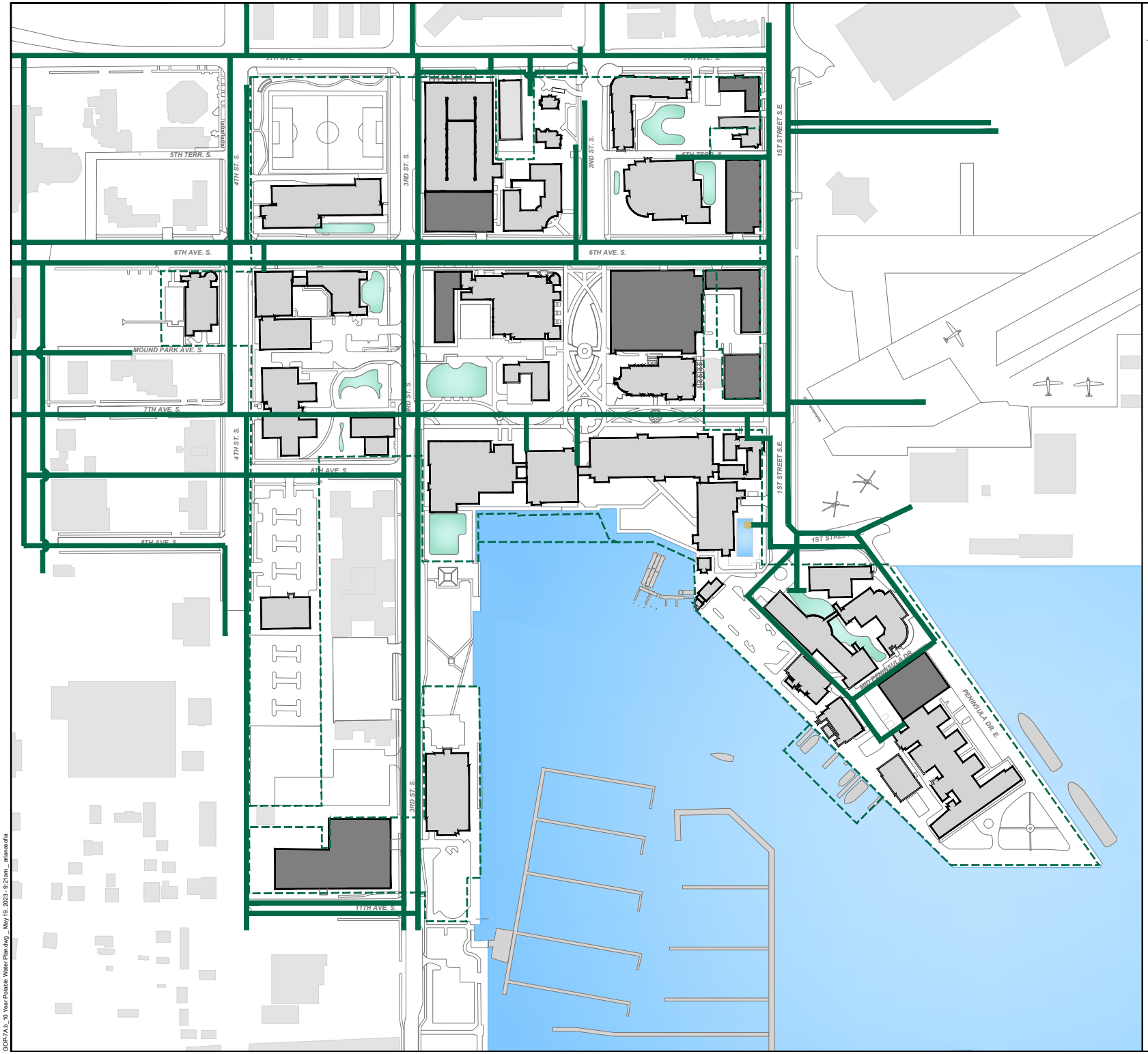
Element 7
Infrastructure

GOP Figure 7A.a
Stormwater Drainage 10 Year Plan

Date
ADOPTED 06/13/2023

0 500 1000 ft.

GOP-7A.a_10 Year Stormwater Drainage Plan.dwg_May 19, 2023 - 9:20am_ arranasofia



UNIVERSITY of
SOUTH FLORIDA

2020 - 2030
St. Petersburg Campus
Master Plan Update

- Planning Area
- Existing Potable Water
- Existing USFSP Facilities
- Proposed USFSP Facilities

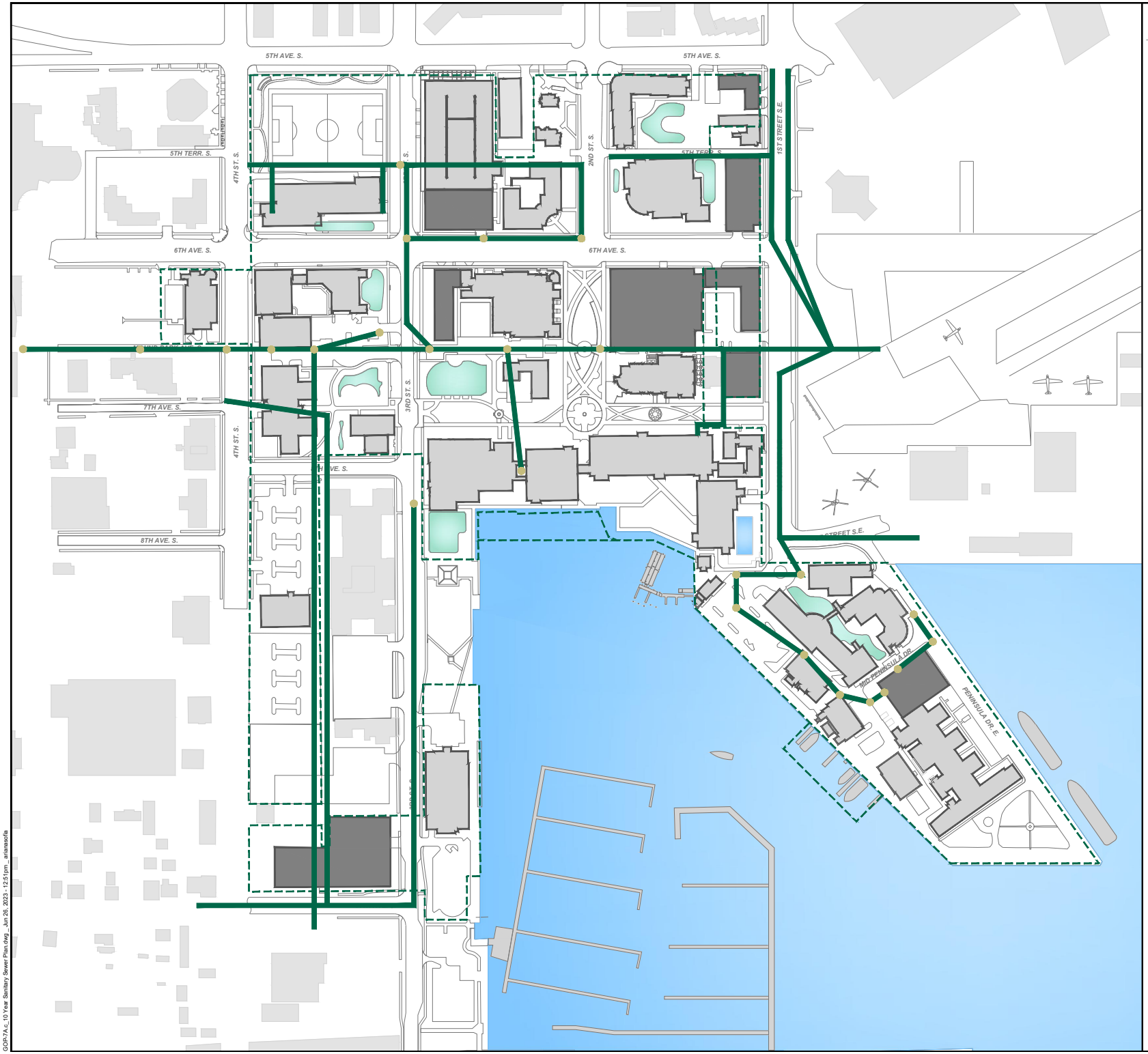
Element 7
Infrastructure

GOP Figure 7A.b
Potable Water 10 Year Plan

Date
ADOPTED 06/13/2023

0 500 1000 ft.

GOP-7A.b - 10 Year Potable Water Plan.dwg - May 19, 2023 - 9:21am - arianaxdla



UNIVERSITY of SOUTH FLORIDA

2020 - 2030
St. Petersburg Campus
Master Plan Update

- Planning Area
- Existing Sanitary Sewer
- Existing USFSP Facilities
- Proposed USFSP Facilities

Element 7
Infrastructure

GOP Figure 7A.c
Sanitary Sewer 10 Year Plan

Date
ADOPTED 06/13/2023

0 500 1000 ft.

GOP-7A.c_10 Year Sanitary Sewer Plan.dwg, Jun 26, 2023 - 12:51pm, ariarasofia