

AIA® Document C172™ – 2014

Standard Form of Agreement Between Owner and Program Manager for use on a Single Project

AGREEMENT made as of the ____ day of November in the year 2023,
(In words, indicate day, month and year.)

BETWEEN the Program Manager's client identified as the "Owner":
(Name, legal status, address, and other information)

City of Clearwater, a Florida Municipal Corporation
Attention: Marcus Williamson, Public Works Director
100 South Myrtle Avenue
Clearwater, Florida 33756
Phone: (727) 562-4750
Email: Marcus.Williamson@MyClearwater.com

and the "Program Manager":
(Name, legal status, address, and other information)

Broaddus & Associates, Inc., a Texas corporation
Attention: Paul Webb, P.E., COO
1301 South Capital of Texas Highway, Suite A-302
Austin, Texas 78746
Phone: (757) 652-6815
Email: pwebb@broaddususa.com

for the following "Project":
(Name, location, and detailed description)

New City Hall
South Myrtle Avenue and Pierce Street, Clearwater, Florida 33756
Construction of a new, standalone City Hall and renovations to the existing Municipal Services Building totaling approximately 109,742 square feet, including 41,680 square feet of new construction for the new, standalone City Hall and 66,063 square feet of renovations to the existing Municipal Services Building.

The Owner and Program Manager agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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ARTICLE 1 INITIAL INFORMATION

§ 1.1 This Agreement is based on the Initial Information set forth in this Article 1.

(Note the disposition for the following items by inserting the requested information or a statement such as "not applicable" or "unknown at time of execution.")

§ 1.2 Definitions

§ 1.2.1 Unless otherwise specifically defined in this Agreement, terms in this Agreement shall have the same meaning as those in AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 1.3 Project Information

§ 1.3.1 The Owner's program for the Project:

(Identify documentation or state the manner in which the program will be developed.)

§ 1.3.1.1 The Owner's preliminary program for the Project is further generally described in **Exhibit A**, attached hereto and incorporated herein by reference. The Owner's program shall be further defined and refined during the preconstruction phase of the Project.

§ 1.3.1.2 References in this Agreement to the "**Architect**" shall refer to the following architect, unless the Owner otherwise notifies the Consultant in writing:

Wannemacher Jensen Architects, Inc., a Florida corporation
Attention: Jason Jensen, AIA, LEED AP, Principal
132 Mirror Lake Drive North, Suite 301
Saint Petersburg, Florida 33701
Phone: (727) 822-5566
Email: jason@wjarc.com

§ 1.1.3 References in this Agreement to the "**Construction Manager**" shall refer to the construction manager that is retained by the Owner to construct the Project.

§ 1.3.2 The Project's physical characteristics:

(Identify or describe, if appropriate, size, location, dimensions, or other pertinent information, such as geotechnical reports; site, boundary and topographical surveys; traffic and utility studies; availability of public and private utilities and services; legal description of the site; etc.)

See **Exhibit A**.

§ 1.3.3 Preliminary assessment of the condition of existing facilities or site, if any:

(Identify or describe written reports of the conditions of existing facilities or site.)

To be determined.

§ 1.3.4 Funding source:

(Identify anticipated funding sources, and deadlines or schedules related to funding, as well as whether funding is authorized.)

Not applicable.

§ 1.3.5 The Owner's budget for the Project:

(Provide the Owner's total budget for the Project and, if known, a line-item breakdown of all costs described in Section 3.5.1.)

To be further developed as the Project is refined in consultation with the Owner, Program Manager, Architect and Construction Manager.

§ 1.3.6 The Owner's intended procurement or delivery method for design and construction of the Project:

(Identify method such as competitive bid, negotiated contract, multiple prime contracts, or construction management.)

Construction Manager at Risk.

§ 1.3.7 Anticipated scheduling information:

(Include overall Project duration and milestones. If known, include proposed dates for commencement and completion of design, commencement and completion of construction, occupancy, and any other critical scheduling information for the Project.)

.1 Anticipated dates of Project commencement and completion:

.1 Commencement of design, if other than the date of this Agreement:

Previously commenced with the Architect.

.2 Completion of design:

September 2024.

.3 Commencement of construction:

February 2024.

.4 Completion of construction:

March 2026.

.2 Other Project scheduling information:

To be determined.

Init.

§ 1.3.8 Other information regarding the Project:

(Identify any other available studies or reports, as well as special characteristics or needs of the Project, such as historic preservation requirements, not provided elsewhere.)

To be further developed as the Project is refined in consultation with the Owner, Program Manager, Architect and Construction Manager.

§ 1.3.9 The Owner's anticipated sustainable objective for the Project, if any:

(Identify the Owner's sustainable objective for the Project such as sustainability certification, benefit to the environment, enhancement to the health and well-being of building occupants, or improvement of energy efficiency.)

LEED Silver and the City of Clearwater's Greenprint 2.0 requirements attached hereto as **Exhibit G**.

§ 1.4 Project Team

§ 1.4.1 The Owner will retain the following consultants and contractors:

(List name, discipline, address, and other information.)

To be determined.

§ 1.4.2 The Program Manager will retain the consultants identified in Sections 1.4.2.1 and 1.4.2.2:

§ 1.4.2.1 Consultants retained under Basic Services:

(List name, discipline, address, and other information.)

None identified at this time.

§ 1.4.2.2 Consultants retained under Additional Services:

(List name, discipline, address, and other information.)

None identified at this time.

§ 1.4.3 The Owner identifies the following representative in accordance with Section 5.4:

(List name, address, and other information.)

See **Page 1** of this Agreement.

§ 1.4.4 The persons or entities, in addition to the Owner's representative, who are required to review and approve the Program Manager's submittals to the Owner are as follows:

(List name, address, and other information.)

Tara Kivett, P.E.
City of Clearwater, City Engineer
(727) 444-8202
tara.kivett@myclearwater.com

David Lutz, P.E.
City of Clearwater, Traffic Engineering Manager
(727) 444-8237
david.lutz@myclearwater.com

David Margolis, B.C.S.
City of Clearwater, City Attorney
(727) 562-4010
david.margolis@myclearwater.com

§ 1.4.5 The Program Manager identifies the following representative in accordance with Section 2.4:

(List name, address, and other information.)

Paul Chastant, Architect
Project Executive
(803) 807-1174
pchastant@broaddususa.com

Jason Rupe, CCM, LEED AP
(330) 979-9513
jrupe@broaddususa.com

§ 1.5 Other Initial Information on which the Agreement is based:

See City of Clearwater Technical Specifications.

§ 1.6 The Owner and Program Manager may rely on the Initial Information. Both parties, however, recognize that the Initial Information may materially change and, in that event, the Owner and the Program Manager shall discuss whether and to what extent adjustment of the schedule, the Program Manager's services, and/or the Program Manager's compensation may be appropriate. The Owner may adjust the Owner's budget for the Project and the Owner's anticipated design and construction milestones, as necessary, to accommodate material changes in the Initial Information.

ARTICLE 2 PROGRAM MANAGER'S RESPONSIBILITIES

§ 2.1 The Program Manager shall provide the services as set forth in this Agreement.

§ 2.2 The Program Manager shall perform its services consistent with the professional skill and care ordinarily provided by professionals in the same discipline practicing in the same or similar locality under the same or similar circumstances (the "**Standard of Care**"). The Program Manager shall perform its services as expeditiously as is consistent with the Standard of Care and the orderly progress of the Project. The Program Manager shall conform its services with all laws, statutes, codes, ordinances, rules, and regulations applicable to the Program Manager and its services (collectively, "**Applicable Laws**"). Neither anything in this Agreement nor any act or omission of the Owner or of the Owner's other consultants or of any third-parties shall relieve the Program Manager of its obligation to provide services that conform to the Standard of Care.

§ 2.2.1 If required in the jurisdiction where the Project is located, the Program Manager (and any consultants the Program Manager employs on the Project) shall remain properly licensed and certified to perform the services described in this Agreement, or shall cause such services to be performed by appropriately licensed persons or entities. The Program Manager shall have a sufficient number of capable employees to enable it to properly and adequately provide all services required by this Agreement. The Program Manager acknowledges that the Owner is relying on the Consultant's skill, knowledge, experience, and ability to fully perform the services and its obligations under this Agreement.

§ 2.3 **Key Personnel.** The key members of the Program Manager's team ("**Key Personnel**") shall be persons agreed upon by Owner and the Program Manager and identified in the "Schedule of Key Personnel" attached hereto and incorporated herein as **Exhibit C-1**. The Key Personnel and any persons nominated to replace them, must be satisfactory to the Owner. Such Key Personnel shall not be changed without the written consent of the Owner, unless such person(s) become unable to perform any required duties due to death, disability or termination of employment with the Program Manager. If any of the Key Personnel is no longer capable of performing in the capacity required to perform the Services, the Owner and the Program Manager shall agree on a mutually acceptable substitute. The Owner reserves the right to require the Program Manager on ten (10) days' prior written notice to change a member of the Key Personnel when the Owner deems such change to be in the Owner's best interests, and the Program Manager shall promptly comply with the Owner's request at no additional cost to the Owner.

§ 2.4 The Program Manager hereby identifies the individual in Section 1.4.5 of this Agreement as the Program Manager's representative authorized to act on behalf of the Program Manager with respect to the Project. The Program Manager will continuously maintain a designated representative during the term of the Project and this Agreement. The Program Manager will consult with the Owner and obtain the Owner's consent, which consent will not unreasonably be withheld, before designating an alternate designed representative.

§ 2.5 Except with the Owner's knowledge and prior written consent, the Program Manager shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the Program Manager's judgment with respect to the Project.

§ 2.6 The Program Manager shall coordinate its services with those services provided by the Owner, the Construction Manager, the Architect, and the Owner's other consultants and contractors. The Program Manager shall review information provided by the Owner and the Owner's consultants and contractors for the completeness necessary to the performance of the Program Manager's services. The Program Manager shall provide prompt written notice to the Owner if the Program Manager becomes aware of any error, omission, or inconsistency in such services or information. The Program Manager may communicate with the Owner's other consultants for the purposes of performing its services on the Project. The Program Manager shall keep the Owner reasonably informed of any such communications.

§ 2.7 Insurance. The Program Manager shall, at its sole cost and expense, maintain insurance in full compliance with all Applicable Laws and this Section 2.7 for the duration of this Agreement or for such longer period of time as may be specified herein or required by Applicable Laws.

§ 2.7.1 Commercial General Liability (including bodily injury, property damage, broad form property damage, accidental death, personal & advertising injury, products and completed operations and contractual liability coverage) with policy limits of not less than: (a) One Million and No/100 Dollars (\$1,000,000) for each occurrence; (b) Two Million and No/100 Dollars (\$2,000,000) in the aggregate; (c) Two Million and No/100 Dollars (\$2,000,000) products/completed operations aggregate, (d) One Million and No/100 Dollars (\$1,000,000) personal & advertising injury, (e) Three Hundred Thousand and No/100 Dollars (\$300,000) damage to rented premises, and (f) Ten Thousand and No/100 Dollars (\$10,000) medical expense limit; which insurance shall be primary to and non-contributing with any insurance carried by the Indemnitees (defined below).

§ 2.7.2 Automobile Liability covering vehicles owned by the Program Manager, vehicles rented by the Program Manager, and non-owned vehicles used by the Program Manager, with policy limits of not less than One Million and No/100 Dollars (\$1,000,000) per accident, combined single limit, for bodily injury and property damage along with any other statutorily required automobile coverage.

§ 2.7.3 Excess/Umbrella Liability in excess over and no less broad than the liability coverages required in Section 2.7.1 and 2.7.2 above with policy limits not less than Five Million and No/100 Dollars (\$5,000,000) for each occurrence and in the aggregate. Coverage to "drop down" for exhausted aggregate limits under all such liability coverages. In no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 2.7.4 Workers' Compensation at statutory limits in compliance with the laws of the State in which the Project is located and in which any part of the Program Manager's services are to be performed and Employers' Liability with a policy limit of not less than One Million and No/100 Dollars (\$1,000,000) each occurrence, One Million and No/100 Dollars (\$1,000,000) each accident, One Million and No/100 Dollars (\$1,000,000) disease, each employee, and One Million and No/100 Dollars (\$1,000,000) disease, policy limit.

§ 2.7.5 Professional Liability covering the negligent acts, errors and omissions in the performance of professional services with policy limits specific to the Project of not less than One Million and No/100 Dollars (\$1,000,000) per claim and Two Million and No/100 Dollars (\$2,000,000) annual aggregate, which Professional Liability insurance policy shall: (i) be maintained until the expiration of the applicable statute of repose period in the State of Florida, and (ii) have a retroactive date prior to the performance of any services to be provided under this Agreement. The Program Manager shall purchase a five (5) year "Extended Reporting Period" in the event that the Program Manager's professional liability insurance policy is cancelled or non-renewed, unless the insurance coverage is replaced with an insurance policy providing coverage of the types amounts required by this Section 2.7.5 for prior acts.

§ 2.7.6 General Insurance Requirements

§ 2.7.6.1 Additional Insureds. All of the specified policies other than Workers' Compensation are required to name the Indemnitees and such other parties as the Owner may designate as additional insureds (the "Additional Insureds").

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Each such policy shall be endorsed to state that the insurance provided to the Additional Insureds is primary and non-contributory to any other insurance (including primary, excess, self-insurance, or on any other basis) available to the Additional Insureds. The coverage provided to the Additional Insureds must be at least as broad as that provided to the first named insured on each policy. The additional insured endorsement must include coverage for any liability arising out of any operations, including Products and Completed Operations with no exclusions or restrictions to on-going operations. In the event that any policy provided in compliance with this Section 2.7 states that the coverage provided to an Additional Insured shall be no broader than that required by contract, or words of similar meaning, the parties agree that nothing in this Agreement is intended to restrict or limit the breadth of such coverage. Additional insured status must be provided on forms of endorsement acceptable to the Owner.

§ 2.7.6.2 Minimum Limits. The limits of insurance provided by the Program Manager shall be the greater of the limits maintained in the normal course of the Program Manager's business or the minimum limits specified in this Section 2.7. The limits of insurance stated above for each type of insurance are minimum limits only; in the event the Program Manager's policy provides greater limits, then the Additional Insureds shall be entitled to, or to share in, the full limits of such policy, and this Agreement shall be deemed to require such full limits.

§ 2.7.6.3 Insurer Ratings. All of the specified policies shall be from insurance companies satisfactory to the Owner who are lawfully authorized to do business in the jurisdiction in which the Project is located and have an A.M. Best rating of A/VII or better.

§ 2.7.6.4 Evidence of Insurance. Before commencing performance hereunder and upon any renewal of the foregoing required policies of insurance, the Program Manager shall furnish, in form and substance satisfactory to the Owner, certificates of insurance, declarations pages and additional insured endorsements, from each insurance company showing that the insurance required under this Section 2.7 is in force, and stating policy numbers, dates of expiration, and limits of liability thereunder. Further, at the Owner's request, the Program Manager shall deliver to the Owner true and complete copies of the required policies, including, without limitation, all endorsements thereto. The Program Manager's failure to provide required evidence of insurance shall not relieve it of its responsibility to carry and maintain the insurance required by this Section 2.7. The Owner's failure to demand or inspect evidence of insurance, and/or the Owner's failure to identify or object to any discrepancy therein, is not a waiver of any requirement.

§ 2.7.6.5. Notice of Cancellation. All policies required under this Section 2.7 shall contain a provision that the insurance will not be canceled or changed until the expiration of at least thirty (30) days after written notice of such cancellation or change has been mailed to and received by the Owner.

§ 2.7.6.6 Deductibles and Self-Insured Retentions. Except as otherwise set forth herein, any deductibles or self-insured retentions shall be subject to the Owner's approval, and the Program Manager shall be solely responsible for the payment of all deductibles and self-insured retentions. Coverage afforded to the Additional Insureds under the policies set forth in this Section 2.7 shall not be conditioned on payment of any deductible or retention.

§ 2.7.6.7 The Owner's Right to Procure Insurance. If the Program Manager fails to procure and maintain such insurance, the Owner shall have the right, but not the obligation, to procure and maintain the said insurance for and in the name of the Program Manager, and the Program Manager shall pay the cost thereof and shall furnish all necessary information to make effective and maintain such insurance or, at the Owner's opinion, the Owner may offset the cost incurred by the Owner against amounts otherwise payable to the Program Manager hereunder. The Program Manager shall have the sole responsibility to assure that all of its consultants are adequately insured.

§ 2.7.6.8 No Limitation. Nothing contained herein is to be construed to limit the type, quality or quantity of insurance the Program Manager shall procure and maintain or the extent of the Program Manager's responsibility or liability for payment of damages resulting from the Program Manager services or the Program Manager's performance or operations under this Agreement. IN THE EVENT THAT THE LAW OF THE STATE IN WHICH THE PROJECT IS LOCATED (OR APPLICABLE LAWS) LIMITS THE APPLICABILITY OF ANY OF THE INSURANCE COVERAGE THAT THE OWNER MAY REQUIRE FROM THE PROGRAM MANAGER, THEN PROGRAM MANAGER SHALL BE REQUIRED TO OBTAIN COVERAGE TO THE FULLEST EXTENT OF COVERAGE AND LIMITS ALLOWED BY APPLICABLE LAWS, AND THIS SECTION 2.7 SHALL BE READ TO CONFORM TO SUCH LAW.

§ 2.7.7 The Program Manager shall be responsible to the Owner for all actions, omissions, breaches, negligence and misconduct of the Program Manager's consultants in the performance of services under this Agreement. Before engaging any consultant to assist the Program Manager in the rendition of its services, the Program Manager shall notify the Owner in writing of the identity of such consultant and the portion of the services for which the Program Manager proposes to retain such consultant. The Program Manager shall not retain a consultant to whom the Owner has made reasonable objection within fourteen (14) days after receipt of the information regarding such consultant. Further, the Program Manager shall not enter into any agreement with any consultants for the Project until at least five (5) business days after having delivered to the Owner a true and correct copy of the agreement for the Owner's review and comment. The Owner's review of and comment to any such agreement shall not relieve the Program Manager of its obligations hereunder with respect to consultant agreements unless expressly stated by the Owner to the contrary in writing. The Owner shall enjoy the same benefits and rights as to the Program Manager's consultants as the Program Manager enjoys with respect to its consultants, and all of the Program Manager's agreements with its consultants shall be in writing, signed by both parties and shall include expressly identify the Owner as a third-party beneficiary of such contract. Unless otherwise agreed by the Owner in writing, the Program Manager shall require all of its consultants to procure and maintain the same types and at least the same amounts of insurance as those required of the Program Manager under this Agreement, with the Additional Insureds named additional insureds on the same insurance policies on which the Program Manager is obligated to name the Additional Insureds as additional insureds and with waivers of subrogation in favor of the Additional Insureds as provided above. Should the Owner terminate this Agreement, the Program Manager shall, upon the Owner's request, obtain assignment of those of the consultants' agreement(s) with the Program Manager elected by the Owner. Each of the Program Manager's agreements with its consultants shall specifically provide that the Owner shall only be responsible to the consultant for those obligations of the Program Manager that accrue subsequent to the Owner's exercise of its right to take an assignment of such agreement. As a condition precedent to the Owner's obligation to pay the Program Manager's invoices, the Program Manager shall provide to the Owner copies of all of the Program Manager's agreements with its consultants.

ARTICLE 3 SCOPE OF PROGRAM MANAGER'S BASIC SERVICES

§ 3.1 General

§ 3.1.1 The Program Manager's Basic Services consist of those described in this Article 3, designated as Basic Services in Article 4, and Exhibit B, and include usual and customary owner's representative and program manager services. The Basic Services fee, as stated in Article 10, represents adequate and sufficient compensation for the Program Manager's timely provision of all Basic Services, including, those of its other consultants necessary to complete the Project, whether or not those services are individually listed or referred to in this Agreement, the only exceptions to this being: (a) the cost of those services that are provided by third parties and that are expressly designated herein as being "the Owner's responsibility: or "Owner-provided"; and (b) the cost of those services that become necessary as a result of an Owner-directed change in Project scope affecting the Program Manager and that are the subject of a written agreement for Additional Services between the Owner and the Program Manager. The Program Manager shall have authority to act on behalf of the Owner only to the extent provided in this Agreement. The Program Manager shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs employed in connection with the construction of the Project, nor shall the Program Manager be responsible for the failure of the Owner's consultants or contractors to perform services for, or the construction of, the Project in accordance with the plans, specifications, or other contract or legal requirements. The Program Manager shall be responsible for the Program Manager's and its consultants' negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Owner's consultants or contractors.

§ 3.1.2 The Program Manager shall provide the Owner with a preliminary evaluation of the Owner's program, schedule, and construction budget requirements, each in terms of the other. The Program Manager shall promptly notify the Owner in writing of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

§ 3.1.3 The Program Manager shall assist the Owner in determining the Owner's need for retaining consultants to provide professional and other services for the Project, and assist the Owner in reviewing qualifications and selecting any such consultants. The Program Manager shall periodically review the development of the design for the Project, and provide recommendations to the Owner for systems, materials, equipment, and techniques that may be utilized to achieve design standards for the Project, if any.

§ 3.1.4 At the Owner's request, the Program Manager shall assist the Owner in selecting the services of independent testing laboratories, review their reports, and make recommendations, if any, to the Owner based on that review.

§ 3.1.5 At the Owner's request, the Program Manager shall assist the Owner in coordinating the professional services of surveyors, special consultants, and testing laboratories required for the Project.

§ 3.1.6 At the Owner's request, the Program Manager shall assist the Owner in reviewing the qualifications of, and in selecting and retaining, the Construction Manager for Project.

§ 3.1.7 The Program Manager shall assist the Owner and Architect in establishing building information modeling and digital data protocols for the Project as appropriate and deemed necessary by the Owner.

§ 3.1.8 The Program Manager shall develop a strategy, procedure, and schedule to assist the Owner in obtaining the required reviews and approvals of authorities having jurisdiction over the Project; and shall assist the Owner in connection with the Owner's responsibility for filing documents required for such approvals. The Program Manager shall assist the Owner in obtaining building permits and special permits for permanent improvements, except for permits required to be obtained directly by the Construction Manager. The Program Manager shall verify that the Owner has paid applicable fees and assessments.

§ 3.1.9 The Program Manager and the Owner shall discuss the feasibility of incorporating sustainable objectives in the Project.

§ 3.1.10 The Program Manager shall retain all Project related documents and information it receives. Upon reasonable notice, the Owner shall have access to all such documents and information. Project participants shall have access to such documents and information only as approved by the Owner. The Program Manager shall preserve such documentation and information for a period of one year from the date of Substantial Completion and at that time provide a copy to the Owner.

§ 3.2 Project Management Plan

§ 3.2.1 In order to ascertain the requirements of the Project, the Program Manager shall review and discuss with the Owner the Initial Information, along with any other information to be furnished by the Owner and listed below.
(List other information to be furnished by the Owner.)

§ 3.2.2 The Program Manager shall develop and document a Project Management Plan with recommendations for the Owner's internal management of the Project, including a description of, and requirements pertaining to, the following:

- .1 Project management approach and organization, including executive, management and team staffing plan and responsibilities;
- .2 Project planning and development activities, including strategic planning; prioritizing; and defining scope, schedule, and budget for the Project;
- .3 Cost estimates, if selected in Section 4.1;
- .4 Project management controls, including scope, budget/cost, schedule, and quality management plan;
- .5 Procurement strategies and procedures, including strategy for procurement of construction; procedures for pre-purchase of material, systems, and equipment; procedures for evaluating and approving substitutions; and strategy for affirmative action or diversity planning;
- .6 Authorization processes and procedures, including administrative approval processes and responsibilities, and key documentation for: professional services and preconstruction services; processes and procedures for Project construction procurement, such as award, contracting, notice to proceed, Change Orders, payment certification; and Project closeout;
- .7 Project communication procedures, including systems, meetings, reporting, investigation, and records;
- .8 Development of design process guidelines, including coordination and permit process;
- .9 Development of construction process guidelines, including preconstruction and construction administration services, construction phase processes and procedures, program coordination, Change Order management, commissioning, and Project closeout procedures; and
- .10 Project acceptance and turnover guidelines relating to contract completion and closeout management, including record documentation, manuals and warranties.

§ 3.2.3 Intentionally deleted.

§ 3.2.4 The Program Manager shall obtain the Owner's approval of the Project Management Plan, and any subsequent revisions to the Project Management Plan.

§ 3.3 Information Management and Standards

§ 3.3.1 The Information Management System is a web-based system used to distribute Project related information, such as ProCore. Unless otherwise indicated in Section 3.3.2 below, the Program Manager shall implement a File Sharing System, as described in Section 3.3.3, as the Information Management System for the Project.

§ 3.3.2 If the Program Manager is to implement an Information Management System other than the File Sharing System, check the appropriate box below. If the Program Manager is not going to implement an Information Management System, select "None" below. Nothing in this Section 3.3 is intended to relieve the Program Manager of the information retention obligations set forth in Section 3.1.10.

Project Management Information System (pursuant to section 3.3.4 below).

Other Information Management System
(Describe in detail the web-based system to be implemented, maintained and upgraded, as necessary, by the Program Manager.)

None

§ 3.3.3 **File Sharing System.** The Program Manager shall implement, maintain, and upgrade as necessary, a web-based File Sharing System, such as ProCore, Owner Insite, or comparable system, to be used to receive and distribute Project Reports, Project Schedules, and other information as agreed by the Owner and the Program Manager.

§ 3.3.4 **Project Management Information System.** The Program Manager shall implement, maintain, and upgrade as necessary, a web-based Project Management Information System, such as ProCore, to be used to receive, distribute, and maintain Project Reports, Project Schedules, and other information as agreed by the Owner and the Program Manager. Activities under the Project will be scheduled and documented through the Project Management Information System. The Project Management Information System shall organize information by activity or other relevant categories, as determined by the Program Manager and Owner. The Program Manager shall collect information pertaining to the Project, and update the Project Management Information System on a weekly basis unless otherwise agreed. The Project Management Information System shall contain, at a minimum, the current status on contracts, budget, and schedule, and the documents identified in this Section 3.3.4, including the following:

- .1 The Contract Documents
- .2 Addenda
- .3 Change Orders and Construction Change Directives
- .4 Modifications
- .5 Construction schedules and submittal schedules
- .6 Requests for information and any responses, logs, or compilations pertaining to requests for information
- .7 Approved Shop Drawings, Product Data, and similar required submittals
- .8 Certificates of insurance received from the Construction Manager
- .9 Consent of surety or sureties, if any, to reduction in or partial release of retainage or the making of final payment
- .10 Affidavits, receipts, releases and waivers of liens, or bonds indemnifying the Owner against liens
- .11 Minutes for any meeting the Program Manager attends
- .12 Any other documentation required of the Construction Manager under the Contract Documents, including warranties and similar submittals
- .13 Other

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§ 3.3.5 The Owner shall have access to all information in the Information Management System. Other Project participants shall have access to specific information only as approved by the Owner. The Program Manager shall preserve the documentation and information contained in the Information Management System for a period of one year from the date of Substantial Completion and at that time provide a copy of all documentation and information contained in the Information Management System to the Owner.

§ 3.3.6 The Program Manager shall develop protocols and standards for the exchange and use of information in digital form to be integrated into the Information Management System. The Program Manager shall provide information to the Owner and the Owner's consultants and contractors, as required, regarding the use of the Information Management System.

§ 3.4 Project Report. On a monthly basis, or as otherwise agreed to by the Owner, the Program Manager shall prepare a Project Report. The Project Report shall include the following:

- .1 A summary update of the Project status, including photographs to document the progress of the Project
- .2 An updated Project Schedule
- .3 Actual and anticipated costs related to the Project
- .4 Cost and payment reports for each consultant and construction contract
- .5 Updated cash flow projections
- .6 Tests and inspection reports
- .7 A status report of nonconforming and rejected Work
- .8 Proposed and approved Change Orders
- .9 Any actual or potential claims pertaining to the Project
- .10 A status update of the Construction Manager's submittals
- .11 Other

Construction status log, including, without limitation, RFI, RFM and CSI logs.

§ 3.5 Project Budget Control

§ 3.5.1 On a monthly basis, or as otherwise agreed to by the Owner, the Program Manager shall update and provide reports on the Project Budget. If a Project Management Information System is selected in Section 3.3, the Program Manager shall organize the Project Budget in a manner that will allow costs to be tracked using the Project Management Information System.

§ 3.5.2 The Program Manager shall develop and implement a system of budget and cost controls to assist the Owner in the management of Project costs. The Program Manager shall prepare cash flow projections of costs for the Project.

§ 3.5.3 The Program Manager shall share information regarding the Project Budget with the Owner's consultants as authorized by the Owner.

§ 3.5.4 The Program Manager shall report the impact on the Project Budget of contracts and Modifications proposed by the Owner and the Owner's consultants and contractors.

§ 3.6 Project Schedule Control

§ 3.6.1 The Program Manager shall prepare a Project Schedule showing priorities, sequences, durations, and responsible parties, for design, pricing, construction, and Owner activities. The Project Schedule shall also identify critical milestone dates and schedule contingencies. As the Project progresses, the Program Manager shall update the status and expand the level of detail of the Project Schedule. The Project Schedule shall also incorporate or identify

- .1 dates for approvals and permits;
- .2 the design and construction schedules, including dates of commencement and completion, and other Project milestones;
- .3 Project components that need to be ordered or procured by the Owner, if any; and
- .4 the Owner's occupancy requirements, and any portions of the Project having occupancy priority.

§ 3.6.2 The Program Manager shall provide recommendations for sequencing and phasing to meet overall Project objectives.

§ 3.6.3 The Program Manager shall monitor and report on the progress of the Project and advise the Owner of observed deviations from the Project Schedule or key milestones that may impact Substantial Completion or final completion. The Program Manager shall include the reports in the Project Management Information System if selected in Section 3.3. The Program Manager shall consult with the Owner and the Owner's consultants and contractors and assist the Owner in developing recovery plans when the schedules or objectives are not being met.

§ 3.7 Project Quality Control

§ 3.7.1 The Program Manager shall ensure that the Construction Manager establishes and adheres to a Quality Control Plan, including a quality assurance and quality control certification memorandum, that the Owner may include in agreements between the Owner and the Owner's consultants or contractors, and distribute them through the Information Management System, if one is selected in Section 3.3.

§ 3.7.2 The Program Manager shall confirm that the Construction Manager has prepared a safety program and quality control plan.

§ 3.7.3 Unless the Program Manager shall provide on-site representation as an additional service pursuant to Section 4.2.1, the Program Manager shall visit the site at intervals appropriate to the state of construction, or at the specific intervals or milestones set forth in Section 3.7.3.1, to become generally familiar with the progress and quality of the portion of the Work completed.

§ 3.7.3.1 If the Program Manager is required to visit the site at specific intervals or milestones, set forth such intervals or milestones below.

§ 3.7.4 The Program Manager shall advise the Owner of observations it makes regarding deficiencies in the performance of the Owner's consultants and contractors.

§ 3.8 Other Services

§ 3.8.1 Subject to Sections 4.3.1 and 4.5.1, upon the Owner's written request, the Program Manager shall provide reasonable assistance in the areas of community and public relations, in order to enhance and maintain public awareness in furtherance of the interests of the Project and the Owner.

§ 3.8.2 The Program Manager shall schedule and conduct meetings with the necessary Project participants to coordinate the progress of the Project. The Program Manager shall also prepare minutes of such meetings. The Program Manager shall include its meeting minutes, as appropriate, in the Project Management Information System if selected in Section 3.3.

§ 3.8.3 The Program Manager shall advise the Owner on the acceptability of subcontractors and material suppliers proposed by the Construction Manager.

§ 3.8.4 Intentionally deleted.

§ 3.8.5 Upon the written request of the Owner, the Program Manager shall evaluate and provide input to the Owner on claims arising out of the Project.

ARTICLE 4 ADDITIONAL SERVICES

Except as otherwise provided, services listed below are not included in Basic Services but may be required for the Project. The Program Manager shall provide the listed services as Additional Services only if specifically designated below as the Program Manager's responsibility (and not identified as being included in the Basic Services), and the Owner shall compensate the Program Manager as provided in Section 10.3 or as otherwise agreed in subsequent writing signed by the Owner and the Program Manager. Notwithstanding the designation of a service listed below as "Not Provided", the Owner may elect to have such service be provided by a separate consultant or contractor or be provided by the Program Manager as an Additional Service. For the avoidance of doubt, the Owner shall not be deemed to be in breach of this Agreement for failure to provide any service listed in this Article 4, regardless of whether such service is designated as being provided by the Owner.

§ 4.1 Cost Estimating Services

The Program Manager shall provide to the Owner only the services in this Section that are designated by a check or "X" in the box adjacent to the listed service.

(Designate the services the Program Manager shall provide by placing a check or "X" in the box adjacent to the listed service. If necessary, provide expanded or modified descriptions of the designated services in the section or in an exhibit attached to this document.)

X Included in Basic Services	<p>§ 4.1.1 Based on the preliminary design and other design criteria prepared by the Architect and provided by the Owner, the Program Manager shall prepare a written preliminary estimate of the Cost of the Work using area, volume, or similar conceptual estimating techniques. If the Architect suggests alternative materials and systems, at the request of the Owner the Program Manager shall provide written cost evaluations of those alternative materials and systems, and may also provide its own suggestions for review and consideration by the Owner. The Cost of the Work shall be the total cost to the Owner to construct all elements of the Project designed or specified by the Architect and shall include the Construction Manager's general conditions costs, overhead, and profit. The Cost of the Work does not include the compensation of the Architect or Program Manager, the costs of the land, rights-of-way, financing, contingencies for changes in the Work, or other costs that are the responsibility of the Owner.</p>
X Included in Basic Services	<p>§ 4.1.2 As the Architect progresses with the preparation of the schematic design, design development, and construction documents, the Program Manager shall prepare and update, at appropriate intervals agreed to by the Owner and Program Manager, written estimates of the Cost of the Work in increasing detail and refinement. The Program Manager shall include appropriate contingencies for design, bidding or negotiating, price escalation, and market conditions in the estimates of the Cost of the Work. The Program Manager shall advise the Owner in writing if it appears that the Cost of the Work may exceed the Project Budget and make recommendations for corrective action to be considered by the Owner and Architect, and if appropriate, incorporated by the Architect.</p>
X Included in Basic Services	<p>§ 4.1.3 The Program Manager shall provide written recommendations regarding add and deduct alternates to be considered by the Owner and Architect, and if appropriate, incorporated by the Architect in the Drawings and Specifications.</p>

§ 4.2 Construction Contract Administration Services

The Program Manager shall provide to the Owner only the services in this Section that are designated by a check or "X" in the box adjacent to the listed service.

(Designate the services the Program Manager shall provide by placing a check or "X" in the box adjacent to the listed service. If necessary, provide expanded or modified descriptions of the designated services in the section or in an exhibit attached to this document.)

X Included in Basic Services	<p>§ 4.2.1 The Program Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site whenever the Work is being performed, except during periods when the Program Manager's Senior Project Manager is on vacation or out due to illness. The Program Manager shall determine in general that the Work of the Construction Manager is being performed in accordance with the requirements of the Contract Documents and notify the Owner and Architect in writing of observed defects and deficiencies in the Work.</p>
X Included in Basic Services	<p>§ 4.2.2 The Program Manager shall review information regarding tests and inspections provided by the Construction Manager, and provide written comments to the Owner, for consideration by the Owner and Architect, regarding any questions or concerns the Program Manager has with the information provided by the Construction Manager.</p>
X Included in Basic Services	<p>§ 4.2.3 If the Program Manager reasonably believes the Architect should reject Work or require additional inspection or testing of the Work, the Program Manager shall promptly recommend such actions to the Owner and Architect in writing. The Program Manager shall also recommend to the Owner, in writing, courses of action when requirements of a contract are not being fulfilled. The Program Manager shall include all recommendations required by this Section 4.2.3 in its Project Reports.</p>
X Included in Basic Services	<p>§ 4.2.4 The Program Manager shall review the Construction Manager's Applications for Payment and provide written recommendations, if any, to the Owner and Architect.</p>
X Included in Basic Services	<p>§ 4.2.5 If requested by the Architect and Owner, the Program Manager shall evaluate Construction Manager requests for information regarding the Contract Documents and provide written recommendations to the Owner and Architect.</p>
X	<p>§ 4.2.6 When requested by the Owner, the Program Manager shall review requests for changes, assist the Owner</p>

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Included in Basic Services	and Architect in evaluating and negotiating Construction Manager's proposals, and submit written recommendations to the Architect and Owner. Upon request by the Owner, the Program Manager will review Change Orders and Construction Change Directives prepared by the Architect and provide written comments regarding any questions or concerns the Program Manager has regarding the Change Orders or Construction Change Directives.
X Included in Basic Services	§ 4.2.7 The Program Manager shall review the Construction Manager's daily logs and other similar relevant data as the Owner may require, and provide written comments to the Owner regarding any questions or concerns the Program Manager has regarding the daily logs or other data.
X Included in Basic Services	§ 4.2.8 The Program Manager shall evaluate whether the Work, or a designated portion thereof, is substantially complete and provide its written recommendations to the Owner and Architect. Upon the Construction Manager's completion of the Work, the Program Manager shall provide written concurrence to the Architect's Certificate of Substantial Completion.
X Included in Basic Services	§ 4.2.9 With the Architect and the Owner's maintenance personnel, the Program Manager shall ensure the Construction Manager's final testing and start-up of utilities, operational systems, and equipment is completed and that the assigned commissioning agent observes and reports on such activities.
X Included in Basic Services	§ 4.2.10 The Program Manager shall assist the Owner in establishing a procedure for tracking and submission of records, warranties, guarantees, and documents pertaining to systems verification and Project close-out. The Program Manager shall deliver to the Owner all keys, manuals, record drawings, and maintenance stocks it receives from the Construction Manager.
X Included in Basic Services	§ 4.2.11 The Program Manager shall review the Construction Manager's final Application for Payment and provide written recommendations, if any, to the Owner and Architect.
X Included in Basic Services	§ 4.2.12 Upon request of the Owner, and prior to the expiration of one year from the date of Substantial Completion, the Program Manager shall, without additional compensation, attend a meeting with the Owner and Architect to review the facility operations and performance.

§ 4.3 To the extent not identified as being included in the Basic Services, the Program Manager shall provide the listed services as Additional Services only if specifically designated in the table below as the Program Manager's responsibility.

(Designate the Additional Services the Program Manager shall provide in the second column of the table below. In the third column indicate whether the service description is located in Section 4.4 or in an attached exhibit. If in an exhibit, identify the exhibit. AIA Contract Document numbers are cited, where applicable, to provide a basis for the proposed scope of services, but may need to be revised to be applicable in the program management context.)

Services	Responsibility (Program Manager, Owner or not provided)	Location of Service Description (Section 4.4 below or in an exhibit attached to this document and identified below)
§ 4.3.1 Community communications not included in Section 3.8.1	Owner	
§ 4.3.2 Capital campaign support	Not Provided	
§ 4.3.3 Assistance with sustainability certifications	Not Provided	
§ 4.3.4 Affirmative action/diversity compliance and outreach	Not Provided	
§ 4.3.5 Existing facilities analysis	Not Provided	
§ 4.3.6 Site Selection Analysis (B203™-2007)	Not Provided	
§ 4.3.7 Economic analysis	Not Provided	
§ 4.3.8 Programming (B202™-2009)	Not Provided	
§ 4.3.9 Master planning	Not Provided	
§ 4.3.10 Design standards services	Not Provided	
§ 4.3.11 Early procurement of materials and equipment	Construction Manager	
§ 4.3.12 FF&E procurement coordination	Construction Manager	

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§ 4.3.13 Life cycle analysis	Not Provided	
§ 4.3.14 Move management	Not Provided	
§ 4.3.15 Coordination of hazardous material testing or abatement	Not Provided	
§ 4.3.16 Payroll compliance services	Not Provided	
§ 4.3.17 Stakeholder relationships management	Program Manager	As a Basic Service pursuant to Article 3

§ 4.4 Intentionally deleted.

§ 4.5 Program Manager's Additional Services. The Owner may require the Program Manager to provide Additional Services after execution of this Agreement without invalidating this Agreement. Except for services required due to the fault of the Program Manager, any Additional Services provided in accordance with this Section 4.5 shall entitle the Program Manager to compensation pursuant to Section 10.4.

§ 4.5.1 "Additional Services" means additional or changed services of the Program Manager, including those listed in Section 4.5.1 below: (a) not expressed under this Agreement as being part of the Basic Services, and (b) not reasonably inferable from the nature of the Basic Services required of the Program Manager as being part of the Basic Services. Additional Services include the following:

- .1 Services necessitated by a material change in the Initial Information or a material change in the Project including size, quality, complexity, the Owner's schedule or budget for Cost of the Work, or procurement or delivery method, or bid packages;
- .2 Services necessitated by the enactment or revision of codes, laws or regulations, or by official interpretations, after the date of this Agreement;
- .3 Preparation for, and attendance at, public presentations, meetings, or hearings other than presentations, meetings, or hearings necessary to obtain permits or other governmental approvals required for the Project or otherwise specified herein as being part of the Basic Services;
- .4 Preparation for, and attendance at, a dispute resolution proceeding or legal proceeding, except where the Program Manager is party thereto;
- .5 Services required to assist in the repair or replacement of any elements of construction for any cause except the negligence of the Program Manager; or
- .6 Services required by deficiencies in the performance or default of Owner's consultants or contractors.

§ 4.5.2 The Program Manager shall not proceed to provide Additional Services until the Program Manager receives the Owner's written authorization. Notwithstanding anything in this Agreement to the contrary, the Program Manager shall not perform (subject, however, to the provisions of Section 7.2.9 below) and shall not be entitled to any payment for any Additional Services unless the Owner executes a written document setting forth a description of the Additional Services and the compensation to be paid for same in advance of the Program Manager performing such Additional Services. The Program Manager shall notify the Owner in writing and with reasonable promptness (but in no event later than three (3) business days after determining the perceived need for Additional Services) upon the Program Manager's determination that Additional Services are being required of it and it believes it is entitled to compensation for such Additional Services. The Program Manager shall indicate in that notice (a) the scope of the Additional Services, (b) the reason for the need for the Additional Services, (c) the party, if any, whose acts or omissions the Program Manager believes resulted in the proposed Additional Services, (d) the estimated financial and schedule impacts of the Additional Services, and (e) a definitive statement of fees that the Program Manager believes to be due to the Program Manager for such proposed Additional Services. Such advance written notice is a **CONDITION PRECEDENT** to the Owner's obligation to pay for such services. No increase in compensation or extension of time to perform shall be granted unless this notice requirement is fully and timely satisfied. In addition to any other remedies available to the Owner under this Agreement or under Applicable Laws, if the Additional Services were the result, in whole or part, of error, omission, inconsistency or lack of clarity arising from the work or services of a party other than the Program Manager or those for whom the Program Manager is responsible or were otherwise avoidable by full performance by the Program Manager, the required services shall be performed by the Program Manager at no additional cost to the Owner.

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided for in this Agreement, the Owner shall provide and update information regarding requirements for, and limitations on, the Project in a timely manner, including the information in Article 1; information pertaining to other objectives, schedule constraints and criteria, and site requirements; and any other information either described in Article 5 or required for the Program Manager to perform its services.

§ 5.2 The Owner shall collaborate with the Program Manager to establish and periodically update the Project Budget including (1) the Program Manager's costs, (2) design and constructions costs, (3) the Owner's other costs, and (4) reasonable contingencies related to all of these costs. The Owner shall promptly notify the Program Manager if the Owner if significantly increases or decreases the Project Budget.

§ 5.3 The Owner shall retain all contractors and consultants it deems necessary to carry out the Project except for those consultants retained by the Program Manager as listed in Section 1.4.2. The Owner shall endeavor to require that its consultants maintain professional liability insurance and other liability insurance as appropriate to the services provided, and shall endeavor to require that its contractors maintain commercial general liability insurance and other liability insurance as appropriate to the services or work provided.

§ 5.4 The Owner shall identify a representative authorized to act on the Owner's behalf with respect to the Project. Initially, such representative(s) are the persons specified in Section 1.4.3 of this Agreement. The Owner may add a, or change any, designated representative upon written notice to the Program Manager, and the Owner may specify, and/or modify the scope of authority of any designated representative in like manner. The Owner shall render decisions within the time provided in any written schedule agreed to by the Owner or, in the absence of such an agreed schedule, with reasonable promptness in order to avoid unreasonable delay in the orderly and sequential progress of the Program Manager's services.

§ 5.4.1 Notwithstanding anything in this Agreement to the contrary, no modification to this Agreement, including a change to the Program Manager's fee, shall be valid and binding as against the Owner unless signed by the Owner's designated representative and should the Program Manager perform services which it believes are Additional Services without such a signed modification, it shall be deemed to have waived any entitlement to an increase in its fee as a result thereof.

§ 5.5 The Owner or its consultants have furnished, or shall furnish, surveys and other information to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information include grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions, and other necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths.

§ 5.6 The Owner or its consultants shall furnish services of a geotechnical engineer, which may include test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, seismic evaluation, ground corrosion tests, and resistivity tests, including necessary operations for anticipating subsurface conditions, with written reports and appropriate recommendations.

§ 5.7 The Owner or its consultants shall furnish tests, inspections, and reports required by law or the Project, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials.

§ 5.8 The Program Manager shall not be required to furnish all legal, insurance, financing, and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests. However, the Program Manager shall be responsible for its own legal and accounting services in connection with its services provided under this Agreement.

§ 5.9 The Owner shall provide, and shall require that its consultants and contractors provide, prompt written notice to the Program Manager if they become aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the Program Manager's Instruments of Service (hereinafter defined) or services provided by the Program Manager.

§ 5.10 In the agreements between the Owner and the Owner's consultants or contractors, the Owner shall endeavor to include a duty that the consultant or contractor (i) cooperate with the Program Manager and (ii) provide information and documents reasonably necessary for the Program Manager to prepare and update the Project Management Plan or as otherwise required for the Program Manager to perform its services.

§ 5.11 Intentionally deleted.

§ 5.12 The Owner shall provide the Program Manager access to the Project site and other facilities under the Owner's control and associated with the Project as may be reasonably required for the Program Manager to perform its services. The Owner shall endeavor to obligate its contractors to provide the Program Manager access to the Project site wherever Work is in preparation or progress.

§ 5.13 Intentionally deleted.

§ 5.14 The Owner hereby notifies the Program Manager that the Project site is publicly owned land and not subject to liens under Chapter 713, Florida Statutes.

ARTICLE 6 COPYRIGHTS AND LICENSES

§ 6.1 "Instruments of Service" are representations, whether in oral, written graphic, electronic, machine readable, human readable, or any other form and in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Program Manager and the Program Manager's consultants under their respective agreements, and all copies of the foregoing and all information, data, and knowledge incorporating, based upon, or derived from the foregoing. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials in digital or physical form.

§ 6.2 The Program Manager and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project. If the Owner and the Program Manager intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions or comply with protocols established for the Project, if any. The Program Manager, upon request of the Owner, shall deliver to the Owner reproducible copies of all Instruments of Service, whether completed or in process, in format acceptable to the Owner.

§ 6.3 Subject to payment by the Owner of undisputed amounts due to the Program Manager hereunder, the Program Manager hereby grants to the Owner a perpetual, nonexclusive, and irrevocable license to reproduce and use the Program Manager's Instruments of Service for purposes of evaluating, designing, constructing, using, maintaining, altering, renovating, and adding to, and completing the Project. The Program Manager shall obtain similar nonexclusive licenses from its consultants consistent with this Agreement. The license granted to the Owner hereunder shall not be affected in any way by the suspension, termination, or breach of this Agreement or any contract or dispute between the Owner and the Program Manager. The Program Manager shall contain similar perpetual, nonexclusive, and irrevocable licenses from its consultants in favor of the Owner consistent with this Agreement. Notwithstanding anything in this Agreement or any other contract with the Program Manager, the Owner may assign, delegate, sublicense, pledge, or otherwise transfer to another party any license granted herein. Without limitation of the foregoing, the license granted under this Section permits the Owner to authorize the Architect, Construction Manager, and the Owner's other consultants, contractors, and suppliers to use and reproduce applicable portions of the Instruments of Service in performing their respective services for the Project.

§ 6.4 The Owner shall have exclusive ownership of all data in the Information Management System and the Project Management Plan developed or contributed by the Program Manager or the Program Manager's consultants and contractors. Ownership of the data in the Information Management System and the Project Management Plan does not include ownership of any proprietary software developed and owned by the Program Manager and used in connection with the collection, manipulation, or publication of the data in the Information Management System and the Project Management Plan. The Program Manager shall take all steps reasonably necessary to allow the Owner to exercise the Owner's rights to own and utilize the data in the Information Management System and the Project Management Plan after termination of the Owner's rights to use any proprietary software. The Program Manager shall include provisions consistent with the provisions in this Section 6.4 in the Program Manager's agreements with the Program Manager's

consultants. Ownership of data obtained from, or compiled, developed or contributed by, the Owner's consultants or contractors will be controlled by the terms of the Owner's agreements with those consultants or contractors.

§ 6.5 In addition to its other indemnification obligations under this Agreement, the Program Manager shall indemnify and hold the Indemnitees harmless from any claims and expenses (including reasonable attorneys' fees and disbursements) caused by the actual or alleged infringement of any domestic or foreign patents, copyrights, trademarks or other intellectual property rights that may be attributable to the Program Manager or the Program Manager's consultants in connection with the Program Manager's services and the Project, unless, however, the infringement of such copyrights, patents, trademarks or other intellectual property rights has been dictated or directed by the Owner. In the event that any suit or claim is brought, or temporary restraining order or preliminary injunction is granted, related to the infringement of any patent, copyright or other intellectual property right, the Program Manager shall, in addition to its obligation above, make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of the injunction or restraining order. If, in any such suit or claim, the services, the Project or any part, combination or process thereof, is held to constitute an infringement and its use is preliminarily or permanently enjoined, the Program Manager shall promptly use its best efforts to secure the Owner a license, at no cost to the Owner, authorizing continued use of the infringing work. If the Program Manager is unable to secure such a license within a reasonable time, the Program Manager shall at its own expense and without impairing performance requirements, either replace the affected work, in whole or part, with non-infringing components or parts or modify the same so that they become non-infringing.

§ 6.6 The provisions of this Article 6 shall survive the termination of this Agreement.

ARTICLE 7 CLAIMS AND DISPUTES

§ 7.1 General

§ 7.1.1 The Owner and Program Manager shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other, arising out of or related to this Agreement, in accordance with the requirements of the method of binding dispute resolution selected in this Agreement, within the period specified by Applicable Laws.

§ 7.1.2 To the extent proceeds are received from property insurance, and provided such property insurance permits a waiver of subrogation to be granted without additional cost to the insured, the Owner and the Program Manager waive all rights against each other and against the contractors, consultants, agents, and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in the modified AIA Document A201-2017, General Conditions of the Contract for Construction; provided that the waiver of subrogation as it relates to the Program Manager and its consultants shall be as to on-Project site activities only. The Owner or the Program Manager, as appropriate, shall require of the contractors, consultants, agents and employees of any of them, similar waivers in favor of the other parties enumerated herein.

§ 7.1.3 The Program Manager, to the fullest extent permitted by law, shall indemnify and hold harmless the Owner and its officers, directors, and employees (collectively, the "Indemnitees") from and against liabilities, damages, losses, and costs, including the cost of defense and reasonable attorneys' fees (collectively "Indemnity Claims"), but only to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Program Manager or other persons employed or utilized by the Program Manager in the performance of this Agreement. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to an Indemnitee. In claims against any Indemnitee by an employee of the Program Manager, a consultant, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Program Manager or a consultant under worker's compensation acts, disability benefit acts or other employee benefit acts. The provisions of Section shall survive the termination of this Agreement for any reason.

§ 7.1.4 The Owner and the Program Manager acknowledge and agree that Applicable Laws do not require a monetary limitation on the extent of the indemnification provisions of Section 7.1.3. If, notwithstanding this agreement, a monetary limitation on the extent of indemnification is deemed necessary to enforce any indemnification provision contained in this Agreement, the specifications for the Project shall be deemed to include a monetary limitation on the extent of the indemnification required by said provision equal to the greater of, on a per occurrence basis: (a) Five Million Dollars (\$5,000,000), or (b) the amount of all deductibles and self-insured retentions applicable to the Program Manager's insurance policy or policies applicable to such Indemnity Claim(s) plus the amount of insurance

proceeds paid or payable under the Program Manager's insurance policy or policies applicable to such Indemnity Claims, and the Program Manager and the Owner expressly agree that this monetary limit bears a reasonable commercial relationship to this Agreement. The Program Manager's indemnification obligations under this Agreement, including those specified in Sections 7.1.3, shall be deemed to fully comply with Sections 725.06 and 725.08, Florida Statutes, to the extent applicable, including any amendments thereto, in all respects. To the greatest extent permitted by Applicable Laws, the Program Manager waives for itself and its insurers any and all claims that the indemnification obligations under this Agreement violate Applicable Laws.

§ 7.1.5 The Program Manager shall include in its agreements with its consultants the same indemnity provisions contained in Section 7.1.3 and 7.1.4 from the consultants in favor of the Indemnitees.

§ 7.1.6 The Program Manager waives consequential damages for claims, disputes or other matters in question arising out of or relating to this Agreement. This waiver is applicable, without limitation, to all consequential damages due to either party's termination of this Agreement.

§ 7.2 Mediation

§ 7.2.1 Other than a claim for injunctive relief which may be brought by a party in a court of competent jurisdiction, any claim, dispute or other matter in question arising out of or related to this Agreement shall be subject to mediation as a condition precedent to binding dispute resolution. If such matter relates to or is the subject of a bond claim arising out of the Program Manager's services, the Program Manager may proceed in accordance with Applicable Laws to comply with the bond claim or filing deadlines prior to resolution of the matter by mediation or by binding dispute resolution.

§ 7.2.2 Except as otherwise provided in Section 7.2.1 above, the Owner and Program Manager shall endeavor to resolve claims, disputes, and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of a complaint or other appropriate demand for binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of sixty (60) days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

§ 7.2.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 7.2.4 If the parties do not resolve a dispute through mediation pursuant to this Section 7.2, the method of binding dispute resolution shall be the following:

(Check the appropriate box. If the Owner and Program Manager do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, the dispute will be resolved in a court of competent jurisdiction.)

Arbitration pursuant to Section 7.3 of this Agreement

Litigation in a court of competent jurisdiction. Each of the parties hereto hereby (a) irrevocably and unconditionally consents to submit itself to the sole and exclusive personal jurisdiction of any federal or state court located within the County where the Project is located (the "Applicable Courts"), (b) waives any objection to the laying of venue of any litigation in any of the Applicable Courts, (c) agrees not to plead or claim in any of the Applicable Courts that the litigation brought therein has been brought in an inconvenient forum and agrees not otherwise to attempt to deny or defeat such personal jurisdiction or venue by motion or other request for leave from any of the Applicable Courts, and (d) agrees that such party will not bring any action, suit, or proceeding in connection with any dispute, claim, or controversy arising out of or relating to this Agreement or the Project in any court or other tribunal other than any of the Applicable Courts.

Other: (Specify)

§ 7.2.5 Waiver of Jury Trial. THE OWNER AND THE PROGRAM MANAGER HEREBY WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING, OR COUNTERCLAIM INVOLVING ANY MATTER WHATSOEVER ARISING OUT OF OR IN ANY WAY CONNECTED WITH (A) THIS AGREEMENT, (B) THE PROJECT, (C) ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN), OR (D) ANY ACTION OF EITHER PARTY. THE WAIVERS SET FORTH IN THIS SECTION ARE MADE KNOWINGLY, INTENTIONALLY, AND VOLUNTARILY BY BOTH PARTIES. THIS PROVISION IS A MATERIAL INDUCEMENT FOR THE OWNER AND THE PROGRAM MANAGER IN AGREEING TO ENTER INTO THIS AGREEMENT.

§ 7.2.6 Attorneys' Fees. In any suit, action, or other proceeding arising out of or in any manner relating to this Agreement, including: (a) the enforcement or interpretation of either party's rights or obligations under this Agreement, whether in contract, tort, or both, or (b) the declaration of any rights or obligations under this Agreement, the prevailing party shall be entitled to recover from the losing party Attorneys' Fees. For purposes of this Section, "Attorneys' Fees" shall mean all reasonable fees and disbursements (including disbursements that would not otherwise be taxable as costs in the proceeding) which are incurred by a party, including all experts', legal assistants', paralegals', and law clerks' fees and all fees incurred through all post award or judgment and appellate levels and in connection with bankruptcy, and collection proceedings (post judgment and otherwise).

§ 7.2.7 Joinder. Notwithstanding anything herein to the contrary, in the event the dispute resolution procedure applicable to another dispute between the Owner and another party regarding the Project is different from the procedure specified in this Agreement, then the Program Manager hereby consents, if requested by the Owner, to its joinder in such dispute resolution proceeding, provided that the dispute resolution proceeding involves substantially common questions of law or fact.

§ 7.2.8 Chapter 558, Florida Statutes. THE PARTIES EXPRESSLY AGREE THAT THE PROVISIONS OF CHAPTER 558, FLORIDA STATUTES, SHALL NOT APPLY TO THIS AGREEMENT OR ANY DISPUTE RELATING TO IT OR THE PROJECT. However, should either party receive a written notice purporting to have been delivered pursuant to Chapter 558, Florida Statutes, relating to this Agreement or the Program Manager's services, such party shall promptly deliver a copy of that notice to the other party.

§ 7.2.9 Continued Performance. In the event of any dispute between the Owner and the Program Manager, including any dispute as to whether the Program Manager is entitled to additional compensation for any services requested, the Program Manager shall continue to proceed diligently with the performance of its services pending resolution of the dispute, and the Owner shall pay the Program Manager undisputed sums due under this Agreement for all services rendered by the Program Manager that are not the subject of dispute; provided, however, nothing in this Section shall be deemed to limit a party's rights hereunder to terminate this Agreement in accordance with Article 8.

§ 7.3 Intentionally Deleted

§ 7.3.1 Intentionally deleted.

§ 7.3.1.1 Intentionally deleted.

§ 7.3.2 Intentionally deleted.

§ 7.3.3 Intentionally deleted.

§ 7.3.4 Intentionally Deleted

§ 7.3.4.1 Intentionally deleted.

§ 7.3.4.2 Intentionally deleted.

§ 7.3.4.3 Intentionally deleted.

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ARTICLE 8 TERMINATION OR SUSPENSION

§ 8.1 If the Owner fails to make payments of undisputed amounts due to the Program Manager in accordance with this Agreement, such failure shall be considered substantial nonperformance and cause for termination of this Agreement or, at the Program Manager's option, cause for suspension of performance of services under this Agreement. If the Program Manager elects to suspend services, the Program Manager shall give seven (7) days' written notice to the Owner before suspending services. In the event of a suspension of services after timely delivery to Owner of required notice, the Program Manager shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services. Before resuming services, the Program Manager shall be paid all undisputed sums due prior to suspension and any reasonable expenses incurred in the interruption and resumption of the Program Manager's services. The Program Manager's fees for the remaining services and the time schedules shall be subject to equitable adjustment, if appropriate. Notwithstanding the foregoing, the Program Manager will not suspend services if the Owner makes the required payment within the foregoing notice period.

§ 8.2 The Owner reserves the right to suspend the Project or the performance of the services of the Program Manager at any time for cause or for its convenience. If the Owner suspends the Project or the services of the Program Manager for a period greater than sixty (60) consecutive days, the Program Manager shall be compensated for services performed prior to notice of such suspension. If and when the Owner directs the Program Manager to resume its services, the Program Manager's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 8.3 If the Owner suspends the Project for more than ninety (90) consecutive days for reasons other than the fault of the Program Manager, the Program Manager may terminate this Agreement by giving not less than seven (7) days' written notice.

§ 8.4 Either party may terminate this Agreement upon not less than seven (7) days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination and fail to cure the breach within said seven- (7-) day notice period. However, in the event of termination of this Agreement due solely to a breach by the Program Manager, the Owner shall be entitled to offset any amounts due and owing the Program Manager pursuant to this Section by the amounts of actual damages incurred by the Owner to the extent caused by the Program Manager's breach, which offset shall not prejudice the right of the Owner to recover additional damages or to exercise any other remedy available at law or in equity.

§ 8.5 The Owner may terminate this Agreement, in whole or part (such as terminating a portion of the Basic Services to be performed by a specialty consultant engaged or to be engaged by the Program Manager), upon not less than seven (7) days' written notice to the Program Manager for the Owner's convenience and without cause. Should the Owner terminate this Agreement for cause but that cause is subsequently found to be insufficient to support termination, the termination shall be deemed one of convenience.

§ 8.6 If the Owner terminates this Agreement for its convenience pursuant to Section 8.5, or the Program Manager terminates this Agreement pursuant to Section 8.3, the Owner shall compensate the Program Manager for services, including Reimbursable Expenses, performed prior to termination and Reimbursable Expenses incurred prior to termination (or, in the case of partial termination, shall compensate the Program Manager for the terminated portion of services to the extent performed prior to termination).

§ 8.7 Notwithstanding anything in this Agreement to the contrary, under no circumstances shall the Owner be obligated to pay or reimburse the Program Manager for lost profits, unabsorbed overhead or any other consequential, incidental, special or punitive damages.

§ 8.8 In the event of suspension or termination of the Program Manager's services, the Program Manager, upon request of the Owner and the Owner's payment of fees due pursuant to this Agreement, shall deliver to the Owner reproducible copies of all Instruments of Service and all other Project-related documents, whether completed or in process, in format previously identified herein. Further, in the event of a termination of this Agreement, for any cause or for no cause, upon the Owner's request and with the Owner's reasonable cooperation, the Program Manager shall provide transition services to ensure a smooth and effective change of responsibility for the items and services provided by the Program Manager ("**Transition Services**"). Unless otherwise agreed by the parties in writing, the Program Manager shall be compensated for the performance of Transition Services in accord with the hourly rates set forth in **Exhibit C-1** or in accordance with any supplement to **Exhibit C-1** previously agreed upon in writing, if any. The Transition Services shall include: (a) developing a plan for the orderly transition of the terminated items and

services provided by the Program Manager to the Owner or the successor program manager; (b) if required, transferring the Owner data to the successor program manager in media and format reasonably requested and compensated by the Owner; (c) using commercially reasonable efforts to make available to the Owner, pursuant to mutually agreeable terms and conditions, any third-party software, content or services then being used by the Program Manager in connection with the provision of items and services under the terminated service agreement; and, (d) such other activities upon which the Program Manager and the Owner may agree. The provisions of this Section 8.8 shall survive the termination of this Agreement.

§ 8.9 Any termination of this Agreement shall also terminate the Owner's obligation to pay the Program Manager for the services that are yet to be performed and are the subject of this Agreement, except to the extent expressly otherwise stated herein. The Program Manager will be paid for all undisputed amounts due to the Program Manager for services performed and Reimbursable Expenses incurred prior to termination. Disputed amounts shall be subject to the dispute resolution procedures set forth in Article 7 hereunder.

ARTICLE 9 MISCELLANEOUS PROVISIONS

§ 9.1 This Agreement shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules.

§ 9.2 The Owner and Program Manager, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. Neither the Owner nor the Program Manager shall assign this Agreement without the written consent of the other, such consent not to be unreasonably withheld.

§ 9.3 If the Owner requests the Program Manager to execute certificates, the proposed language of such certificates shall be submitted to the Program Manager for review at least seven (7) days prior to the requested dates of execution. If the Owner requests the Program Manager to execute consents reasonably required to facilitate assignment to a permitted assignee of the Owner, the Program Manager shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to the Program Manager for review at least seven (7) days prior to execution. The Program Manager shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 9.4 Except for the rights of the Indemnitees and Additional Insureds herein, nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, a third party against either the Owner or Program Manager.

§ 9.5 Unless otherwise required in this Agreement, the Program Manager shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site. Should the Program Manager become aware of the presence of hazardous materials or toxic substances at the Project site, it shall immediately report that presence to the Owner in writing.

§ 9.6 The Program Manager shall have the right to include photographs of the Project among the Program Manager's promotional and professional materials only with the Owner's prior written approval. The Program Manager's materials shall not include the Owner's confidential or proprietary information.

§ 9.7 The Program Manager shall consider all Project-specific information, except the Project name and location, to be confidential and proprietary to the Owner. The Program Manager shall keep such information strictly confidential and shall not disclose it to any other person except as set forth in Section 9.7.1. This Section 9.7 shall survive the termination of this Agreement.

§ 9.7.1 The Program Manager may disclose "confidential" or "business proprietary" information after seven (7) days' notice to the Owner, when required by Applicable Laws or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or to the extent such information is reasonably necessary for the Program Manager to defend itself in any dispute. The Program Manager may also disclose such information to its employees, consultants, or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of such information as set forth in this Section 9.7.

§ 9.7.2 The Owner shall abide by the confidentiality requirements imposed upon it by this Agreement, if any, except as required by law (in the opinion of the Owner's legal counsel) or court order. As a public entity, the Owner is legally required to abide by various public records and government in the sunshine laws, including Sections 119.07, 189.417, and 286.011, Florida Statutes, as amended.

§ 9.8 The partial or complete invalidity of any provision of this Agreement shall not affect the validity or the continuing force and effect of this Agreement or its remaining provisions. If it is determined that any provision of this Agreement violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case this Agreement shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing this Agreement.

§ 9.9 No approval, consent or waiver by the Owner or the Program Manager shall be effective unless it is in writing and then only to the extent specifically stated. The remedies granted to Owner in this Agreement are cumulative and not in limitation of any other rights and remedies of Owner at law or in equity. The failure of a party to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Agreement, or to exercise any right herein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right as respects further performance.

§ 9.10 Any notice pursuant to this Agreement shall be given in writing by (a) personal delivery, (b) reputable overnight delivery service with proof of delivery, or (c) email transmission, sent to the intended addressee at the address set forth in the Agreement, or to such other address or to the attention of such other person as the addressee shall have designated by written notice sent in accordance herewith, and shall be deemed to have been given upon receipt or refusal to accept delivery, or, in the case of email transmission, as of the date of the email transmission, provided that for notices of default an original of such email transmission is also delivered to the intended addressee by means described in clauses (a) or (b) above.

§ 9.11 This Agreement has been negotiated by the parties with each party having had the opportunity to consult with legal counsel of its choosing. Therefore, this Agreement shall not be interpreted more strictly against one party than the other, including by virtue of one party having drafted some or all of this Agreement. The singular shall include the plural, the plural the singular, and the use of any gender shall include all genders. Whenever the word "including", "include" or "includes" is used in this Agreement it shall be deemed to be followed by the words "without limitation". Caption headings are included for ease of use only and shall not be utilized for purposes of interpreting the provisions of this Agreement. All Section and Article references in this Agreement are to Articles and Sections of this Agreement unless expressly stated otherwise.

§ 9.12 All of the Program Manager's representations and indemnifications made in, required by, or given in accordance with this Agreement, as well as all continuing obligations indicated in this Agreement, will survive final payment, completion, and acceptance of the Program Manager's services or termination or completion of this Agreement or termination of the services of the Program Manager.

§ 9.13 The Program Manager shall be acting as an independent contractor at all times during the performance of Program Manager's services and no provision in this Agreement shall create an employment or agent relationship between the parties. The parties have not entered into and do not intend to enter into any joint venture or partnership with each other. The Program Manager acknowledges that it shall have no authority to bind the Owner to any contractual or other obligation and the Program Manager shall have no authority to make any commitment for or on behalf of the Owner for any purpose without the Owner's express prior written consent. The Owner shall not in any manner be responsible or accountable for: (a) any violation by the Program Manager or its consultants of any Applicable Laws, or (b) for any injury, loss or damage arising from or out of any act or omission of the Program Manager or its consultants.

§ 9.14 Nothing in this Agreement is intended or shall be construed to require the Owner to determine the adequacy, accuracy or sufficiency of the Program Manager's Instruments of Service or the Program Manager's or its consultants' services, and nothing in the Agreement shall impose upon the Owner a duty to third parties to assure that the Program Manager, its consultants, the Architect, and the Construction Manager, subcontractors or others are adhering to Applicable Laws.

§ 9.15 Except for the express representations contained in Sections 6.1, 11.6 and 12.4 herein, nothing in this Agreement is intended to create any warranties from the Program Manager to the Owner; provided, however, nothing in this Section 9.15 shall be construed to limit the Program Manager's obligations in this Agreement.

ARTICLE 10 COMPENSATION

§ 10.1 For the Program Manager's Basic Services described under Article 3 and elsewhere in this Agreement, the Owner shall compensate the Program Manager as follows:
(Insert amount of, or basis for, compensation, including stipulated sums, hourly or monthly billing rates, direct salary expense plus multiple, or monthly fee.)

On an hourly rates as provided in Section 10.2 below, subject to a not-to-exceed maximum price of One Million One Hundred Five Thousand One Hundred Eighty-One and No/100 Dollars (\$1,105,181.00) as shown on **Exhibit C-2**, which includes Fifteen Thousand and No/100 Dollars for Reimbursable Expenses as provided in Section 10.6.1 below.

§ 10.2 The hourly labor cost rates and billing rates for services of the Program Manager and the Program Manager's consultants, if any, are set forth below.
(If applicable, attach an exhibit of hourly billing rates or insert them below.)

See **Exhibit C-1**

Employee or Category	Rate
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§ 10.3

(Paragraphs deleted)
Intentionally deleted.

§ 10.4 For Additional Services that may arise during the course of the Project, including those under Section 4.5, the Owner shall compensate the Program Manager as follows:
(Insert amount of, or basis for, compensation.)

On a time charge hourly basis or negotiated lump sum amount as and to the extent agreed by the Owner in writing prior for performance of any Additional Services.

§ 10.5 Compensation for Additional Services of the Program Manager's consultants when not included in Sections 10.3 and 10.4 shall be the amount invoiced to the Program Manager plus zero percent (0 %), or as otherwise stated below:

On an hourly rate basis per Section 10.2.

§ 10.6 Compensation for Reimbursable Expenses

§ 10.6.1 The expenses listed in Sections 10.6.1.1 through Section 10.6.1.11 below are "**Reimbursable Expenses.**" The Program Manager may be compensated for Reimbursable Expenses in addition to compensation set forth in Section 10.1, but only for those Reimbursable Expenses necessarily incurred by the Program Manager and the Program Manager's consultants directly related to its required services under this Agreement for the Project.

- .1 Transportation and authorized out-of-town travel and subsistence charges approved in advance by the Owner in writing (all per diem and travel expenses shall be subject to the legal requirements and limitations imposed by Section 112.061, Florida Statutes, as amended, incorporated herein, and the Owner's internal policies with respect to travel reimbursement in place from time to time);
- .2 Intentionally deleted;
- .3 Permitting and other fees required by authorities having jurisdiction over the Project;
- .4 Amounts charged by third parties for printing, reproductions, plots, and standard form documents;
- .5 Amounts charged by third parties for postage, handling, and delivery;

(Paragraph deleted)

- .6 Amounts charged by third parties for presentation materials requested by the Owner in writing, including renderings, physical models, mock-ups, and professional photography;

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- .7 If required by the Owner, and with the Owner's prior written approval, the Program Manager's consultants' expenses of professional liability insurance in excess of that set forth in Section 2.7;
- .8 All taxes levied on professional services and on Reimbursable Expenses;
- .9 Site office expenses if approved in writing and in advance by the Owner;
- .10 Registration fees and any other fees charged by the Certifying Authority as necessary to achieve the Sustainable Objective, if applicable; and
- .11 Other similar Project-related expenditures if approved in writing and in advance by the Owner.

All Reimbursable Expenses and request for reimbursement therefor are subject to Section 112.061, Florida Statutes, as amended. The Owner shall not be responsible for paying for, or reimbursing, Reimbursable Expenses incurred or billed contrary to such statute. Further, the Program Manager shall not incur and the Owner shall not be responsible for paying for any Reimbursable Expense in excess of One Thousand and No/100 Dollars (\$1,000.00) in any one instance, or Fifteen Thousand and No/100 Dollars (\$15,000.00) in the aggregate, without the Program Manager having obtained the Owner's prior written consent thereto.

§ 10.6.2 For Reimbursable Expenses the compensation shall be the expenses incurred by the Program Manager and the Program Manager's consultants plus zero percent (0 %) of the expenses incurred.

§ 10.6.3 Intentionally deleted.

(Paragraphs deleted)

§ 10.7 Intentionally Deleted

§ 10.8 Payments to the Program Manager

§ 10.8.1 Intentionally deleted.

§ 10.8.2 Unless otherwise agreed in writing, payments for services shall be made monthly in proportion to services performed. Payments are due and payable within thirty (30) days after the Owner's receipt of the Program Manager's invoice. For invoices that include time incurred providing Additional Services on an hourly basis, such invoices must provide time sheets or other evidence reasonably acceptable to the Owner evidencing the hours spent in performing the relevant services. If any invoice includes Reimbursable Expenses, such invoice shall provide a copy of the receipts or paid invoices that substantiate the expense. Upon the Owner's reasonable request, the Program Manager shall promptly deliver to the Owner such other information as the Owner shall reasonably require to enable the Owner to verify, evaluate and approve the services completed, the fees earned and Reimbursable Expenses incurred in accordance with the terms and conditions of this Agreement. Amounts unpaid sixty (60) days after the invoice date shall bear interest at the

(Paragraphs deleted)

due at the minimum rate required by Applicable Laws. For the avoidance of doubt and notwithstanding anything herein to the contrary, it shall be a specific condition precedent to the Owner's obligation to pay the Program Manager for services performed relevant to a particular phase of the Project that the Program Manager have delivered to the Owner the required deliverables for the prior phase of services.

§ 10.8.3 The Owner shall not withhold amounts from the Program Manager's compensation to impose a penalty or liquidated damages on the Program Manager. However, the Owner may withhold payment from the Program Manager, until such dispute has been resolved pursuant to the provisions herein, on account of services that the Owner contends in good faith contain errors, omissions or are otherwise incomplete, inconsistent or do not conform to the requirements of this Agreement, or are contrary to written instructions of the Owner, without prejudice to the Program Manager's right to assert a claim for such disputed sums. The Owner shall provide the Program Manager with a written explanation of any such withholding. The Owner's review of, inspection of, acceptance of, or payment for any of the Program Manager's services shall not constitute acceptance of, or a waiver of any of the Owner's rights or remedies relating to, services that fail to conform to the requirements of this Agreement, unless the Owner expressly accepts in writing specified services acknowledged by the Owner therein as non-conforming.

§ 10.8.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times. Further, the Program Manager shall keep full and detailed records and accounts related to the Program Manager's services. The Owner and the Owner's auditors shall, during regular business hours and upon reasonable notice, be afforded access to, and shall be

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permitted to audit and copy, the Program Manager's records and accounts, including complete documentation supporting accounting entries, books, correspondence, instructions, drawings, receipts, consulting agreements and other data relating to this Agreement. The Program Manager shall preserve these records for a period of five (5) years after final payment, or for such longer period as may be required by law.

ARTICLE 11 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

§ 11.1 Additional Site Rules. Smoking is prohibited on the Project site, except in areas, if any, specifically designated for same by the Owner. Neither the Program Manager, nor any of its personnel or consultants, shall ever shut off any utilities, including power, gas and water systems at any time for any reason without the Owner's prior written consent. For all other utilities, the Program Manager, its personnel, and consultants shall follow the Owner's written procedures for shutting off, adjusting, switching, or modifying any utility service.

§ 11.2 Sovereign Immunity. No indemnification provision in the Contract Documents shall act to waive the Owner's sovereign immunity or impose any liability that would be restricted by sovereign immunity in a non-contractual arrangement. Furthermore, the Owner shall not waive any right it may have to assert sovereign immunity against any claim asserted against, or that could be asserted against, the Owner related to the Project for which the Program Manager has an indemnification obligation under this Agreement. This provision shall survive the termination of this Agreement.

§ 11.3 No Commissions. The Program Manager warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Program Manager to solicit or secure this Agreement and that it has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the Program Manager any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For the breach or violation of this provision, the Owner shall have the right to terminate this Agreement without liability and, at its discretion, to deduct from any fees due the Program Manager, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

§ 11.4 Public Records. In addition to all other contract requirements as provided by Applicable Laws, the Program Manager executing this Agreement agrees to comply with public records law. **IF THE PROGRAM MANAGER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE PROGRAM MANAGER'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE OWNER'S CUSTODIAN OF RECORDS, Rosemarie Call, Phone 727-562-4092 or Email: Rosemarie.Call@myclearwater.com, 600 Cleveland Street, Suite 600, Clearwater, FL 33755.** The Program Manager shall:

- .1 Keep and maintain public records required by the Owner to perform the Program Manager's services;
- .2 Upon request from the Owner's custodian of public records, provide the Owner with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law;
- .3 Ensure that public records that are exempt or confidential and exempt from the public records disclosure requirements are not disclosed except as authorized by law for the duration of the term of the Contract and following completion of the Contract if the Program Manager does not transfer the records to the Owner;
- .4 Upon completion of the Agreement, transfer at no cost to the Owner all public records in possession of the Program Manager or keep and maintain public records required by the Program Manager to perform its services. If the Program Manager transfers all public records to the Owner upon completion of the Agreement, the Program Manager shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Program Manager keeps and maintains public records upon completion of the Agreement, the Program Manager shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the Owner, upon request from the Owner's custodian of public records, in a format that is compatible with the information technology systems of the Owner.
- .5 A request to inspect or copy public records relating to the Agreement must be made directly to the Owner. If the Owner does not possess the requested records, the Owner shall immediately notify the Program Manager of the request and the Program Manager must provide the records to the Owner or allow the records to be inspected or copied within a reasonable time.

- .6 The Program Manager hereby acknowledges and agrees that if the Program Manager does not comply with the Owner's request for records, the Owner shall enforce the Agreement provisions in accordance with the Agreement.
- .7 If the Program Manager fails to provide the public records to the Owner within a reasonable time, it may be subject to penalties under Section 119.10, Florida Statutes.
- .8 If a civil action is filed against Program Manager to compel production of public records relating to a this Agreement, the court shall assess and award against the Program Manager the reasonable costs of enforcement, including reasonable attorney fees, if: (1) the court determines that the Program Manager unlawfully refused to comply with the public records request within a reasonable time; and (2) at least eight (8) business days before filing the action, the plaintiff provided written notice of the public records request, including a statement that the Program Manager has not complied with the request, to the Owner and the Program Manager.
- .9 A notice complies with Section 11.4.8(2), if it is sent to the Owner's custodian of public records and to the Program Manager at the Program Manager's address listed on this Agreement or to the Program Manager's registered agent. Such notices must be sent by common carrier delivery service or by registered, Global Express Guaranteed, or certified mail, with postage or shipping paid by the sender and with evidence of delivery, which may be in an electronic format.
- .10 If the Program Manager complies with a public records request within eight (8) business days after the notice is sent, the Program Manager shall not be liable for the reasonable costs of enforcement.

§ 11.5 For the avoidance of doubt, the Program Manager shall use best efforts to minimize the impacts of its services to the operations of any existing facilities.

§ 11.6 Convicted Vendor List. By its execution of this Agreement, the Program Manager acknowledges that it has been informed by the Owner of the terms of Section 287.133(2)(a), Florida Statutes which read as follows:

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in s. 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

§ 11.7 Public Entity Crimes. The Program Manager must notify the Owner within thirty (30) days after a conviction of a public entity crime applicable to the Program Manager or to any employee, consultant or affiliate of the Program Manager providing services on any Project for the Owner.

§ 11.8 No Conflicts of Interest. The Program Manager represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance of services required hereunder or under any contract with the Owner. The Program Manager further represents that no persons having any such interest shall be employed to perform those services.

§ 11.9 Non-discrimination. The Program Manager represents and warrants that it does not discriminate against any employee or applicant for employment or person to whom it provides services because of race, color, religion, sex, national origin, or disability, and represents and warrants that it complies with all applicable federal, state, and local laws and executive orders regarding employment. The Program Manager and its personnel will comply with applicable provisions of Title VII of the U.S. Civil Rights Act of 1964, as amended, Section 504 of the Federal Rehabilitation Act, the Americans with Disabilities Act (42 U.S.C. § 12101 et seq.), and applicable rules in performance under this Agreement.

§ 11.10 Discriminatory Vendor List. Consistent with Section 287.134, Florida Statutes, the Program Manager or any consultant or affiliate of the Program Manager, who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to the Owner; may not submit a bid, proposal, or reply on a contract with the Owner for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to the Owner; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the Owner; and may not transact business with the Owner.

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§ 11.11 Policies and Procedures. The Program Manager shall at all times comply, and the Program Manager shall ensure that all of the Work at all times complies, with the Owner's policies and procedures which have been provided by the Owner to the Program Manager. While at any or on any of the Owner's premises, the Program Manager's and its employees, personnel, agents, shall comply with all lawful and reasonable requests, standard rules, and regulations of the Owner communicated to the Program Manager regarding personal and professional conduct, including any security or privacy requirements, and shall otherwise conduct themselves in a businesslike manner. The Program Manager shall not act (nor permit any omission) or provide Work in a manner which would be disruptive to the Owner, or which would jeopardize the health or safety of any person. The Program Manager shall not engage in any verbal or physical conduct that adversely affects any person, or any disruptive behavior that interferes with any person's ability to work in at the Owner's premises or with any person providing administrative, maintenance, or other services of any kind to, for, or on behalf of the Owner, whether such person is an employee or a contractor. In addition, the Program Manager shall reasonably assist the Owner in maintaining compliance with all professional and ethical requirements and standards established by applicable federal, state, and local licensing or accrediting agencies and bodies and professional associations, including assistance in achieving and maintaining accreditation, certification and/or any licensure applicable, in whole or in part, to the items or services provided by the Program Manager.

§ 11.12 Truth-In-Negotiation Certificate. At the time this Agreement is executed, the Program Manager shall sign and deliver to the Owner a Truth-In-Negotiation Certificate in the form attached hereto and made a part hereof as **Exhibit D**. The Program Manager's compensation shall be adjusted to exclude any sums by which the Owner reasonably determines the compensation was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs. All such adjustments must be made within one (1) year following the completion or earlier termination of this Agreement.

§ 11.13 E-Verify. The Program Manager shall, and shall require its consultants to, register with and use the E-Verify system operated by the United States Department of Homeland Security to verify the work authorization status and employment eligibility of all newly hired employees, including each employee hired on or after January 1, 2021 and each contract employee upon the renewal or extension of his or her contract. Additionally, the Program Manager shall require each of its consultants to provide an affidavit stating that the consultant does not employ, contract with, or subcontract with an unauthorized alien, and shall maintain copies of all such affidavits and make them available to the Owner promptly upon the Owner's request.

§ 11.14 Drug-Free Workplace. The Program Manager is hereby advised that the Owner has adopted a policy establishing a drug-free workplace for itself and those doing business with the Owner to ensure the safety and health of all persons working on Owner contracts and projects. The Program Manager will require a drug-free workplace for all Program Manager personnel and any personnel of the Program Manager's consultants working under this Agreement. Specifically, all Program Manager personnel who are working under this Agreement must be notified in writing by the Program Manager that they are prohibited from the manufacture, distribution, dispensation, possession, or unlawful use of a controlled substance in the workplace. The Program Manager agrees to prohibit the use of intoxicating substances by all Program Manager personnel and all personnel of the Program Manager's consultants and will ensure that such personnel do not use or possess illegal drugs while in the course of performing their duties.

§ 11.15 Federal and State Immigration Laws. The Program Manager agrees to comply with the Immigration Reform and Control Act of 1986 (IRCA) in performance under this Agreement and to permit the Owner and its agents to inspect applicable personnel records to verify such compliance as permitted by Applicable Laws. The Program Manager will ensure and keep appropriate records to demonstrate that all the Program Manager's personnel have a legal right to live and work in the United States.

- .1 As applicable to the Program Manager, under this provision, the Program Manager hereby warrants to the Owner that the Program Manager and each of its consultants will comply with, and are contractually obligated to comply with, all federal immigration laws and regulations that relate to their employees (hereinafter "**Immigration Warranty**").
- .2 A breach of the Immigration Warranty will constitute as a material breach of this Agreement and will subject Program Manager to penalties up to and including termination of this Agreement at the sole discretion of the Owner.
- .3 The Owner retains the legal right to inspect the papers of all Program Manager personnel who provide services under this Agreement to ensure that Program Manager and its consultants are complying with

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the Immigration Warranty. The Program Manager agrees to assist the Owner in regard to any such inspections.

- .4 The Owner may, at its sole discretion, conduct random verification of the employment records of the Program Manager and all consultants to ensure compliance with the Immigration Warranty. The Program Manager agrees to assist the Owner in regard to any random verification performed.
- .5 Neither the Program Manager nor any consultant will be deemed to have materially breached the Warranty if the Program Manager or the consultant establishes that it has complied with the employment verification provisions prescribed by Sections 274A and 274B of the Federal Immigration and Nationality Act.

§ 11.16 Sales/Use Tax, Other Taxes. The Program Manager is responsible for the payment of all taxes including federal, state, and local taxes related to or arising out of the Program Manager's services under this Agreement, including by way of illustration but not limitation, federal and state income tax, Social Security tax, unemployment insurance taxes, and any other taxes or business license fees as required. If any taxing authority should deem the Program Manager or the Program Manager's employees an employee of the Owner or should otherwise claim the Owner is liable for the payment of taxes that are the Program Manager's responsibility under this Agreement, the Program Manager will indemnify the Owner for any tax liability, interest, and penalties imposed upon the Owner. The Owner is exempt from paying state and local sales/use taxes and certain federal excise taxes and will furnish an exemption certificate upon request.

§ 11.17 Audits and Records. The Program Manager must preserve the records related to this Agreement for five (5) years after completion of the Agreement. The Owner or its authorized agent reserves the right to inspect any records related to the performance of services specified herein. In addition, the Owner may inspect any and all payroll, billing or other relevant records kept by the Program Manager in relation to the Agreement. The Program Manager will permit such inspections and audits during normal business hours and upon reasonable notice by the Owner. The audit of records may occur at the Program Manager's place of business or at the Owner's offices, as determined by the Owner.

§ 11.18 Background Check. The Owner may conduct criminal, driver history, and all other requested background checks of the Program Manager personnel who would perform services under the Agreement or who will have access to the Owner's information, data, or facilities in accordance with the Owner's current background check policies. Any officer, employee, or agent that fails the background check must be replaced immediately for any reasonable cause not prohibited by Applicable Laws.

§ 11.19 Security Clearance and Removal of Personnel. The Owner will have final authority, based on security reasons: (i) to determine when security clearance of the Program Manager personnel is required; (ii) to determine the nature of the security clearance, up to and including fingerprinting the Program Manager personnel; and (iii) to determine whether or not any individual or entity may provide services under this Agreement. If the Owner objects to any Program Manager personnel for any reasonable cause not prohibited by Applicable Laws, then Program Manager will, upon notice from the Owner, remove any such individual from performance of services under this Agreement.

§ 11.20 Use of Name. The Program Manager will not use the name of the City of Clearwater in any advertising or publicity without obtaining the prior written consent of the Owner.

ARTICLE 12 SCOPE OF THE AGREEMENT

§ 12.1 This Agreement represents the entire and integrated agreement between the Owner and the Program Manager and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both the Owner and Program Manager.

§ 12.2 This Agreement is comprised of the following documents listed below:

- .1 This modified AIA Document C172™-2014, Standard Form Agreement Between Owner and Program Manager for use on a Single Project
- .2 AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, if completed, or the following:

Not applicable.

- .3 Other documents:
(List other documents, if any, including additional scopes of service forming part of the Agreement.)

Exhibit A – Owner's Preliminary Program
Exhibit B – Supplemental Scope of Services
Exhibit C-1 – Schedule of Key Personnel and Hourly Rates
Exhibit C-2 – Fee Breakdown
Exhibit D – Truth-In-Negotiation Certificate
Exhibit E – Scrutinized Companies Forms
Exhibit F – Verification of Employment Eligibility
Exhibit G – City of Clearwater Greenprint 2.0 Requirements

The City of Clearwater Technical Specifications are also included in the Contract Documents; however, such Technical Specifications are too voluminous to attach to this Agreement. The Technical Specifications can be found online at:
<https://www.myclearwater.com/Business-Development/Doing-Business-with-the-City/Engineering-Construction-Bid-Information/Contract-Specifications>.

In the event of any conflict between the terms and provisions of this modified AIA Document C172™–2014, Standard Form Agreement Between Owner and Program Manager for use on a Single Project and the Exhibits hereto, the terms and provisions of this modified AIA Document C172™–2014, Standard Form Agreement Between Owner and Program Manager for use on a Single Project shall control.

§ 12.3 This Agreement may be signed in counterparts, each of which when executed and delivered shall be an original, but all such counterparts shall constitute one and the same instrument. For purposes of executing this Agreement, a document signed and transmitted by emailed PDF scan shall be treated as an original document. The signature of either party on an emailed PDF scanned version of this Agreement shall be considered as an original signature and the document transmitted shall be considered to have the same binding legal effect as if it were originally signed. At the request of either party, any PDF scanned document shall be re-executed by all parties in original form. Neither party may raise the use of emailed PDF scan or the fact that any signature was transmitted by email as a defense to the enforcement of this Agreement or any amendment executed in compliance with this Section.


§ 12.4 Each of the individuals executing this Agreement represent and warrant that he or she has been duly authorized by the respective party on whose behalf he or she is executing this Agreement to execute this Agreement on such party's behalf and that once executed by him or her, this Agreement shall be valid and binding upon such party.

This Agreement is entered into as of the day and year first written above.

CITY OF CLEARWATER, a Florida Municipal Corporation

BROADDUS & ASSOCIATES, INC., a Texas corporation

OWNER (Signature)


PROGRAM MANAGER (Signature)

Jennifer Poirrier, City Manager
(Printed name and title)

Paul Webb, P.E., COO
(Printed name and title)

Countersigned:

OWNER (Signature)

Brian J. Aungst, Jr., Mayor
(Printed name and title)

Approved as to form:

OWNER (Signature)

David Margolis, City Attorney
(Printed name and title)

Attest:

OWNER (Signature)

Rosemarie Call, City Clerk
(Printed name and title)


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Exhibit A
Owner's Preliminary Program
(See attached.)

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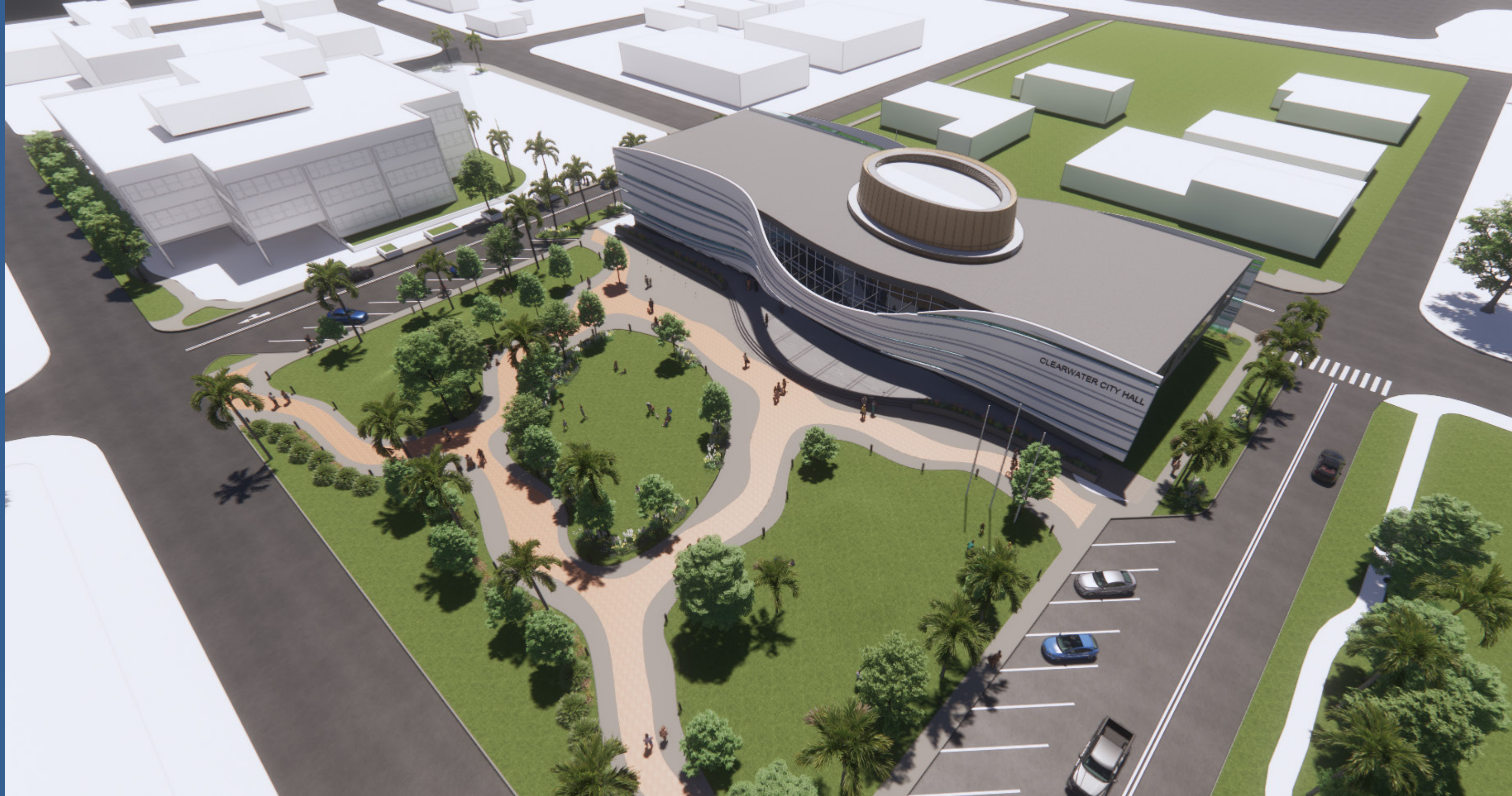
CLEARWATER CITY HALL CONCEPTUAL DESIGN OPTIONS

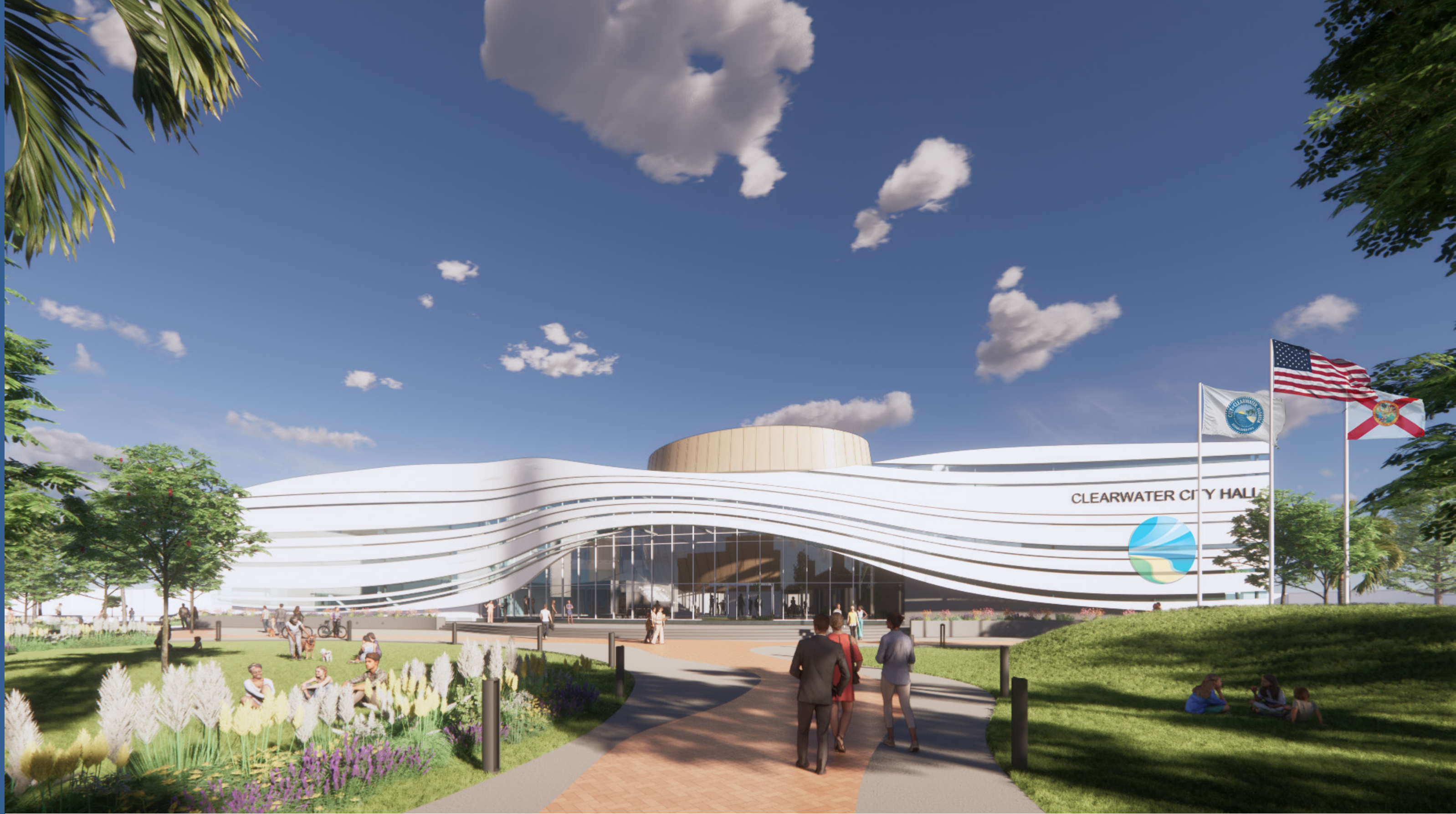
August 11, 2023

OPTION 2A:

Total GSF: 41,679SF

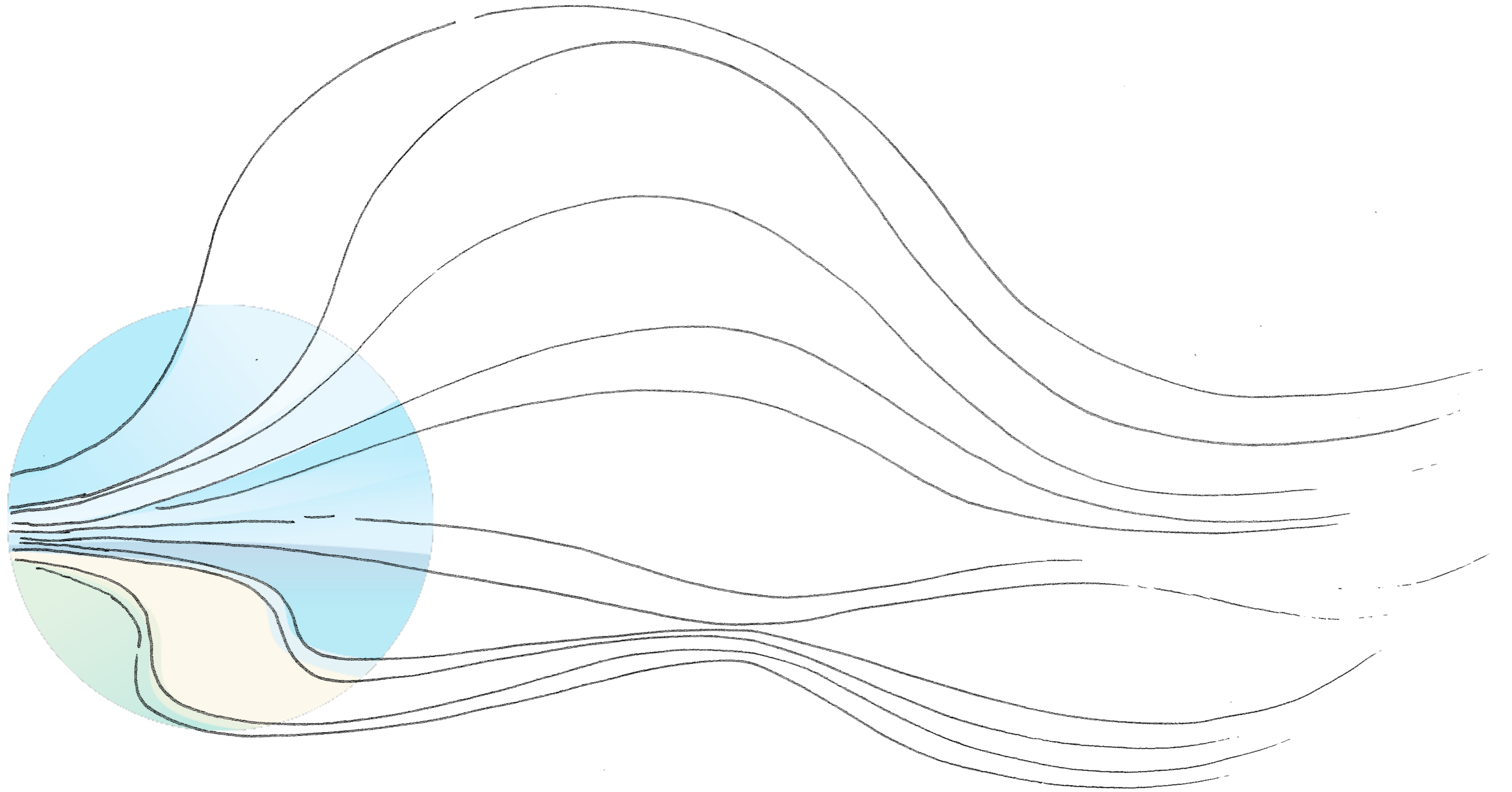






PUBLIC PLAZA VIEW

OPTION 2A





PUBLIC PLAZA ENTRANCE

OPTION 2A



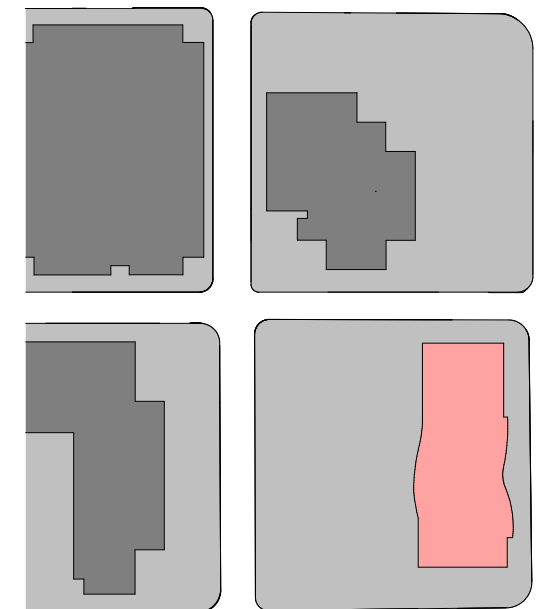
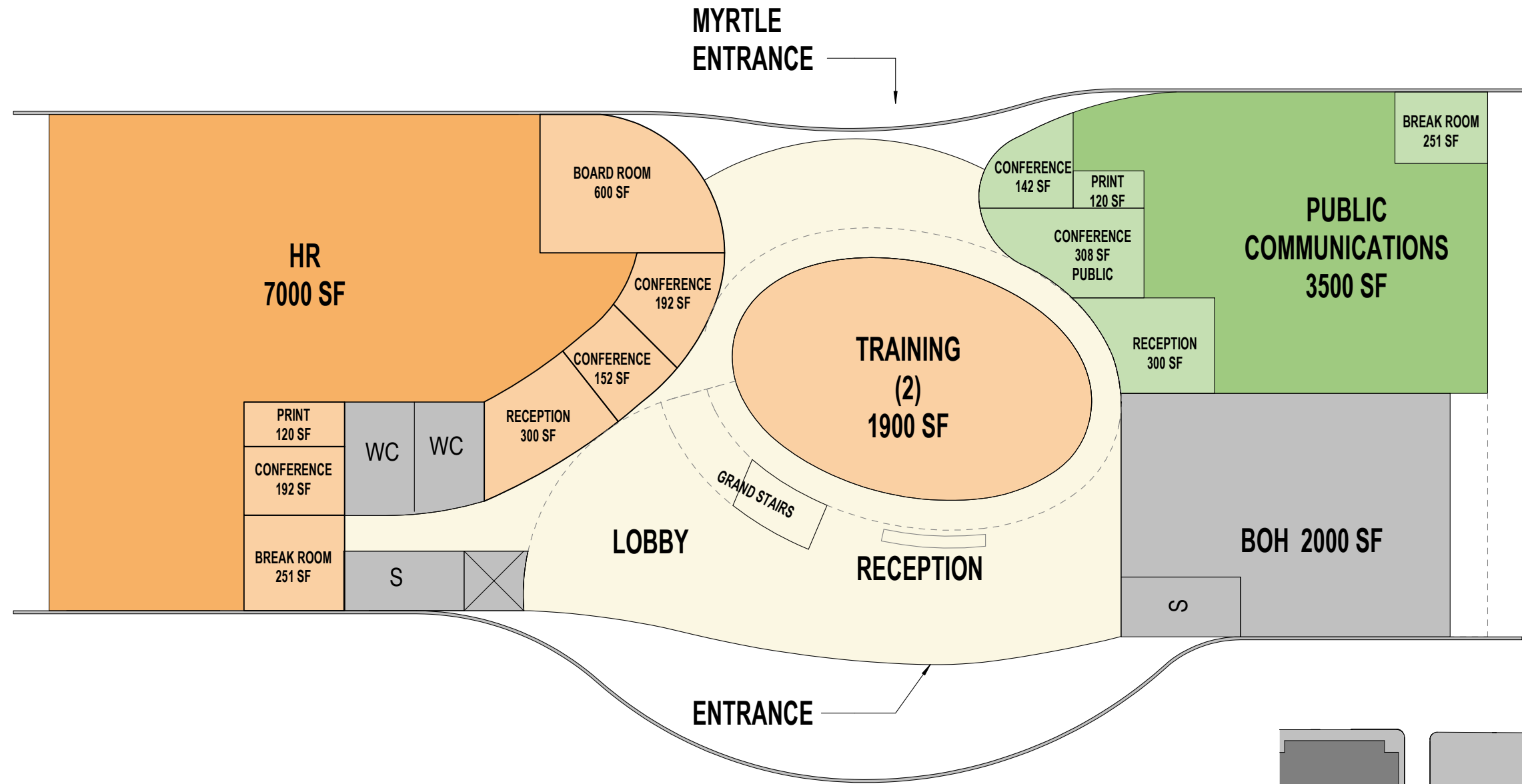
MYRTLE AVENUE VIEW

OPTION 2A

OPTION 2A

Level 1

- BACK OF HOUSE
- HUMAN RESOURCES
- PUBLIC COMMUNICATION





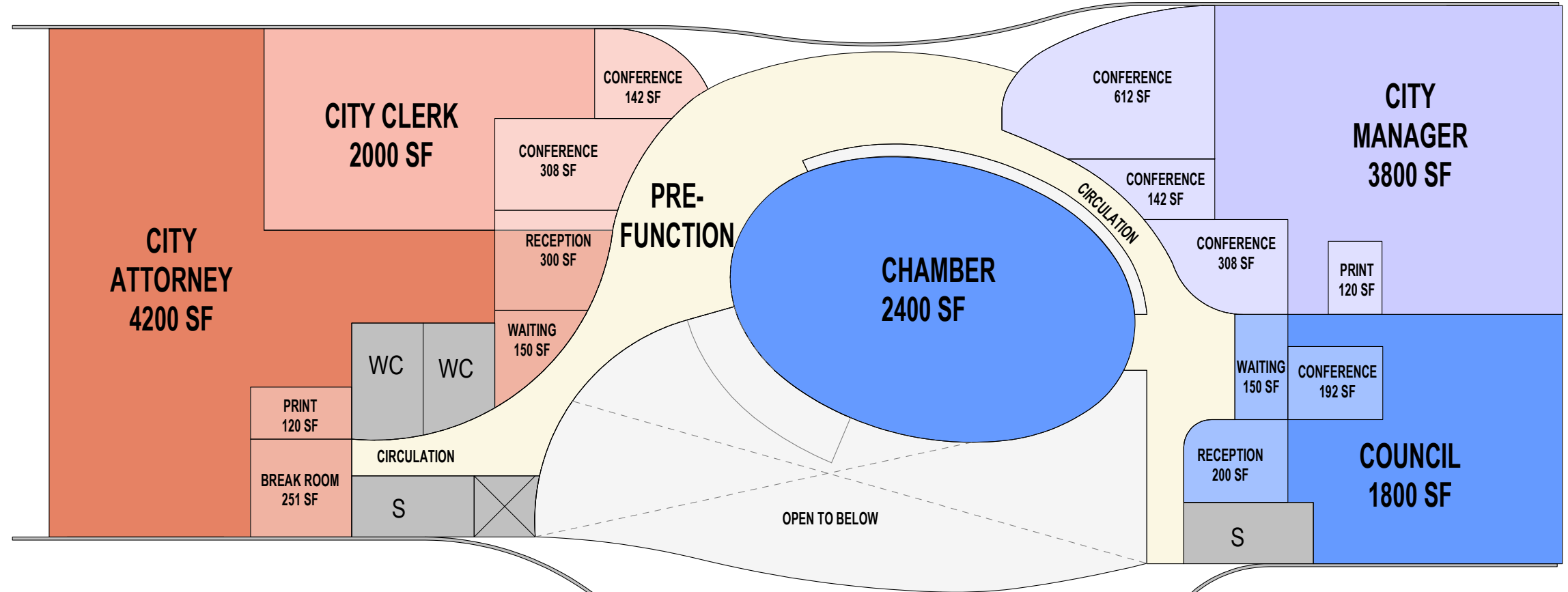
LEVEL 1 - LOBBY

OPTION 2A

OPTION 2A

Level 2

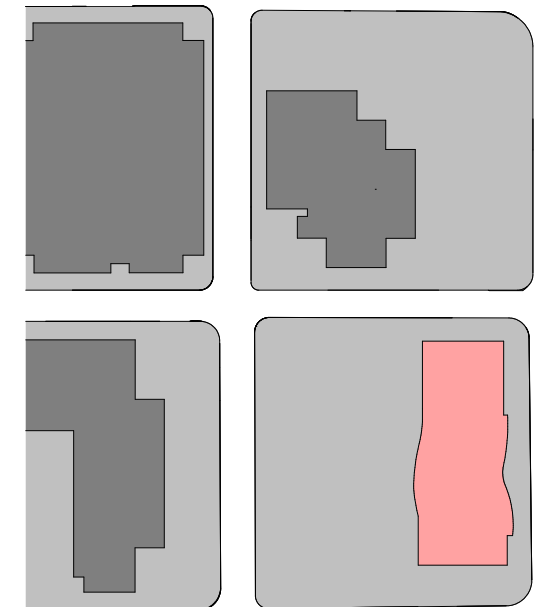
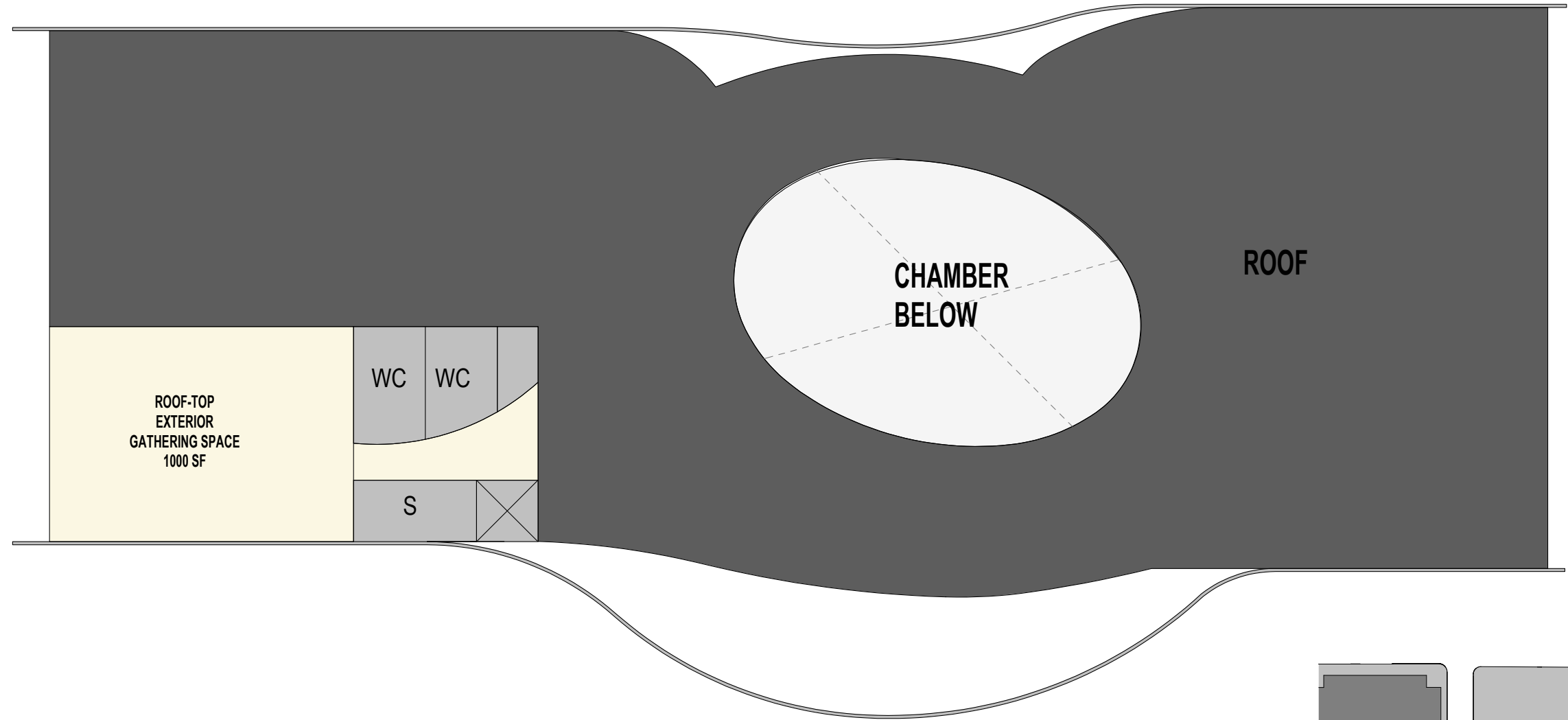
- CITY MANAGER
- COUNCIL
- CITY CLERK
- ATTORNEY



OPTION 2A

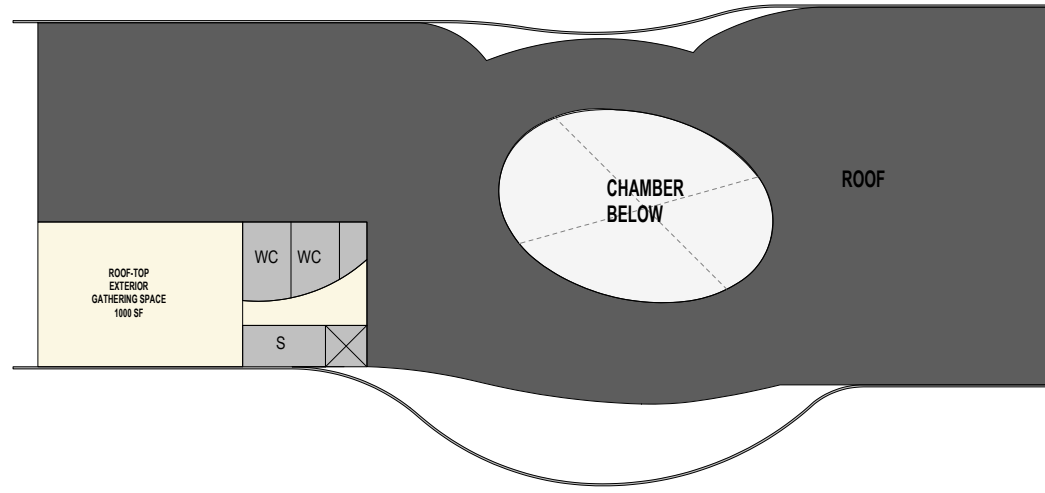
Level 3

 BALCONY



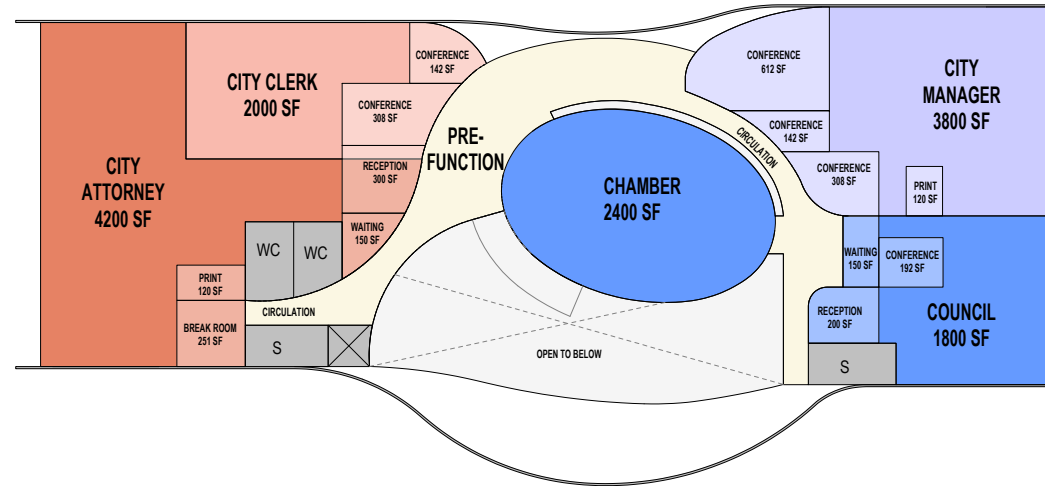
OPTION 2A

OVERALL BUILDING SIZE:
Total GSF: 41,679 SF



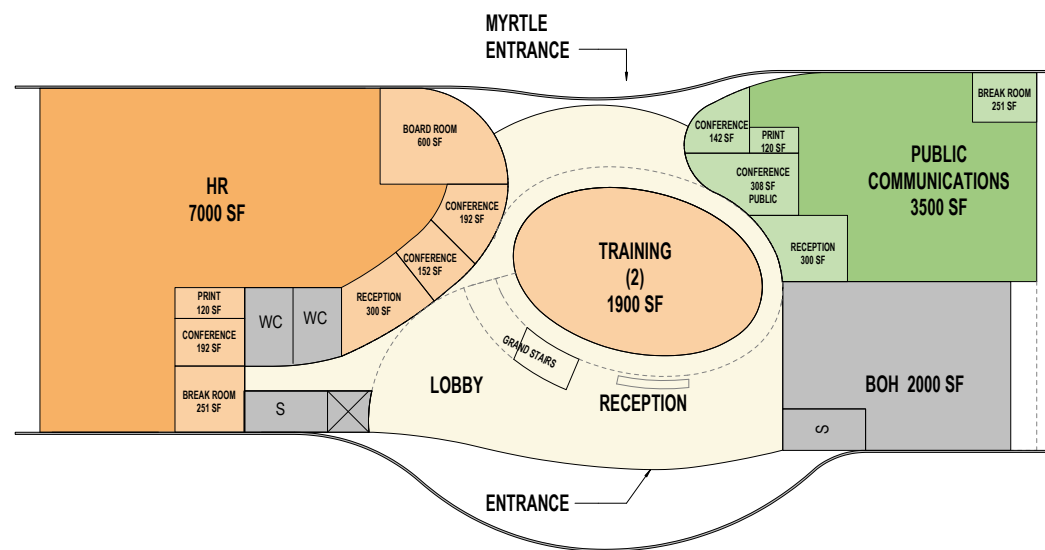
Level 3

BALCONY



Level 2

CITY MANAGER
 COUNCIL
 CITY CLERK
 ATTORNEY



Level 1

BACK OF HOUSE
 HUMAN RESOURCES
 PUBLIC COMMUNICATION

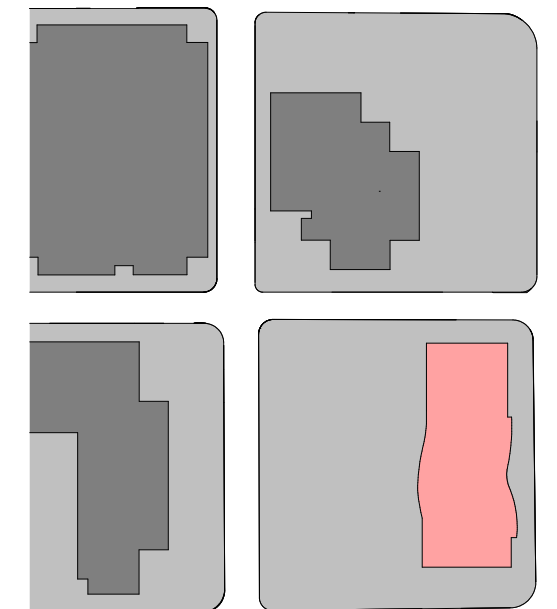


Exhibit B

Supplemental Scope of Services

SCOPE OF SERVICES. The City is engaging with an Owner's Representative for oversight of the design and construction of the new City Hall and the renovation of the existing MSB. The new City Hall is estimated to be approximately 42,000 SF. The existing MSB renovation is estimated to be 66,100SF. Design and construction includes buildings, mechanical, plumbing, electrical, utilities, parking, space allocation, and internal and external efficiencies. Design of both the new City Hall and renovations of the existing MSB are currently underway. The Architect of Record (AOR) is Wannemacher Jensen Architects, Inc. The scope of services presented herein is a general assessment of the tasks and deliverables expected of the OR team. The City expects the OR team to perform in a manner that supports and facilitates the City's management operations as a collaborative team, and as a team in which each of the members understand its role, and respects and appreciates the roles and contributions of other team members. The City expects the OR to take primary responsibility for coordinating the relationships between the team members responsible for planning, design, construction, controls and administration in a manner that is consistent with best practices in the pertinent industry, and which facilitates prompt, complete and smooth hand-offs from one function to the next, thereby minimizing gaps and/or delays. The OR will provide recommendations, advice, assessments, and information to the City about the Project related to design and construction in a manner that will allow the City to take necessary action to meet objectives regarding design, construction, FF&E installation, as well as regulatory aspects of the project for budget, schedule, and quality. Functions of the OR include, but are not limited to:

1. Create a project organizational chart, directories, lines of communication, and lines of authority.
2. Planning / Design Management
 - a. Review all design, site, layouts, and planning concepts, designs, and documents for conformance with industry standards, criteria, industry standard practice, and value engineering opportunities as well as for conformance with City requirements, expectations, and goals for this project.
 - b. Review cost estimates in accordance with industry standards, current and future market conditions, and value engineering opportunities
 - c. Review of any change orders, work orders, or supplemental agreements
 - d. Throughout the project, provide in-depth review of the design, plans, and architectural proposals including but not limited to plan review, RFI responses, shop drawing oversight, conceptual reviews, cost-saving initiatives, City's direct purchase (ODP) opportunities, CMAR and AOR/EOR cost estimates, and value engineering.
3. Budget Management (applies to all phases):
 - a. Implement and maintain a Cost Management System (CMS) to record, track and manage current and forecasted Project costs and provide and update cash flow projections through project completion. The CMS will cover the cost of change orders, allowances, and contingencies with respect to the Project budget. OR shall work with City staff to coordinate the reporting of Project accounts, invoices, payments, and other financial matters.
 - b. Throughout the project, the OR will prepare and provide Project Reports outlining the status, progress, issues, forecasts, and next steps related to the Project. The OR will work with City staff to develop the format, audience, content, and frequency of the report.
 - c. Throughout the project, provide in-depth review of the design, plans, and architectural proposals including but not limited to plan review, RFI responses, shop drawing oversight, conceptual

reviews, cost-saving initiatives, City's direct purchase (ODP) opportunities, CMAR and AOR/EOR cost estimates, and value engineering.

- d. Throughout the project, the OR will maintain awareness of commodities markets relevant to the project and compare pay applications to current commodities pricing and offer recommendations to City staff.

4. Schedule Management (applies to all phases)

- a. Develop an Owner's Master Schedule that considers key factors including design, permitting, inspection, construction phasing, move-in, and final occupancy.
- b. Review and modify, as necessary, the overall project construction schedule outlining the responsibilities of the project team. Outline responsibilities to assist City staff to best help coordinate construction, permitting, inspection, and design activities.
- c. Evaluate the contractor's detailed construction phasing schedule that considers maintaining existing and proposed City operations to be agreed upon by all Stakeholders and team members.
- d. Develop a detailed move-in/"Go-Live" schedule that will include activities such as FF&E selection, purchasing, storage, installation, employee training and orientation, inspections, drills, and other activities related to start-up of the facilities.
- e. Work with the Construction Manager in the development of bid packages, early purchases of long-lead materials/early GMPs, phased and fast-tracked work, and to confirm the Construction Manager's Guaranteed Maximum Price ("GMP") is complete and comprehensive and results in a project that is contemplated by the City and as intended by the Architect / Engineer of Record (AOR / EOR) design.
- f. Update project budgets, cash flows, and schedules as required. Review all project-related invoices and make recommendations to City staff regarding payment.

5. Construction Administration

- a. Work with the AOR / EOR regarding its architectural and engineering services in connection with the bid and award process, including bid clarifications, bid coverage and scoping, review of bid alternates, and selection of contractors and award of construction contracts.
- b. Review and coordinate construction schedule, logistics/phasing, and budget to confirm compliance with the project budget, schedule, and phasing.
- c. Bring field conditions to the attention of City staff and provide recommendations for resolutions consistent with the project budget and schedule objectives.
- d. Review/recommend for approval Construction Manager's monthly applications for payment. Coordinate the review process with City staff's review, AOR / EOR's certification for payment, and receipt of partial lien waivers for each contractor.
- e. Coordinate with project team, equipment planner, and furniture dealer to confirm timely planning, procurement, and installation of all furniture, fixtures and equipment.
- f. Schedule with the AOR / EOR and Construction Manager to make periodic visits and observations of the construction site and perform such other services required to become familiar with the general

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progress, quality, and conformance of the work. Oversee the issuance of and actions required in connection with the AOR / EOR's field reports.

- g. Maintain the CMS system to manage the budget, track expenditures, forecast costs, manage allowances, holds and contingencies and alternates, and forecast final costs as compared to the budget.
- h. Develop and implement a system for the review and processing of change orders. Verify if a change order is warranted. Evaluate and validate the supporting documents and make a recommendation to City staff.
- i. Review the Construction Manager's applications for payment in detail prior to approval by the AOR / EOR and City staff to negate any possibility of overpayment. Monitor general conditions and other reimbursable items so the City pays only for those services called for by the contract.
- j. Review, negotiate, and make recommendations to City staff regarding all claims for additional services, work, and/or extension of time in connection with the Project.
- k. Work with the Construction Manager, AOR / EOR, and City staff in commissioning of the building and component systems, as needed.
- l. Work with the AOR / EOR and Construction Manager to plan, coordinate, schedule, and implement the punch list process and evaluate/update the value of outstanding punch list work.

6. Pre-Occupancy/Occupancy

- a. Coordinate move-in schedule and logistics with City staff as well as any equipment and furniture vendors.
- b. Assist City staff and project team in preparation for pre-occupancy inspections and commencement of operations.
- c. Coordinate with City staff and Construction Manager to plan and schedule systems for training City staff to assume operation of the buildings. Oversee the submission of all warranties, guarantees, operations manuals, as built and/or record drawings, and other required close-out documentation.

7. Close-Out

- a. Coordinate move-in schedule and logistics with City staff as well as any equipment and furniture vendors.
- b. Assist City staff in the close-out of all contracts and the reconciliation of actual costs as compared to the budget. Monitor final payments and the associated general releases and final waivers of lien.
- c. Assist City staff as required regarding "day two" issues and other related issues during the closeout phase.

The City expects the OR team to direct the day-to-day operations of the OR and to ensure that everyone within the team: 1) understands their role and responsibilities; 2) performs the tasks required by that role and those responsibilities in a manner consistent with the purpose and objectives of the City; and 3) administers the operation of the OR team in an engaged, open, and professional manner. If any member of the OR team is not performing, the City will notify the OR Lead of the nonperformance issue and the OR Lead shall take immediate action to address the concerns. Changes to the staffing of the OR team during the term of the contract are to be presented to the Public Works Director or designee for review

| and approval prior to staff changes or new assignments.

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Exhibit C-1

Schedule of Key Personnel and Hourly Rates

Key Personnel	Role	Hourly Rate
Scot Sanders, P.E., CEM	Executive Support	\$N/A
Paul Webb, P.E.	Executive Support	\$N/A
Pete Pazos, P.E.	Executive Support	\$N/A
Paul Chastant, Architect (Renewing)	Project Executive	\$228.00
Jason Rupe, CCM, LEED AP	Senior Project Manager	\$187.50
Jacque Judy	Cost Estimating	\$165.00
Brandon Wagner/Andrew Bruskewitz	Scheduling	\$130.00

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Exhibit C-2

Fee Breakdown

(See attached.)

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EXHIBIT C - Staffing Plan Fee Proposal

Broaddus & Associates
City of Clearwater, Florida PM Services - Staffing & Fee Proposal - As Negotiated on 20 Oct 2023

Proposed Team		Rate/Hour
Role	Personnel	
Project Executive	Paul Chastant	\$ 228.00
Senior Project Manager	Jason Rupe	\$ 187.50
Plng/Programming	Ben Perry	\$ -
Cost Estimator	Jacque Judy	\$ 165.00
Schedule Reviewer	Brandon Wagner	\$ 130.00
Project Controls	TBD	\$ -

Option 3 Fee Summary	
Annual Rate Increase	0%
Total Hours	5,738
Total Fee (less reimbursables)	\$1,090,181
Estimated Total Program Budget	\$45,000,000
Fee % of Total Program Budget	2.42%
Reimbursable Expenses	\$15,000
Grand Total Fee	\$1,105,181

Work hours/year 1,961
 Annual Hours 2,008
 % 0.976593625

Note: Reimbursable expenses are capped at \$15,000 per 20 Oct 2023 negotiations. As project conditions require, additional reimbursable expenses will be prior approved on a case by case basis.

City Hall/MSB	Design/Precon GMP/Permitting Construction
Role	Rate per Hour
Project Executive	\$ 228.00
Sr. Project Manager	\$ 187.50
Plng/Programming	\$ -
Cost Estimator	\$ 165.00
Schedule Reviewer	\$ 130.00
Project Controls	\$ -
Total	

Nov-23	Dec-23		
Hrs/Month	Hrs/Month	Total Hrs 2023	Amount 2023
160	136		
64	64	128	\$ 29,184
156	133	289	\$ 54,201
0	0	-	\$ -
0	0	-	\$ -
0	0	-	\$ -
0	0	-	\$ -
220	197	417	\$ 83,385

City Hall/MSB	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Design/Precon												
GMP / Permitting												
Construction												
		Site GMP		Foundation GMP			Bldg GMP					
		Early Rel. Pkg #1		Early Rel. Pkg #2			Bid Pkg #3					

Role	Rate per Hour	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Total Hrs 2024	Amount 2024
		Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month		
Project Executive	\$ 228.00	40	40	40	40	40	40	40	40	20	20	20	20	400	\$ 91,200
Sr. Project Manager	\$ 187.50	172	164	164	172	172	156	172	172	156	180	148	156	1,984	\$ 372,082
Plng/Programming	\$ -	0	0	0	0	0	0	0	0					-	\$ -
Cost Estimator	\$ 165.00		16			16		16	16					64	\$ 10,560
Schedule Reviewer	\$ 130.00		16		16		24	16	16	16	8	0	8	120	\$ 15,600
Project Controls	\$ -		0	0	0	0	0	0	0	0	0	0	0	-	\$ -
Total		212	236	204	228	228	220	244	244	192	208	168	184	2,568	\$ 489,442

City Hall/MSB	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25
Design/Precon												
GMP/Buy-out												
Construction												
					CHall SC	CHall Move-in						

Role	Rate per Hour	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Total Hrs 2025	Amount 2025
		Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month	Hrs/Month		
Project Executive	\$ 228.00	8	8	8	8	8	8	8	8	8	8	8	8	96	\$ 21,888
Sr. Project Manager	\$ 187.50	172	156	164	172	164	164	172	164	164	180	141	164	1,977	\$ 370,617
Plng/Programming	\$ -													-	\$ -
Cost Estimator	\$ 165.00							16				16		32	\$ 5,280
Schedule Reviewer	\$ 130.00	8	0	8	0	8	0	8	0	8	0	8	0	48	\$ 6,240
Project Controls	\$ -	0	0	0	0	0	0	0	0	0	0	0	0	-	\$ -
Total		188	164	180	180	180	172	204	172	180	188	173	172	2,153	\$ 404,025

EXHIBIT C - Staffing Plan Fee Proposal

Broaddus & Associates
City of Clearwater, Florida PM Services - Staffing & Fee Proposal - As Negotiated on 20 Oct 2023

Proposed Team			Option 3 Fee Summary	
Role	Personnel	Rate/Hour		
Project Executive	Paul Chasant	\$ 228.00	Annual Rate Increase	0%
Senior Project Manager	Jason Rupe	\$ 187.50	Total Hours	5,738
Plng/Programming	Ben Perry	\$ -	Total Fee (less reimbursables)	\$1,090,181
Cost Estimator	Jacque Judy	\$ 165.00	Estimated Total Program Budget	\$45,000,000
Schedule Reviewer	Brandon Wagner	\$ 130.00	Fee % of Total Program Budget	2.42%
			Reimbursable Expenses	\$15,000

Work hours/year 1,961
 Annual Hours 2,008
 % 0.976593625

	Jan-26	Feb-26	Mar-26
City Hall/MSB	Design/Precon		
	GMP/Buy-out		
	Construction	SC	FC

Role	Rate per Hour	Jan-26	Feb-26	Mar-26	Total Hrs 2026	Amount 2026	Grand Total Hours	Grand Total Fee
		Hrs/Month	Hrs/Month	Hrs/Month				
		168	160	176				
		Hours	Hours	Hours				
Project Executive	\$ 228.00	12	24	24	60	\$ 13,680	684	\$ 155,952
Sr. Project Manager	\$ 187.50	164	156	172	492	\$ 92,288	4,742	\$ 889,189
Plng/Programming	\$ -					\$ -	0	\$ -
Cost Estimator	\$ 165.00		16	16	32	\$ 5,280	128	\$ 21,120
Schedule Reviewer	\$ 130.00	8	8	0	16	\$ 2,080	184	\$ 23,920
Project Controls	\$ -	0	0	0	-	\$ -	0	\$ -
Total		184	204	212	600	\$ 113,328	5,738	1,090,181

* SPM work hours/month account for PTO and sick leave

Exhibit D

Truth in Negotiation Certificate

(See attached.)

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RFQ 45-23_ Exhibit C

TRUTH-IN-NEGOTIATION CERTIFICATE

TRUTH-IN-NEGOTIATION CERTIFICATE

In compliance with the Consultants' Competitive Negotiation Act, Section 287.055, Florida Statutes, and The Truth in Negotiations Act (TINA),

Broadbus & Associates hereby certifies
Contractor

that wage rates, fringe rates and other factual unit costs supporting the compensation for the Owner's Representative services of Broadbus & Assoc

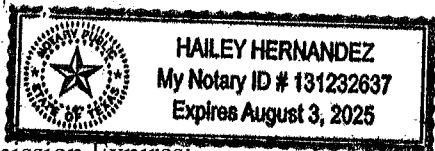
to be provided under this Agreement, concerning New City Hall & MSB Renovations are accurate, complete and current as of the time of contracting.

The hereby undersigned representative submits this certification that they are an authorized representative of the proposer who may legally bind the proposer attest to the accuracy of the information:

Paul Webb
Authorized Signature
PAUL WEBB
Printed Name
Chief Operating Officer
Title
Broadbus & Associates, Inc.
Name of Entity/Corporation

STATE OF Texas
COUNTY OF Travis

The foregoing instrument was acknowledged before me by means of physical presence or online notarization on, this 7th day of November, 2023, by Paul Webb (name of person whose signature is being notarized) as the COO (title) of Broadbus & Associates (name of corporation/entity), personally known , or produced _____ (type of identification) as identification, and who did/did not take an oath.



Hailey Hernandez
Notary Public
Hailey Hernandez
Printed Name

My Commission Expires: _____
NOTARY SEAL ABOVE August 3, 2025

Exhibit E
Scrutinized Companies Forms

(See attached.)

Init.

Handwritten initials

RFQ 45-23_ Exhibit C
SCRUTINIZED COMPANIES FORM

SCRUTINIZED COMPANIES THAT BOYCOTT ISRAEL LIST CERTIFICATION FORM

THIS FORM MUST BE COMPLETED AND SUBMITTED WITH THE BID/PROPOSAL. FAILURE TO SUBMIT THIS FORM AS REQUIRED MAY DEEM YOUR SUBMITTAL NONRESPONSIVE.

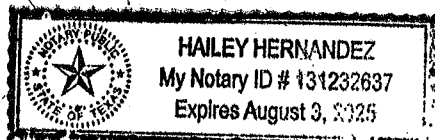
The affiant, by virtue of the signature below, certifies that:

1. The vendor, company, individual, principal, subsidiary, affiliate, or owner is aware of the requirements of section 287.135, Florida Statutes, regarding companies on the Scrutinized Companies that Boycott Israel List, or engaged in a boycott of Israel; and
2. The vendor, company, individual, principal, subsidiary, affiliate, or owner is eligible to participate in this solicitation and is not listed on the Scrutinized Companies that Boycott Israel List, or engaged in a boycott of Israel; and
3. "Boycott Israel" or "boycott of Israel" means refusing to deal, terminating business activities, or taking other actions to limit commercial relations with Israel, or persons or entities doing business in Israel or in Israeli-controlled territories, in a discriminatory manner. A statement by a company that it is participating in a boycott of Israel, or that it has initiated a boycott in response to a request for a boycott of Israel or in compliance with, or in furtherance of, calls for a boycott of Israel, may be considered as evidence that a company is participating in a boycott of Israel; and
4. If awarded the Contract (or Agreement), the vendor, company, individual, principal, subsidiary, affiliate, or owner will immediately notify the City of Clearwater in writing, no later than five (5) calendar days after any of its principals are placed on the Scrutinized Companies that Boycott Israel List, or engaged in a boycott of Israel.

Paul Webb
Authorized Signature
PAUL WEBB
Printed Name
Chief Operating Officer
Title
Broadbus & Assoc. Inc
Name of Entity/Corporation

STATE OF Texas
COUNTY OF Travis

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My Commission Expires: August 3, 2025
NOTARY SEAL ABOVE

Hailey Hernandez
Notary Public
Hailey Hernandez
Printed Name

SCRUTINIZED COMPANIES FORM

**SCRUTINIZED COMPANIES AND BUSINESS OPERATIONS WITH CUBA AND SYRIA
CERTIFICATION FORM**

IF YOUR BID/PROPOSAL IS \$1,000,000 OR MORE, THIS FORM MUST BE COMPLETED AND SUBMITTED WITH THE BID/PROPOSAL. FAILURE TO SUBMIT THIS FORM AS REQUIRED MAY DEEM YOUR SUBMITTAL NONRESPONSIVE.

The affiant, by virtue of the signature below, certifies that:

1. The vendor, company, individual, principal, subsidiary, affiliate, or owner is aware of the requirements of section 287.135, Florida Statutes, regarding companies on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaging in business operations in Cuba and Syria; and
2. The vendor, company, individual, principal, subsidiary, affiliate, or owner is eligible to participate in this solicitation and is not listed on either the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Sector List, or engaged in business operations in Cuba and Syria; and
3. Business Operations means, for purposes specifically related to Cuba or Syria, engaging in commerce in any form in Cuba or Syria, including, but not limited to, acquiring, developing, maintaining, owning, selling, possessing, leasing or operating equipment, facilities, personnel, products, services, personal property, real property, military equipment, or any other apparatus of business or commerce; and
4. If awarded the Contract (or Agreement), the vendor, company, individual, principal, subsidiary, affiliate, or owner will immediately notify the City of Clearwater in writing, no later than five (5) calendar days after any of its principals are placed on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Sector List, or engaged in business operations in Cuba and Syria.

Paul Webb

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PAUL WEBB

Printed Name

Chief Operating Officer

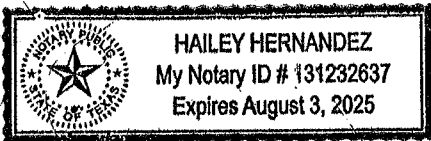
Title

Broaddus + Assoc Inc

Name of Entity/Corporation

STATE OF Texas
COUNTY OF Travis

The foregoing instrument was acknowledged before me by means of physical presence or online notarization on, this 7th day of November, 2023, by Paul Webb (name of person whose signature is being notarized) as the COO (title) of Broaddus + Associates (name of corporation/entity), personally known , or produced _____ (type of identification) as identification, and who did/did not take an oath.



Hailey Hernandez

Notary Public

Hailey Hernandez
Printed Name

My Commission Expires: August 3, 2025
NOTARY SEAL ABOVE

Exhibit F

Verification of Employment Eligibility

(See attached.)

Init.

E-VERIFY ELIGIBILITY FORM

VERIFICATION OF EMPLOYMENT ELIGIBILITY FORM

PER FLORIDA STATUTE 448.095, CONTRACTORS AND SUBCONTRACTORS MUST REGISTER WITH AND USE THE E-VERIFY SYSTEM TO VERIFY THE WORK AUTHORIZATION STATUS OF ALL NEWLY HIRED EMPLOYEES.

THIS FORM MUST BE COMPLETED AND SUBMITTED WITH THE BID/PROPOSAL. FAILURE TO SUBMIT THIS FORM AS REQUIRED MAY DEEM YOUR SUBMITTAL NONRESPONSIVE.

The affiant, by virtue of the signature below, certifies that:

1. The Contractor and its Subcontractors are aware of the requirements of Florida Statute 448.095.
2. The Contractor and its Subcontractors are registered with and using the E-Verify system to verify the work authorization status of newly hired employees.
3. The Contractor will not enter into a contract with any Subcontractor unless each party to the contract registers with and uses the E-Verify system.
4. The Subcontractor will provide the Contractor with an affidavit stating that the Subcontractor does not employ, contract with, or subcontract with unauthorized alien.
5. The Contractor must maintain a copy of such affidavit.
6. The City may terminate this Contract on the good faith belief that the Contractor or its Subcontractors knowingly violated Florida Statutes 448.09(1) or 448.095(2)(c).
7. If this Contract is terminated pursuant to Florida Statute 448.095(2)(c), the Contractor may not be awarded a public contract for at least 1 year after the date on which this Contract was terminated.
8. The Contractor is liable for any additional cost incurred by the City as a result of the termination of this Contract.

Paul Webb

Authorized Signature

PAUL WEBB

Printed Name

Chief Operating Officer

Title

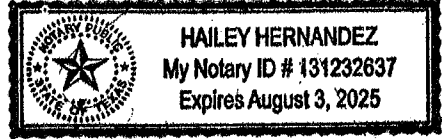
Broadbus & Assoc. Inc.

Name of Entity/Corporation

STATE OF Texas

COUNTY OF Travis

The foregoing instrument was acknowledged before me by means of physical presence or online notarization on, this 2nd day of November, 2023, by Paul Webb (name of person whose signature is being notarized) as the COO (title) of Broadbus & Associates (name of corporation/entity), personally known or produced _____ (type of identification) as identification, and who did/did not take an oath.



Hailey Hernandez

Notary Public

Hailey Hernandez

Printed Name

My Commission Expires: August 3, 2025
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Exhibit G

City of Clearwater Greenprint 2.0 Requirements

(See attached.)

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MAW



Clearwater Greenprint

2.0

Competitive.
Vibrant.
Green.



CLEARWATER
SUSTAINABILITY & RESILIENCY

Credits and Acknowledgements



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- Mark Bunker – Councilmember, Seat 2
- Kathleen Beckman – Councilmember, Seat 3
- David Allbritton – Councilmember, Seat 4
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Front cover image provided by the Spring Branch Neighborhood and Park Association.

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Green Glossary

Affordable Housing

housing in which the occupant pays no more than 30% of their gross income in housing costs

Biomass

plant or animal material that is used to produce energy

Bioswale

ground channels that are typically vegetated and designed to gather and transfer stormwater runoff while removing debris and pollution from the water

Brownfield

previously developed land, usually with prior industrial uses, that is not currently in use and may be contaminated with potentially hazardous waste

Bus Rapid Transit (BRT)

a bus-based public transportation system that has been designed to improve the reliability of bus services.

Climate Adaptation

as defined by the Intergovernmental Panel on Climate Change (IPCC), it is the process of adjusting to an actual or expected climate and its effects with the ultimate goal of moderating or avoiding harm

Climate Change

a long-term change in average global or regional climate patterns. This term specifically refers to the change noted in the late 20th century and scientific projections of continued change in the future. Climate Change is largely attributed to the increased levels of atmospheric greenhouse gases due to human activity

Climate Mitigation

the act of limiting the magnitude or rate of climate change, generally done by reducing greenhouse gas emissions from human activity

Compostable

materials that can break down naturally into organic matter to create nutrient-rich soil

Complete Street

streets designed and operated to prioritize safety, comfort, and access to destinations for all people who use the street, especially people who have experienced systemic underinvestment or whose needs have not been met through a traditional transportation approach

Congestion

an excess number of vehicles on a portion of roadway at a particular time that results in slower than normal flow of traffic

Critical Infrastructure

the physical and digital systems and assets that are so vital to the community that their incapacity or destruction would have a debilitating impact on physical or economic security or public health or safety

Energy Efficiency

technology that reduces the energy needed to produce a desired effect

Environmental Justice (EJ)

as defined by the Environmental Protection Agency, it is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies

<u>Equity</u>	shared economic, legal, environmental, and developmental rights of access to collective resources amongst all people within a society
<u>Food Security</u>	the state of having reliable access to affordable, nutritious, and sufficient food
<u>Foodshed</u>	a geographic area that produces the food for a specific population
<u>Fossil fuels</u>	fuels created by the anerobic breakdown of dead organisms that release energy when combusted, these include fuels such as gasoline, oil, and coal
<u>Gentrification</u>	a process in which lower-income areas of a community experience an increase in middle class to wealthy land buyers who renovate homes and businesses, resulting in an increase in property values and the displacement of lower income residents who have historically lived or owned land in the area of interest
<u>Greenhouse Gas Emissions (GHGs)</u>	any gas that is capable of absorbing heat energy from earth surface and readmitting that heat back to earth's surface, creating a "greenhouse effect". The most common greenhouse gases include carbon dioxide, methane, nitrous oxide, and fluorinated gases.
<u>Greenspace</u>	an area within an urban environment that is mostly vegetation (such as grass, trees, wildflowers, shrubs, etc.) and is set apart for ecological, recreational, or aesthetic purposes
<u>Greyfield</u>	land that contains a large structure, like a shopping mall or commercial facility, that has been abandoned
<u>Invasive Species</u>	an organism that is introduced to a new area and causes ecological harm within its new environment
<u>Livability</u>	all of the factors that comprise a community's quality of life, which may include both the built and natural environments as well as economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities
<u>Local Food</u>	food that is produced within a short distance of where it is consumed
<u>Municipal</u>	relating to a local governing body such as city, town, or village
<u>Native Plant</u>	a plant species that is indigenous to a specific area, meaning it has occurred naturally in that area for a long time
<u>Ocean-friendly</u>	an item or business that reduces or eliminates the use of single use plastics such as plastic bags, Styrofoam, plastic straws, and so on
<u>Organic Waste</u>	material that naturally breaks down and comes from a plant or animal
<u>Photovoltaic (PV) Systems</u>	systems that collect and concentrate sunlight to produce the heat needed to generate electricity
<u>Public Transit</u>	a system of transportation available to the general public in which groups of people travel on established routes and schedules

<u>Public-private Partnerships</u>	a cooperative arrangement between two or more organizations within the public and private sectors, usually between a governing body and a business, that works to complete a project or provide services to a community
<u>Recycling</u>	the process of collecting and processing materials that would otherwise be thrown away and turning them into new products benefiting the community and the environment
<u>Re-commissioning</u>	a structured process of testing a facility's systems and equipment to ensure they are functioning efficiently
<u>Redevelopment</u>	the process of changing a property or an area of a city by replacing old structures (such as buildings, roads, etc.) with new ones
<u>Remediation</u>	the removal of contaminants from soil, groundwater, sediment, or another environmental substance
<u>Renewable Energy</u>	energy from a source that is not depleted when used (such as wind or solar power)
<u>Resilience</u>	the ability of a piece of infrastructure, system, environment, or community to sustain or recover its essential functions when presented with a disruption
<u>Retrofit</u>	the process of modifying something after it has been constructed
<u>Sea Level Rise</u>	a global phenomenon in which global warming causes an increase in volume and quantity of water in the world's oceans. Though it occurs globally, symptoms of sea level rise can vary based on geographic location
<u>Sequester (carbon)</u>	the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in biomass (trunks, branches, foliage, and roots) and soils
<u>Solid Waste</u>	a waste type that consists of everyday items discarded by the public, also called garbage or trash
<u>Stormwater</u>	surface water that is produced in excess due to heavy rainfall
<u>Sustainability</u>	meeting current needs without compromising the ability of future generations to meet their own needs
<u>Trip</u>	a one-way person movement by a mechanized mode of transport
<u>Triple Bottom Line</u>	a measurement of the financial, social, and environmental performance of an organization
<u>Urban Agriculture</u>	the process of growing, processing, and distributing food within or near highly populated areas
<u>Vehicle Miles Traveled (VMT)</u>	a measurement of the amount of travel all vehicles within a specific geographic region performed within a given time period (generally one year)
<u>Vulnerability Assessment</u>	the process of defining identifying, classifying, and prioritizing different parts of a system that may be adversely affected during a hazardous event
<u>Wastewater</u>	water that was previously used in a home, business, or industrial facility

Executive Summary

In 2011, Clearwater Greenprint was adopted through the help of many residents, businesses, and city staff members. Clearwater Greenprint creates a vision to make the city of Clearwater a vibrant community for current residents and future generations. In 2021, Clearwater Greenprint 2.0 was published to advance that vision.

While this Executive Summary provides a quick overview of the contents of the Clearwater Greenprint, it cannot be substituted for the main document.

- Defines sustainability, resilience, adaptation, mitigation, and other pertinent terms, and discusses their relevance to the document
- Communicates results of the 2010 and 2019 Greenhouse Gas Inventories
- Includes projections for business-as-usual emissions and emissions with interventions by Duke Energy
- Defines overarching Goals and Objectives for the city of Clearwater to mitigate climate change impacts, actualize adaptation measures, and improve local resilience
- Defines Target Timelines for more specific reductions toward accomplishment of overarching Goals and Objectives
- Provides reader-friendly Strategies toward compliance with Target Timelines
- Expounds on specific actions and identifies assumptions and limitations associated with accomplishment of Strategies in Implementation and Measurement Methodologies
- Sources input on relative cost and benefit from staff
- Gauges staff's perception of specific actions' efficacy

Notes on Document Structure

Clearwater Greenprint 2.0 document is comprised of a hierarchy of four components: goals, objectives, targets, and strategies.

- Goals and Objectives are defined in section 2 titled, “Welcome to Clearwater Greenprint 2.0,”
- Targets are provided in section 3, titled, “Target Timelines,” and
- Strategies are outlined in sections 5-12 and elaborated on further in **Appendix II**.

Refer to Figure 1.1 to the right which breaks down the overall document structure.

Appendix II specifies actions to be carried out in order to achieve each Strategy. It also suggests methods for measuring progress through identification of technical standards and weighs the costs and benefits associated with the attainment. An excerpt from **Appendix II** is shown in Figure 1.2 showing the cost/benefit comparison matrix and the Implementation and Measurement Methodologies for each Core Topic Strategy.

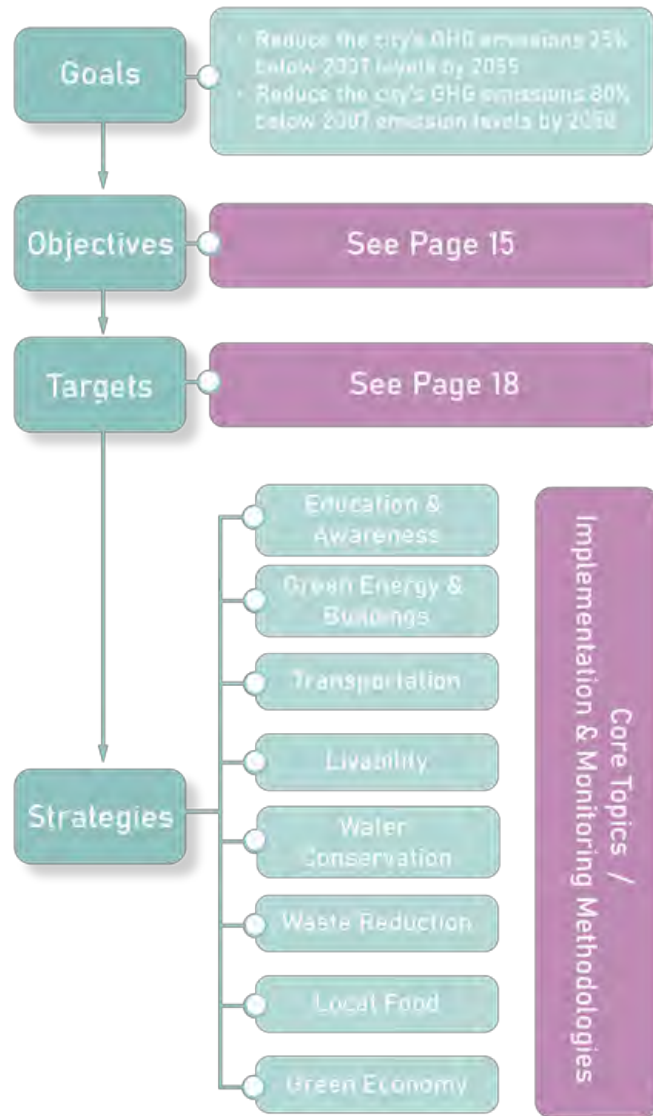


Figure 1.1.- Detailed Document Hierarchy Chart

5.1 Mission Statement (Short-Term)

- Write or re-write mission statement for city of Clearwater to include commitment
- Incorporate the mission statement into the local government’s comp

5.2 Community Education (Short-Term)

A. Promote education through publications and public events

- Set timeline goals and publication schedules as to when to start re workshops
- Layout publication schedule and publication format

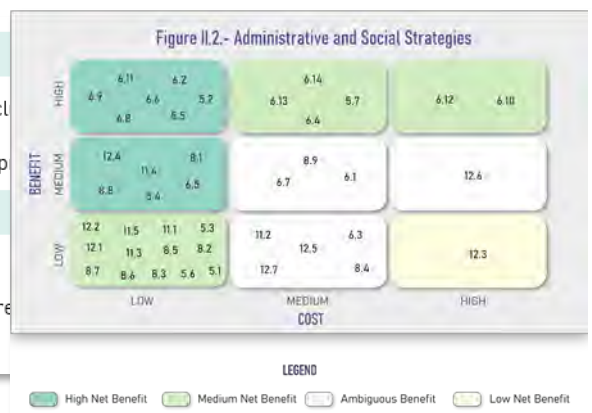


Figure 1.2.- Excerpt from Appendix II



Photo Credit: Paul Sacca

Welcome to Clearwater Greenprint 2.0

A community plan for sustainability

What is Sustainability?

Sustainability means different things to different people. Some people might think of recycling, and others might think of solar panels or growing their own organic food. What is sustainability, really?

The United Nations defined the word sustainability in 1987 as the ability to, *“meet the needs of the present without compromising the ability of future generations to meet their own needs.”* In essence, sustainability is about helping the people of today and people of tomorrow meet their needs. Sustainable communities work with and within nature. They use resources that can be renewed, and attempt to reduce waste, reuse materials, and find ways to safely return resources back to the environment. Sustainable communities also make plans and decisions that balance the three parts of a **triple bottom line**: economic prosperity, environmental quality, and human quality of life.

If we think about sustainability in terms of a triple bottom line, we realize that it is not an unfamiliar concept. For most of our history, humans have lived in a way that had minimal impact on the world’s natural resources. However, over the course of the last century, we have caused large-scale declines in the quality of water, air, and soil, and devastated animal and plant species worldwide. Since communities depend on natural resources to maintain a prosperous economy and good quality of life, working hard to preserve the integrity of the environment helps ensure our communities’ continued prosperity.

Why Sustainability?

Recent human actions such as unchecked pollution and mass deforestation have negatively impacted the climate and degraded natural ecosystems causing high rates of species extinction, global temperature increase, rising seas, and dying coral reefs. Scientists expect Americans to experience more severe heat waves, droughts, flooding, wildfires, and hurricanes in the future if we continue with current trends in fossil fuel usage. Studies show that these impacts will afflict our economy, strain our natural resources, and worsen inequalities for many Americans. 🌿 These are only a fraction of the negative impacts stemming from **climate change**, but they speak to the urgency of countering its effects.

**CLICK
LEAVES**

to learn more!



Despite all this, we have only recently begun to take action. Thankfully, local governments and community residents can contribute to a solution to the climate change problem by building low-carbon communities which are not dependent on carbon intensive resources. Cities use 75% of the world's energy and produce 80% of the world's **greenhouse gas emissions**. Though this fact may not seem like a positive thing at first, it means that the collective actions of cities, including the city of Clearwater, will result in an appreciable reduction in the world's greenhouse gas emissions. The city of Clearwater has an opportunity to set an example for other cities and have a positive impact on the world.

Sustainability isn't just about the planet, it's about people. Sustainable communities are stronger communities. In addition to addressing climate change, being a sustainable community has other important benefits such as:

1. Saving Money

The city of Clearwater spent over seven million dollars in 2018 on energy to power buildings and streetlights. Many of the measures in Greenprint 2.0 “pay for themselves” quickly by reducing direct costs, such as fuel or energy used, as well as indirect costs such as maintenance. For instance, a “right-sized” vehicle fleet is less expensive to purchase and fuel, while also being less costly to maintain. Encouraging **energy efficiency, public transit** use, building improvements, and other measures will also result in lower energy and water bills for residents and employers. 🌱 The economy benefits by reducing the amount of money each person spends on energy and water. This money can instead be used at local businesses, supporting the city of Clearwater's economy.

Acting now will also save on runaway costs on climate change—especially in the long term. These costs range from infrastructure damage in extreme storms and pest control, to industry losses, particularly for industries that depend on environmental conditions, such as tourism.

2. Creating Jobs

New green sectors such as sustainable tourism, green construction, and **urban agriculture** provide additional job opportunities in growing economic sectors. These activities can spur business and job growth through the design, manufacturing, and installation of energy efficient technologies, presenting a special opportunity to reinvest in the local economy and generate green jobs. For example, a 2019 Environmental Entrepreneurs' report estimated that the solar industry employed nearly 335,000 workers. Solar professions within the United States have increased 167% over the past decade according to the National Solar Jobs Census and Florida leads the nation for the number of jobs added.

3. Improving Public Health

Our health improves with cleaner air and water and more time spent outside engaging in physical activities such as walking and biking. 🌱 Sustainable changes, including using different modes of transportation, helps clean the air and improve public health by reducing

vehicle emissions. Improvements that promote alternative transportation also give Clearwater residents more options for getting around. When combined with other activities like **redevelopment** of underutilized properties, these improvements create more vibrant, livable community with shorter commute times and more opportunities for active transport.

Sustainable changes create equitable access to amenities for residents living in low-income areas across the country. Many of these low-income areas lack the trees and greenery that create shade and improve the appearance of more affluent neighborhoods. Residents of these low-income areas also have a higher likelihood of living in or near areas covered in dark surfaces. The overabundance of blacktop causes residents to suffer more from summer heat, leading to higher health costs.

What is Resilience?

Community **resilience** is defined as, *“a measure of the sustained ability of a community to utilize available resources to respond to, withstand, and recover from adverse situations.”* Therefore, a resilient community is one that can face a challenge and still retain its essential function. “Sustainability” and “resilience” are qualities of a community that complement each other. While sustainability focuses on having a brighter future, resilience is all about adapting to the different stressors we face now. Whether it’s a natural disaster, **sea-level rise** or a drastic change in economy, a resilient community is one that can anticipate and positively adapt to changing conditions.

Why Resilience?

1. Creating Proactive Communities

Resilience transforms reactive communities into proactive communities. Rather than solely developing plans to deal with the aftermath of a natural disaster or economic downturn, resilient communities develop measures to prevent massive disruptions from harming its people and systems. While Clearwater Greenprint 2.0 focuses on resilience through the lens of **climate adaptation**, resilience is a practice that can be implemented in all aspects of an organization.

2. Promoting Energy Stability

The farther energy travels from its source, the more energy that is wasted. Most electrical power in Clearwater is currently supplied by Duke Energy. The closest energy source for Clearwater is a fossil fuel power plant approximately 15 miles away near Holiday. This creates an opportunity to improve energy efficiency by generating more energy locally. **Renewable energy** can be generated in many ways including through the power of the sun, wind, and water. Installing solar panels on homes and businesses reduces energy waste since energy generated does not need to travel far from its source before it is used. Renewable energy is also a sustainable solution to the problem of meeting energy needs in times when energy is in high demand or unavailable from far away powerplants. This means

that on hot summer days, and in the aftermath of major storms, renewable energy can keep lights on and air conditioning running within the homes, businesses, and municipal facilities of Clearwater.

3. Ensuring Food Security

Like energy, transportation of food over long distances results in waste and negative environmental impacts. 🌿 Currently, nearly all of Clearwater's food is imported from elsewhere. The city's resiliency can be improved by producing more food locally to reduce inefficiencies caused by transporting food over long distances. Local food production also protects against service disruptions caused by a variety of factors, including the effects of climate change, economic change and political conflict.

4. Establishing Economic Security

The Fourth National Climate Assessment estimates the costs of climate change in the United States could total more than \$2 trillion a year by the end of this century. Much of this cost results from the damage intense storms and flooding are expected to inflict on infrastructure and private property.

Adopting resilient solutions saves cities a significant amount of money on future energy, water, and infrastructure needs. This is due to the increased ability of these systems to adapt or withstand future climate stressors, which are events, trends or conditions that result from climate change that can magnify hazards. Resilient communities face fewer system failures and costly repairs. Innovative cooling technologies and adaptations further cut energy bills while the benefits these innovations bring to health and **livability** are expected to compound over time.

While cities drive the national economy, small businesses drive the local economy. Small businesses make up 99.7% of all US employers. Small businesses are threatened by the effects of climate change and the increasing number of disaster events. Small firms are especially challenged by disaster events, as the U.S. Chamber of Commerce notes that 43% of small businesses do not recover from natural disasters.

Let's Learn from Each Other

The complex problems of climate change affect each municipality differently. Therefore, detailed insights about current conditions and prospective solutions from citizens and stakeholders is critical in the process of identifying and implementing effective measures for adaptation and mitigation. Clearwater can provide invaluable guidance on the concrete impacts of proposed remedies—parsing out measures that will provide the greatest benefit from those that can only offer marginal relief.



Figure 2.1 The impact of local actions

Where Are We Coming From?

Clearwater Greenprint was adopted in 2011 through the collaboration of residents, businesses, and the City. Clearwater Greenprint creates a vision to make Clearwater a vibrant community for everyone who lives here now and for generations to come.

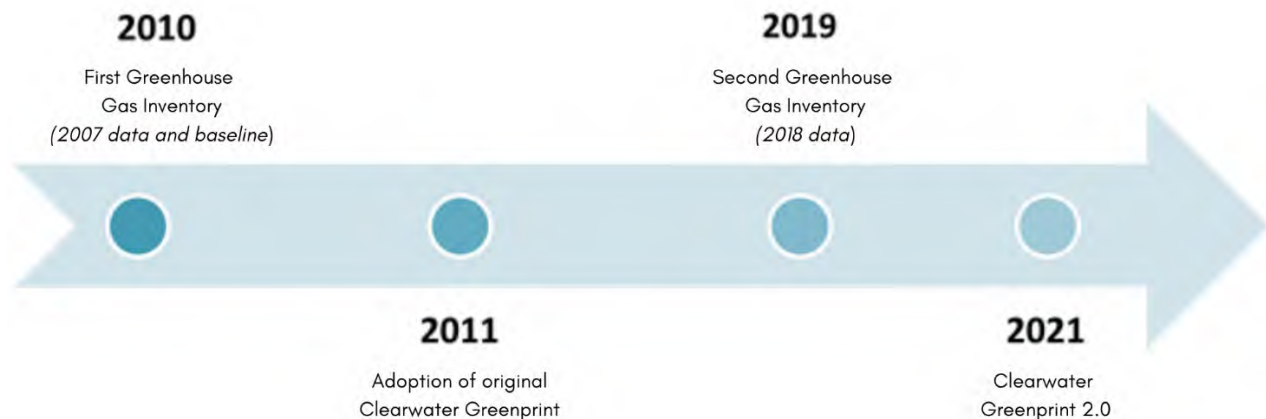


Figure 2.2.- Clearwater Greenprint timeline graphic

Reducing the city's greenhouse gas emissions was determined to be the number one goal of Clearwater Greenprint. Why? Because The current over-abundance of greenhouse gases in the atmosphere caused by human activity is a major contributor to climate change and closely related to other environmental concerns within the city of Clearwater. Large amounts of greenhouse gases in the atmosphere are known to worsen sea-level rise, drought, flooding and so on. It is critical that we reduce our greenhouse gas emissions to ensure that Clearwater remains a great place to live, work and visit.

Measuring Our Greenhouse Gas Emissions (GHGs)

In addition to being caused by human activities, climate change also occurs because of the earth's natural cycles. For example, the amount of the best-known greenhouse gas, Carbon Dioxide (CO₂), in the northern hemisphere changes from one season to the next as plants undergo cycles of growth. Despite this, scientists have observed an enduring upward trend in greenhouse gases that are attributed solely to ongoing human activities such as the burning of fossil fuels, commercial animal agriculture, and land development. In fact, about half of all carbon dioxide emitted between 1750 and 2010 occurred in the last 40 years. Therefore, even though the natural greenhouse effect is needed to keep the earth warm, the consensus among publishing climate scientists (97% in agreement according to the National Aeronautics and Space Administration) is that the accelerated rate at which humans are producing GHGs causes global warming and climate change.

The 2014 Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), was written by a panel of hundreds of climate experts and scientists and was approved by a team of external reviewers. The report states unambiguously that anthropogenic (human-made) GHG emissions are causing global climate change. For this reason, the city of Clearwater is joining an increasing number of local governments committed to addressing climate change at the local level.

The city of Clearwater recognizes the risk climate change poses to its residents and business owners. The city is actively acting to reduce the GHG emissions, or “carbon footprint”, of both its government operations and the community at-large through innovative programs laid out in Clearwater Greenprint. Furthermore, it is recognized that Clearwater needs to address existing climate risks, such as sea level rise and temperature increase, and adapt its systems and infrastructure to new conditions.

With more than 80% of Americans living in urban areas, cities play a powerful role in addressing climate change. Adjusting the design of cities—how we use our land, how we design our buildings, how we get around—greatly impacts the amount of energy we use and the volume of GHG emissions we produce. Cities such as Clearwater can demonstrate that it is possible to dramatically reduce GHG emissions while creating vibrant and prosperous places to live by making appropriate and manageable adjustments.

The city of Clearwater first began monitoring its GHG emissions in 2007. It conducted a follow-up study in 2018. The following subsections summarize the results of both studies and compare city emissions levels over the span of approximately 10 years.

2007 GHG Emission Levels

The city took its first step in improving its carbon footprint in 2011 by calculating its community-wide GHG emissions. The study was based off of the city’s 2007 GHG levels.

In 2007, city-wide greenhouse gas emissions totaled 1,295,619 metric tons of carbon dioxide equivalent (MTCO_{2e}). Emissions from energy consumption and transportation fuels were the largest contributors to the city-wide greenhouse gas inventory (65% and 30%, respectively). **Solid waste** contributed 5% while the city’s water and waste-water operations accounted for 0.1% of emissions. The average GHG emissions per capita was 11.72 MTCO_{2e} based on the city’s 2007 population of 110,469.

Based on these 2007 levels, GHG emissions were forecasted for 2035. It was projected that if city continued with “business as usual”, city-wide emissions would grow by 4% to 1,347,443 MTCO_{2e} by 2035.

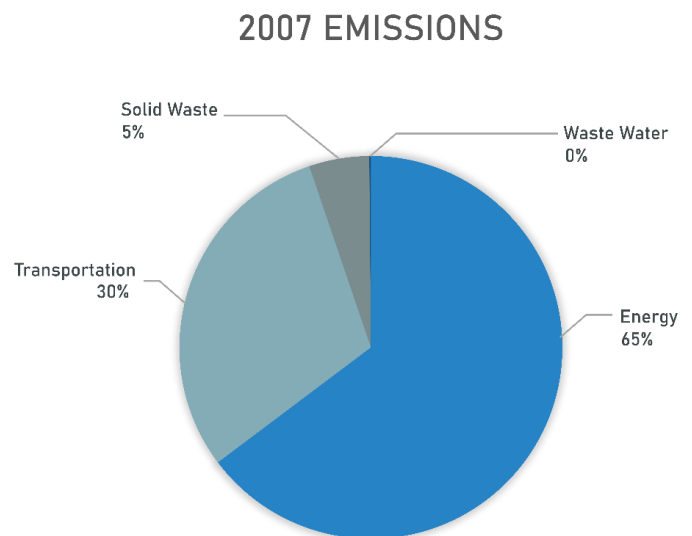


Figure 2.3.- 2007 Emissions chart

Initial Clearwater Greenprint Goals

The City established two emission reduction goals based on the GHG inventory results:

1. Reduce city-wide greenhouse gas emissions 10% below 2007 levels by the year 2020
2. Reduce city-wide greenhouse gas emissions 25% below 2007 levels by the year 2035

The original Clearwater Greenprint was created to reach these emission reduction goals. The plan included real strategies that the city, businesses and local residents could bring into their daily lives to reduce greenhouse gas emissions. These strategies were selected to help create a sustainable community by making buildings and transportation systems more energy-efficient, maintaining a healthy local economy, creating “green” jobs, reducing waste, and encouraging shoppers and restaurants to buy locally grown foods.

Since 2011, the city has made significant progress towards its initial sustainability goals. Many of the original Clearwater Greenprint Plan strategies have been completed or are in progress. A Sustainability Coordinator was hired to facilitate fulfillment of the Greenprint strategies and ensure that the city’s sustainability goals are reached. In 2021, Clearwater Mayor Frank Hibbard signed on as a Climate Mayor. The Climate Mayors group is a network of U.S. mayors who work together to address climate change by creating meaningful actions in their own communities.



Figure 2.4. Climate Mayors logo

2018 GHG Emission Levels

A second GHG inventory was conducted in 2019 using 2018 data to track the City's progress toward its 2020 climate goals. According to the inventory, the community-wide GHG emissions for 2018 were 1,128,690 MTCO_{2e}, 12.9% below its 2007 levels. Together, we achieved our first goal!

Like 2007, emissions from energy use and transportation fuels continued to be the largest contributors to the city-wide GHG inventory. However, emissions from energy consumption decreased from 65% in 2007 to 59% in 2018, while emissions from transportation fuels increased from 30% to 38%. This is thought to be a result of Duke Energy increasing its reliance upon renewable energy and natural gas which decreased emissions for the city of

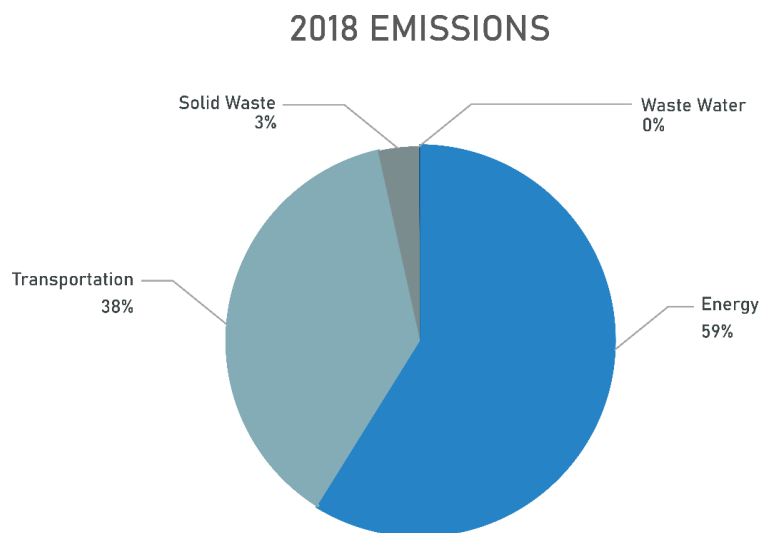


Figure 2.5.- 2018 Emissions chart

Clearwater. Solid waste emissions were reduced from 5% of the 2007 inventory to 3.3% of the 2018 inventory. The city's waste-water operations continued to have a marginal effect on the city's total emissions, reducing from 0.13% of the 2007 inventory to 0.12% of the 2018 inventory.

Where Are We Going?

Based on the city's population of 116,478 in 2018, average GHG emissions per person were 9.69 MTCO_{2e}. Based on the 2018 levels, Clearwater's community-wide emissions were forecasted for the next three decades. 🌱

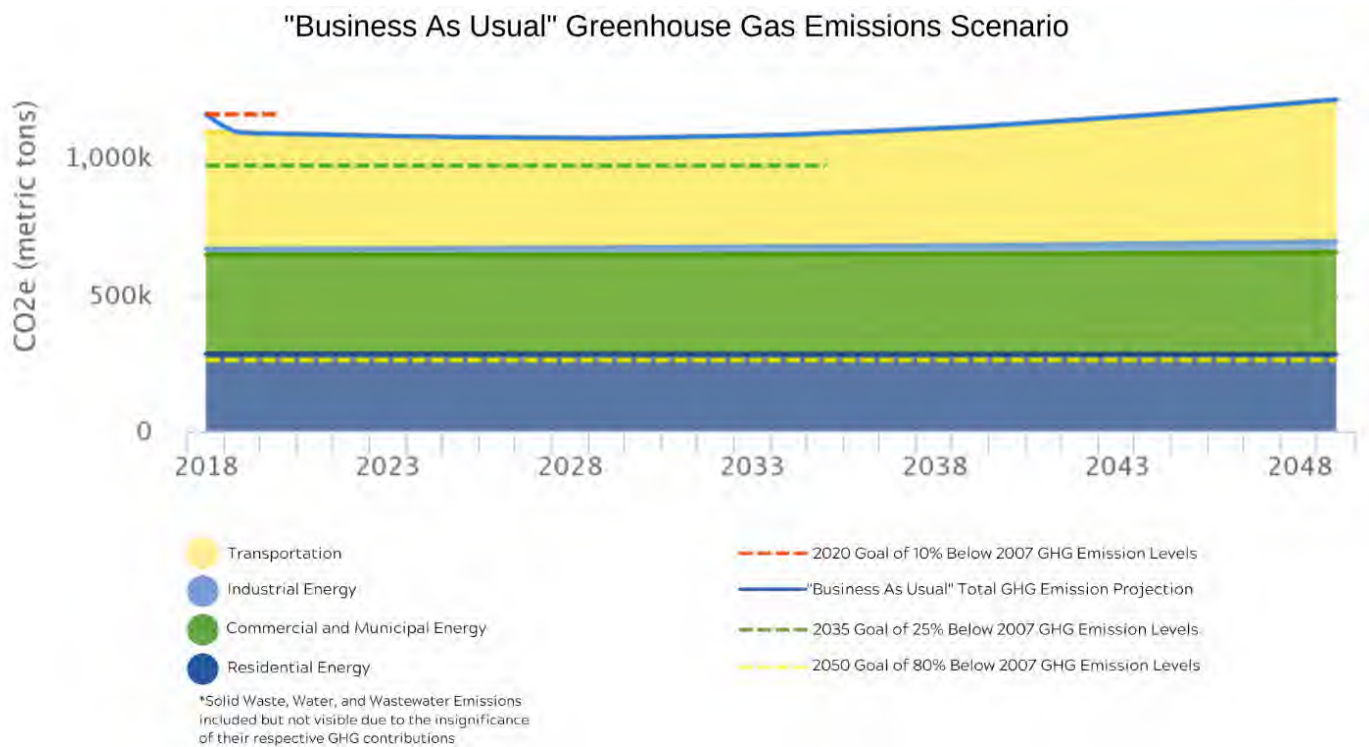


Figure 2.3.- Clearwater Business as Usual / Duke Renewable Energy & Carbon Neutral Goals Not Included; Projected CO_{2e} Values

Under this "business as usual" scenario, in which Clearwater does not make or experience any major changes to its emissions, the community's total greenhouse gas emissions would stand at nearly 1.1 million MTCO_{2e} by 2035, increasing to over 1.2 million MTCO_{2e} by 2050. This is largely due to the increased number of miles traveled by automobile per person.

However, in 2019 Duke Energy announced its goal of becoming carbon neutral by 2050. To achieve carbon neutrality, the utility company will shift its electricity energy sources away from coal and towards lower-carbon energy solutions. If this goal was to be achieved by Duke Energy, Clearwater's greenhouse gas emissions would fall to roughly 972,000 MTCO_{2e}

in 2035 and further to 823,000 MTCO₂e in 2050. This decrease would occur even if the city did not pursue further greenhouse gas reduction measures of its own.

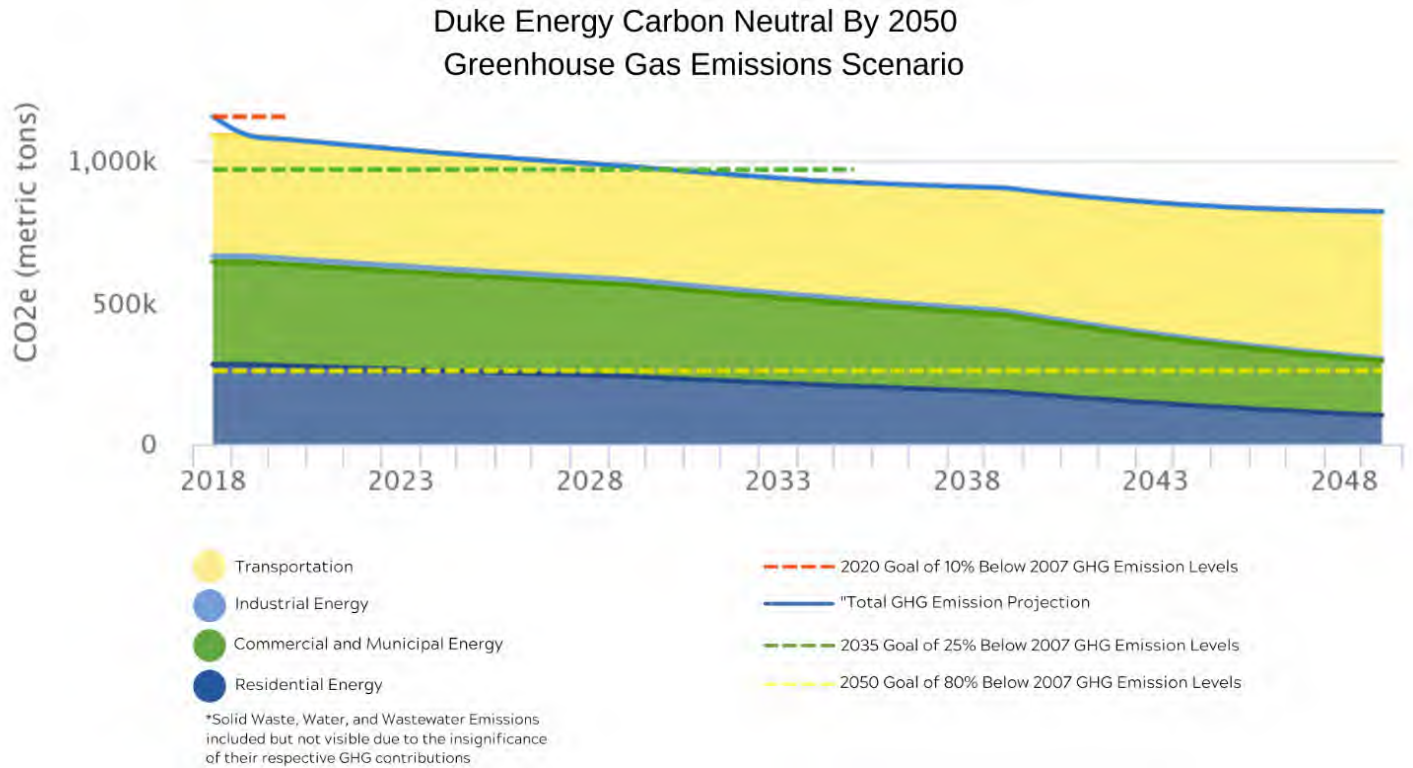


Figure 2.4.- Clearwater Business as Usual / Duke Renewable Energy & Carbon Neutral Goals Included; Projected CO₂e Values with Reductions Applied

In December of 2015, 197 countries, including the United States signed onto the historic Paris Climate Agreement. The overarching goal of this international climate accord is to limit global warming to well below 2° Celsius compared to pre-industrial levels. Though the United States temporarily withdrew from the agreement in 2020, the nation rejoined in 2021. In the years since the announcement to withdraw from the accord, local implementation of the Paris Climate Agreement has been a focus for local governments nationwide—including the city of Clearwater. The decision to rejoin the accord bolsters the city's ongoing GHG reduction efforts and opens the door to opportunities for much-needed federal aid. With new, more ambitious GHG reduction goals, Clearwater Greenprint 2.0 is anticipated to reduce community-wide greenhouse gas emissions to under 260,000 MTCO₂e by 2050.

Envision Our Future

Clearwater Greenprint 2.0 has two overarching Goals:

- Reduce the city's GHG emissions 25% below 2007 levels by 2035 and;
- Reduce the city's GHG emissions 80% below 2007 emission levels by 2050

And also seeks to accomplish the following Objectives:




- Transform Clearwater into a community where people walk, bike, take transit, or carpool for most **trips** in a safe, accessible and affordable transportation network.
- Make Clearwater a leader in clean and local renewable energy opportunities.
- Transform our buildings into high-performing places to live, work, learn and play.
- Inspire community action and ensure **environmental justice** and **equity** as we transition to a lower carbon, more sustainable community.
- Create a thriving urban agriculture community in order to increase the local knowledge and abundance of healthy, sustainable food.
- Become a leader in sustainable, smart transportation through innovative partnerships, policies, programs and technology.
- Understand potential climate-related risks and mitigate these risks while preparing our community to chronic and extreme weather events.

The following lists the targets Clearwater Greenprint aims for in order to maintain a competitive, vibrant, and green Clearwater for future generations, while improving the quality of life for those who live here today.

Often, world problems can seem so daunting. But positive change is possible. And maybe it's not from one person doing a big thing but from many people doing small things. Chinese philosopher, Lao Tzu, stated *"a journey of a thousand miles begins with a single step"*. Greenprint invites you to find your "single step" and run with it. We are each essential to creating a sustainable city. Together, we can go far.



Learn More About Climate Change and GHG Mitigation Benefits:

	<p>Climate Change Impacts</p>	<p>Cho, R. (2019, June 20). How climate change impacts the economy. <i>EI State of the Planet</i>. https://blogs.ei.columbia.edu/2019/06/20/climate-change-economy-impacts/.</p> <p>Diffenbaugh, N. S., & Burke, M. (2019). Global warming has increased global economic inequality. <i>Proceedings of the National Academy of Sciences</i>, 116(20), 9808–9813. https://doi.org/10.1073/pnas.1816020116</p>
	<p>Benefits of Energy Efficiency</p>	<p>Florida Public Service Commission. (2004, June 8). 105 Causes of High Utility Bills - Florida Public Service Commission. http://www.psc.state.fl.us/Publications/CausesOfHighBill.</p> <p>Weisbrod, G., & Reno, A. Economic Impact of Public Transportation Investment. American Public Transportation Association. Report available online at http://onlinepubs.trb.org/onlinepubs/tcrp/docs/TCRPJ-11Task7-FR.pdf</p>
	<p>Public Health Benefits</p>	<p>United States Environmental Protection Agency. (2021, February 5). Progress Cleaning the Air and Improving People's Health. https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health.</p> <p>Harvard Health Publishing - Harvard Medical School. (2010, July). A prescription for better health: go alfresco. <i>Harvard Health Letter - A prescription for better health: go alfresco</i>. https://www.health.harvard.edu/newsletter_article/a-prescription-for-better-health-go-alfresco.</p>
	<p>Food Import Environmental Impacts</p>	<p>Hannah Ritchie (2020). Environmental impacts of food production. <i>OurWorldInData.org</i>. https://ourworldindata.org/environmental-impacts-of-food.</p> <p>Rosenthal, E. (2008, April 26). Environmental Cost of Shipping Groceries Around the World. <i>The New York Times</i>. https://www.nytimes.com/2008/04/26/business/worldbusiness/26food.html.</p>
	<p>Duke Energy Climate Report</p>	<p><i>Duke Energy 2020 Climate Report</i>. (2020). Retrieved February 22, 2021, from Duke Energy website: https://www.duke-energy.com/_/media/pdfs/our-company/climate-report-2020.pdf</p>

Target Timelines

2025

- 10% reduction in energy use in city buildings
- Institutionalized climate adaptation as a citywide priority through formal adoption by ordinance
- Regional, state, and national climate adaptation partnerships in government and in the private sector
- Three new urban agriculture programs/centers available for the community

2030

- 20% reduction in energy use in city buildings
- 20% of electricity from renewable energy sources
- 5% of workers carpool to work
- 5% of workers bike to work
- 5% of workers walk to work
- 10% of workers use public transit
- 5% of workers telecommute
- Energy efficient building regulations are created and enforced for new construction
- 30% of new housing units within 1/4 mile of high-frequency transit designated affordable
- Food outlets located within a 15 minute walk of every resident sell fresh produce
- Miles of bike lane per resident in low-income neighborhoods are equal to that in higher income neighborhoods
- 20% reduction in energy costs to low-income residents
- Roof-top solar is installed on homes of 1,000 low and moderate income residents
- An emergency cooling center is located within a 10 minute walk in low-income neighborhoods
- 20% of workers use public transit

2050

- 90% of existing municipal buildings completed energy efficiency improvements in accordance with Recommissioning Plan and Energy Policy requirements
- 15% of workers bike to work
- 15% of workers walk to work
- Advocate for 100% carbon free public transportation
- 50% of all residents' light-duty vehicles are electric
- 100% of city's light-duty vehicles are electric or fueled by carbon-free fuel
- 50% of city's heavy-duty and freight trucks are electric or carbon-free
- Lower levels of heat-related illness and death are observed in 2050 than in 2018
- Reliability and affordability of potable water is maintained through water conservation, efficiency, and independence

How to read Clearwater Greenprint 2.0

Clearwater Greenprint 2.0 takes advantage of common-sense approaches and policies that our local government is uniquely positioned to implement – actions that can reduce energy use and waste, create local jobs, improve air quality and benefit Clearwater for years to come.

Document Structure

The diagram shown below outlines the document structure of Clearwater Greenprint 2.0. Some of the components of the plan, namely goals and targets have already been defined. Core Topics and Strategies are defined in the sections below.



Figure 3.5.- Document hierarchy diagram

Core Topics

Clearwater Greenprint 2.0 contains the same eight topics found in the original Clearwater Greenprint plan. These eight topics were identified as areas in which the city can achieve greenhouse gas reductions and cost savings:

- Education and Awareness,
- Green Energy & Buildings,
- Transportation,
- Livability,
- Water Conservation,
- Waste Reduction,
- **Local Food**, and
- Green Economy.

Strategies

The Clearwater Greenprint 2.0 includes measurable and achievable strategies that the city, businesses, and residents can incorporate into their daily lives to accomplish each target outlined in the previous section. In this document, strategies provide the foundation for addressing **sustainability** issues over a 30-year planning period and beyond. The strategies focus on actions that can be implemented at the local level over the span of 0-5 years (short-term), 6-10 years (medium-term) and 11-30 years (long-term). The Clearwater Greenprint 2.0 is intended to be a framework for specific action with built-in flexibility for timing and emphasis. Each Strategy corresponds to a Core Topic. For example, the “Community Education” Strategy is presented under the “Education and Awareness” Core Topic.

Green Glossary

Each of us has a different level of understanding and exposure when it comes to the environment, sustainability, and government functions. In order to make Clearwater Greenprint 2.0 accessible to everyone, a Green Glossary is provided at the beginning of the document. Words in green can be found there with an explanation.

Mitigation and Adaptation

The city of Clearwater is already experiencing effects of **climate change**. The 2020 Atlantic hurricane season was the busiest ever recorded with 31 tropical cyclones. The same year, the state of Florida experienced record-breaking temperatures for six months of the same year. Water levels in Tampa Bay have also increased nearly eight inches over the last 60 years.

Reducing community GHG emissions is **climate mitigation**, meaning it will reduce the negative impacts of climate change in the future. Clearwater Greenprint 2.0 also considers **climate adaptation**, the need to address the climate hazards that Clearwater already experiences in order to make the city resilient. Climate adaptation is a form of risk management. Current hazards, like increased heat, sea levels and precipitation levels, are magnified by climate change and the city needs to plan accordingly. As such, Clearwater Greenprint 2.0 proposes climate change mitigation strategies that support adaptation and avoid those that may contribute to anticipated climate change impacts.

Equity and Inclusion

Equity and inclusion components are interwoven throughout this document. Low-income populations, communities of color, people with disabilities, elders, refugees, immigrants, and other frontline communities often bear the brunt of climate impacts. Even worse, these communities often go without the necessary infrastructure and support systems to manage climate impacts and frequently do not receive any of the benefits of a clean and sustainable future. Inequity correlates with greater vulnerability to physical challenges, making many in Clearwater disproportionately at risk from the impacts of natural disasters and climate

change. Creating a resilient community entails addressing the social inequities that cause disparities in health outcomes, income, educational attainment, and more.

Emissions Reduction Potential

Calculating expected GHG emissions reductions for each mitigation strategy requires making assumptions about degree of implementation, technology, and individual behavioral changes several years into the future. Since the desired GHG emissions reductions have yet to occur, other measurable factors are used to predict their outcomes. The strategies discussed in this report are the predictive factors, and the symbols shown below represent their respective impacts on GHG reductions and Target Timeline items. The symbols distinguish between strategies with low potential impact, medium potential impact, and high potential impact on the Clearwater's GHG reduction goals. Strategies with an unknown impact are assigned their own symbol as well. This "unknown potential impact" symbol is used in cases where it is difficult to gauge how certain tactics, like education and the localization of resources, will be embraced and acted upon.



Low Potential Impact



Medium Potential Impact



High Potential Impact



Unknown/Undefined Potential Impact



Learn More!

Interested in learning more about the topics covered in this document? Try clicking on the **green leaves** scattered throughout this document. The leaf will take you to an article or website with more background information. Links are indexed by subject matter topic at the end of each report section.

Strategy Status Indicators

Clearwater Greenprint 2.0 includes a combination of existing policies and programs as well as new ideas based on best practices locally and nationwide. The document notes whether a Strategy is currently ongoing, in-progress or not yet started. There are a few Strategies from the first Clearwater Greenprint plan that are no longer goals. These strategies will be listed in **Appendix IV** alongside an explanation as to why they are no longer included in the city's plan.



Not Started



In Progress



Strategy has been completed or is ongoing

Evaluation of Strategies and Their Benefits

In addition to measuring the GHG reduction potential, each Strategy is also marked for other benefits that may be experienced from implementing each Strategy. These benefits include public health, equity and justice, jobs and prosperity, environmental conservation, and **resilience**. The symbols below indicate the co-benefits each Strategy are likely to generate (if any).



Supports jobs and prosperity



Advances equity, inclusion, and justice



Improves local environmental conservation initiatives



Improves public health



Increases community resilience



Photo Credit: City of Clearwater



Education and Awareness

Photo Credit: City of Clearwater

It's going to take the entire community to create a sustainable, vibrant Clearwater. Raising community awareness with compelling and useful information about the importance of **sustainability** is vital. In addition to understanding the benefits of sustainability on Clearwater's environment, it is important to demonstrate that sustainability will result in improved human health and happiness, economic advancement, and a greater sense of community overall.

To achieve this awareness, the city will create and provide information to educate and involve Clearwater citizens in green best practices and programs. The city will incorporate Clearwater Greenprint 2.0 strategies and initiatives into its ongoing communications activities, creating opportunities to encourage responsibility and foster participation in making Clearwater a sustainable community. Opportunities for education and awareness can be realized by creating venues for different groups to work together. These include neighborhood associations, organizations, schools, businesses, utilities, and government agencies.

Mission Statement

Community Education

Community Outreach

Youth Programs

Municipal Staff Education

Continuous Reporting

Resilience Planning and Outreach



Photo Credit: Maranda Douglas

Education and Awareness – Strategies

Section	Strategy Name	Strategies
5.1	Mission Statement	<ul style="list-style-type: none"> A. Write or re-write mission statement for city of Clearwater to include environmental commitment. B. Incorporate the mission statement into the local government's comprehensive plan.
5.2	Community Education	<ul style="list-style-type: none"> A. Promote education through publications and public events. B. Provide pertinent local GIS and other data online.
5.3	Community Outreach	<ul style="list-style-type: none"> A. Develop new events that engage the community in sustainability through fun and innovative activities. B. Continue to host an annual sustainability conference.
5.4	Youth Programs	<ul style="list-style-type: none"> A. Continue youth education programs to educate students about resource conservation. B. Further current efforts by coordinating with the Pinellas County School Board.
5.5	Municipal Staff Education	<ul style="list-style-type: none"> A. Organize ongoing educational workshops and presentations to keep staff and elected officials up to date on sustainability initiatives and opportunities. B. Integrate sustainable practices into daily operations and serve as ambassadors and educators about city sustainability programs and projects in daily interactions with the public.

5.6 Continuous Reporting

- A. Continuously measure, evaluate, and address both mitigation and adaptation progress in accordance with ICLEI Local Governments for Sustainability, USA Five Milestones for Climate Mitigation and Adaptation.

5.7 Resilience Planning and Outreach

- A. Form a Resilience Committee comprised of city staff and community partners.
- B. Initiate a vulnerability assessment throughout the Clearwater area to identify the factors most at risk to climate change stressors.
- C. Formulate a Climate Action Plan to address each of the vulnerabilities identified and further direct the city's resilience work.



Photo Credit: City of Clearwater

5.1.- Mission Statement



- A. Write or re-write mission statement for city of Clearwater to include environmental commitment.
- B. Incorporate the mission statement into the local government's comprehensive plan.

The city of Clearwater is committed to accomplishing the strategies outlined in this document. In recognition of the fact that that other municipalities throughout the State of Florida have done the same, the city's mission statement and comprehensive plan will be revised to formalize this commitment.

5.2.- Community Education



- A. Promote education through publications and public events.
- B. Provide pertinent local GIS and other data online.

In early 2020, a Sustainability & Resilience webpage was created to inform the public about the city's sustainability goals and progress. This website also functions as a resource center, where Clearwater residents, businesses, and tourists can learn how to become more sustainable in their own lives.

The city will promote education through its publications and public events. A quarterly report about the city's sustainability progress will be available online and will be promoted through the city's email and social media accounts. The city will also create an annual workshop series that covers each of the Greenprint topic areas and will involve various staff and community members who are experts in each focus.



Photo Credit: City of Clearwater

5.3.- Community Outreach



- A. Develop new events that engage the community in sustainability through fun and innovative activities.
- B. Continue to host an annual sustainability conference.

Engagement is at the core of education. The city is committed to developing new events that engage the community in sustainability in fun and innovative ways. Examples include art contests, speaker and film series, and neighborhood campaigns.

In 2019, the city held its first sustainability conference. Created in partnership with the Clearwater Neighborhoods Coalition and Suncoast Sierra Club, the conference was titled “Building Better Neighborhoods Through Sustainability: A Toolkit for Positive Change”. Topics included **energy efficiency** for the home, Florida-friendly landscaping, waste reduction, composting, and **ocean-friendly** lifestyle practices. The conference was well received, and the city intends to make this an annual event.



Figure 1.- Recycling education center at 2020 SeaBlues Festival



Figure 2.- 2019 Sustainability Conference

5.4.- Youth Programs



- A. Continue youth education programs to educate students about resource conservation.
- B. Further current efforts by coordinating with the Pinellas County School Board.

A successful education initiative must also engage Clearwater youth. Various departments, like the Public Utilities and Solid Waste/Recycling departments, have programs to educate students about resource conservation. The city will further this effort by coordinating with the Pinellas County School Board to create a School Sustainability Committee.

5.5.- Municipal Staff Education



- A. Organize ongoing educational workshops and presentations to keep staff and elected officials up to date on sustainability initiatives and opportunities.
- B. Integrate sustainable practices into daily operations and serve as ambassadors and educators about city sustainability programs and projects in daily interactions with the public.

The city will organize educational workshops and presentations to keep decisionmakers up to date on sustainability initiatives and opportunities as well as to keep City Council members connected to the Greenprint 2.0 goals, strategies, and initiatives. Designated city staff will pursue ongoing education and will maintain certifications pertaining to green project design. In addition, staff will integrate sustainable practices into daily operations while serving as ambassadors and educators for city sustainability programs and projects through their interaction with the public.

Clearwater staff will also be encouraged to engage personally with the city's sustainability efforts. Specifically, they will be encouraged to use fewer single-use plastics through distribution of reusable water bottles to all employees, and review Clearwater's commitment to the environment during new employee orientation. 🌱

5.6.- Continuous Reporting



- A. Continuously measure, evaluate, and address both mitigation and adaptation progress in accordance with ICLEI Local Governments for Sustainability, USA Five Milestones for Climate Mitigation and Adaptation

Sustainability is an ongoing process. Communities must celebrate their successes while continuing to pursue further emission reductions and **resilience** improvements. While Clearwater has already begun to reduce GHG emissions and climate risk through a variety of actions, it must continuously measure, evaluate, and address both mitigation and adaptation progress. Thankfully, two approaches to achieve this ongoing work have been

developed by the International Council for Local Environmental Initiatives (ICLEI). These are known as the Five Milestones for **Climate Mitigation** and Adaptation.



Figure 1 Five Milestones for Climate Mitigation



Figure 2 Five Milestones for Climate Adaptation

Furthermore, tracking the success of existing and future green initiatives is a vitally important component of Clearwater Greenprint. To lead by example, the city will continue to highlight its green initiatives and report the associated benefits. Environmental, economic, and social metrics will be collected and reported. The benefits, costs, and lessons learned of the various efforts will be shared with the Clearwater community as well as other local governments through the Sustainability & Resilience website. Furthermore, the city will commit to conducting a GHG inventory every two years to assess progress.

5.7.- Resilience Planning and Outreach



- A. Form a Resilience Committee comprised of city staff and community partners.
- B. Initiate a vulnerability assessment throughout the Clearwater area to identify the factors most at risk to climate change stressors.
- C. Formulate a Climate Action Plan to address each of the vulnerabilities identified and further direct the city's resilience work.

COBENEFITS:



Becoming a resilient community requires **climate adaptation** measures. According to the Fourth National Climate Assessment, climate adaptation has five general stages:

1. Awareness,
2. Assessment,
3. Planning,
4. Implementation, and
5. Monitoring and Evaluation.

The city will begin with Stage 1 and form a Resilience Committee to increase resilience planning and awareness throughout Clearwater. The committee will be comprised of city staff and community partners, such as teachers, neighborhood leaders, artists, and financial and insurance industry representatives who can explain financial risks. The committee will be responsible for creating an educational outreach and communications program to raise awareness of climate change risks and emergency preparedness in our residents and business owners.

The Resilience Committee will also be responsible for initiating **vulnerability assessments** throughout the Clearwater area to identify the factors most at risk to climate change stressors. From these assessments, a Climate Action Plan will be pursued to address these vulnerabilities and further direct the city's resilience work. This plan could be included as a section in the next Clearwater Greenprint edition.



Learn More About Topics in Education and Awareness:



	Employee Education and Emissions Reduction	<p>U.S. Energy Information Administration - About 13% of U.S. electricity generating capacity can switch between natural gas and oil (2020, February 2). Retrieved January 28, 2021, from https://www.eia.gov/todayinenergy/detail.php?id=42776</p> <p>Clean Energy Solutions Center: Natural Gas Fuel Switching. (n.d.). Retrieved January 28, 2021, from https://cleanenergysolutions.org/resources/technology/natural-gas-fuel-switching</p>
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Photo Credit: City of Clearwater



Green Energy and Buildings

Photo Credit: Dondi Guterrez

Most buildings in Clearwater were built during a time when electricity was cheap and abundant and less was known about the potential environmental impacts. Today, the effects of conventional energy sources on our global and local environments is better understood. Reducing the amount of energy used through efficiency improvements to existing buildings and the development of new buildings to high-performance standards, coupled with shifting to renewable energy sources, is now recognized as one of the most important actions needed to create a more sustainable community and future.

Electricity continues to be the biggest contributor to our community-wide GHG emissions, with most of that electricity being used for the lighting, heating and cooling of buildings. Clearwater purchases all electricity from Duke Energy, a private utility company. As of 2017, Duke Energy relied on **fossil fuels** (i.e., coal and natural gas) to generate 61.7% of the electricity it produced. Nuclear energy accounted for 33.7% of the remaining electricity, while wind and solar accounted for 3.9%.

Making a positive impact on the city's energy use is a community effort and will require the participation of residents, businesses, and institutions alike. Each can reduce energy use by implementing such measures as attic insulation, duct leak repair, replacing incandescent light bulbs with LED light bulbs and upgrading air conditioning units, windows, and appliances to more efficient ones.

In addition to reducing the amount of energy used, it is also important to find opportunities for renewable energy. Without action, the community will continue to rely on fossil fuels, leading to significant increases in energy costs and GHG emissions over the next 25 years. With Clearwater being a mostly developed city, the potential for renewable energy expansion will rely on the installation of smaller systems distributed across the city as opposed to large-scale centralized plants.

PACE - Energy Finance Program

Resource Conservation Program

Incentives for Upgrades

Performance Standards

Natural Gas Expansion

Local Power Generation

Renewable Energy Challenge

Renewable Energy Finance

Energy-Efficient Streetlights

Municipal Energy Management Program and Policy

Municipal Re-Commissioning Plan

Municipal Performance Standard

Phase-Out of Environmentally Harmful Refrigerants

Resilient Infrastructure

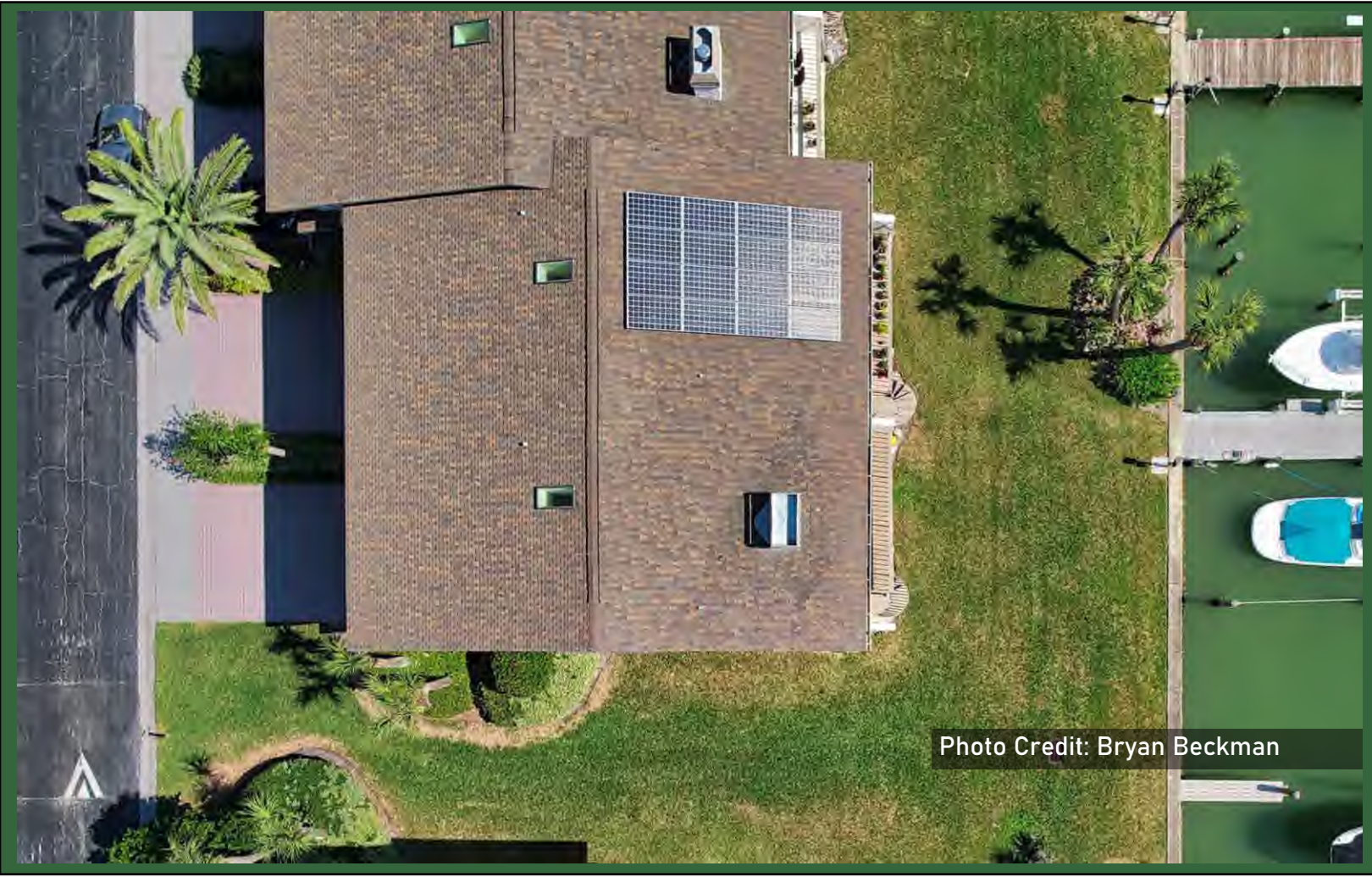


Photo Credit: Bryan Beckman

Green Energy and Buildings – Strategies

Section	Strategy Name	Strategies
6.1	PACE - Energy Finance Program	A. Partner with public and private organizations to establish an energy finance program.
6.2	Resource Conservation Program	A. Develop and implement a program that performs comprehensive energy evaluations, recommends conservation practices and upgrades, provides basic information on financing options, and measures the environmental and economic benefits after implementation.
6.3	Incentives for Upgrades	A. Implement a “feebate” program.
6.4	Performance Standards	A. Encourage and assist developers in incorporating green building practices and standards into their design, construction, maintenance, and operations plans. B. Encourage the use of national building performance standards.
6.5	Natural Gas Conservation	A. Continue offering programs by Clearwater Gas System to increase the number of residents and businesses using natural gas to power appliances in place of alternatives that produce more emissions upon combustion.
6.6	Local Power Generation	A. Request proposals from private companies to design, build, install and operate small-scale energy generation facilities that can utilize available resources to generate electricity and/or heat.

6.7

**Renewable Energy
Challenge**

- A. Preparation of a marketing and outreach campaign challenging property owners to install renewable energy technologies.
- B. Support code changes that remove obstacles to installing renewable energy systems.
- C. Provide information to assist residents with purchasing renewable energy equipment.
- D. Include information about local, state, and federal incentives, economic and environmental benefits, contact information for local contractors, financing options.
- E. Create a website that allows the Clearwater community to submit property information and view addresses where renewable energy systems have been installed.

6.8

**Renewable Energy
Finance**

- A. Investigate financing mechanisms for expanding renewable energy generation.
- B. Launch a solar co-op program in which residents can coordinate bulk purchase of PV systems for reduced price.

6.9

**Energy-Efficient
Streetlights**

- A. Request conversion of all Duke Energy-owned electric streetlights to LED.

6.10

**Municipal Energy
Management Program
and Policy**

- A. Partner with a third-party company to create an energy savings program including staff training and web-based energy consumption tracking, and benchmarking for municipal buildings.

6.11

**Municipal Re-
Commissioning Plan**

- A. Establish a re-commissioning plan to inspect, test, and make proper adjustments at regularly scheduled intervals to optimize the performance of its buildings and equipment.
- B. Create an LED lightbulb conversion program for city buildings.

- C. Train key staff that do not have the appropriate skills to test the equipment.
- D. Identify any environmentally harmful refrigerants in its operations and phase them out as part of its re-commissioning process (see Green Energy and Buildings Strategy #11).

6.12

Municipal Performance Standard

- A. Build all new municipal facilities to a nationally recognized high-level performance standard (e.g., Leadership in Energy and Environmental Design, Florida Green Building Coalition, and Energy Star).

6.13

Resilient Infrastructure

- A. Existing and new infrastructure complies with comprehensive resilience guidelines and the recommendations provided by the Tampa Bay Regional Resiliency Coalition.
- B. Prioritize resilience upgrades in capital and operational budgets.
- C. Create educational materials and events for the public to improve the adaptive capacity of their own buildings, structures, and properties.
- D. Explore grant opportunities for municipal photovoltaic and energy storage for critical building infrastructure (e.g., emergency shelters, schools, cooling centers, and nursing or assisted-living homes) to protect vulnerable populations and reduce GHG emissions.



Photo Credit: City of Clearwater

6.1.- PACE – Energy Finance Program

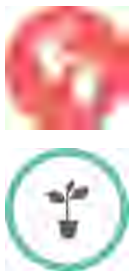


- A. Partner with public and private organizations to establish an energy finance program.

Many properties in Clearwater can reduce energy use significantly through minor improvements, such as adding insulation, high-efficiency appliances (e.g., water heater) and high-efficiency lighting. Properties can also generate a percentage of their electricity use through installation of renewable energy systems. This includes solar and geothermal systems which run on thermal energy found below the earth's surface. While basic **energy efficiency** improvements are the most economical way to reduce energy use, property owners may be discouraged by up-front investment costs.

The city will partner with public and private organizations to establish an energy finance program that provides commercial property owners with long-term, low-interest loans for energy improvements. The program would target older, inefficient commercial and industrial buildings and prioritize retrofits that result in cost savings that exceed, or at least offset, the original investment. Loan payments will be assessed to the property tax bill (e.g., Property Assessed Clean Energy) so that the loan is assigned to the property instead of the property owner.

6.2.- Resource Conservation Program



- A. Develop and implement a program that performs comprehensive energy evaluations, recommends conservation practices and upgrades, provides basic information on financing options, and measures the environmental and economic benefits after implementation.

Commercial and industrial properties are responsible for more than half of the electricity use in the city. With the help of private companies and educational organizations, the city will develop and implement a program that performs comprehensive energy evaluations, recommends conservation practices and upgrades, provides basic information on financing options, and tracks the environmental and economic benefits after implementation. Program

partners, such as local vendors and utilities, could offer discounted products to incentivize improvements that increase resource conservation.

6.3.- Incentives for Upgrades



- A. Implement a “feebate” program.

Major renovations on commercial buildings in Clearwater provide a great opportunity to improve existing buildings with **energy efficiency** improvements. To encourage both improvements on existing buildings and building preservation, the city will implement a “feebate” program, a self-financing system of fees and rebates that would reward developers that renovate buildings to a nationally recognized high-performance standard using fees charged to developers that do not.

6.4.- Performance Standards



- A. Encourage and assist developers in incorporating green building practices and standards into their design, construction, maintenance and operations plans.
- B. Encourage the use of national building performance standards.

During **redevelopment** projects, the city will work with and encourage developers to incorporate green building practices and standards into their design, construction, and maintenance and operation plans. For example, a builder could construct solar-ready homes to facilitate installation of solar panels by the property owner. The city will encourage the use of national building performance standards, such as Leadership in Energy and Environmental Design (LEED), Florida Green Building Coalition and Energy Star.

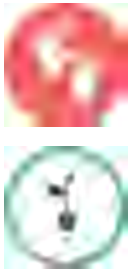
6.5.- Natural Gas Conservation



- A. Continue offering programs by Clearwater Gas System to increase the number of residents and businesses using natural gas to power appliances in place of alternatives that produce more emissions upon combustion.

Natural gas generally emits less CO₂ during combustion than coal, gasoline, and propane. Lower CO₂ emissions and widespread availability makes natural gas comparatively less environmentally harmful, and therefore, a preferable substitute where there isn't sufficient infrastructure to support emission-free energy generation and distribution. Clearwater Gas System launched several programs to increase the number of residents and businesses that use natural gas to power appliances (e.g., water heaters and ranges). Clearwater Gas System will continue to offer these programs to provide natural gas as an alternative to standard electricity. It is worth noting that natural gas is itself a GHG and still produces CO₂ upon combustion. Consequently, campaigns promoting use of natural gas will be paired with educational materials promoting energy efficiency and conservation.

6.6.- Local Power Generation



- A. Request proposals from private companies to design, build, install and operate small-scale energy generation facilities that can utilize available resources to generate electricity and/or heat.
- B. Set municipal renewable energy targets

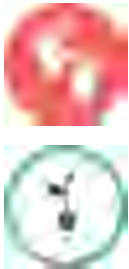
COBENEFITS



On average, Clearwater receives 361 days of sunshine each year. That sunshine can be captured and used to generate energy through installation of **photovoltaic (solar) systems**.

The city also has the potential to generate energy from a variety of local sources, including **biogas** from wastewater treatment facilities and **biomass** (i.e., yard and food waste). The city will request proposals from private companies to design, build, install and operate small-scale energy technologies that can utilize available resources to generate electricity and/or heat energy. The most viable technologies will generate energy at a competitive rate for the city while also reducing other sources of GHG such as those from **solid waste** and biogas.

6.7.- Renewable Energy Challenge



- A. Preparation of a marketing and outreach campaign challenging property owners to install renewable energy technologies.
- B. Support code changes that remove obstacles to installing renewable energy systems.
- C. Provide information to assist residents with purchasing renewable energy equipment.
- D. Include information about local, state, and federal incentives, economic and environmental benefits, contact information for local contractors, financing options.
- E. Create a website that allows the Clearwater community to submit property information and view addresses where renewable energy systems have been installed.

COBENEFITS



There is ample space for installing renewable energy systems (e.g., **photovoltaic systems** and **geothermal**) on already existing residential, commercial, industrial and city properties. The city will prepare a marketing and outreach campaign to challenge property owners to install renewable energy technologies. As part of the challenge, the city will strive to meet the goal by purchasing and installing renewable energy systems that are economically viable and that have the quickest return on investment.

To assist residential, commercial, and industrial property owners in meeting the challenge, the city will support code changes that remove obstacles to installing renewable energy systems and provide information to assist the consumer in purchasing renewable energy equipment. Information may include local, state, and federal incentives, local contractors, economic and environmental benefits of the technology, potential ways to finance the systems and a website that allows the Clearwater community to view and post where installations have been made.

6.8.- Renewable Energy Finance



- A. Investigate financing mechanisms for expanding renewable energy generation.
- B. Launch a solar co-op program in which residents can coordinate bulk purchase of PV systems for reduced price.

Aside from energy finance programs (Green Energy & Buildings Strategy #1), there are other public and private financing tools that can be used to lower up-front costs of renewable energy systems for property owners. The city will investigate various financing mechanisms for expanding renewable energy generation and share its findings with the community at large. Some financing mechanisms include clean renewable energy bonds, power purchase agreements, net metering, and bulk purchasing of renewable energy. 🌱

The United States Internal Revenue Service administers the Clean Renewable Energy Bond program which provides funding to public organizations for renewable energy projects. Power Purchase Agreements are agreements between power producers and customers in this case, for the purchase of renewable energy. Net metering is a system in which solar panels or other renewable energy generators are connected to a public utility power grid and surplus power is transferred onto the grid allowing customers to offset the cost of power drawn from the utility.

In 2020, the city enrolled in Duke Energy's Clean Energy Connection program. The program will enable the city to receive 40% (11,284 kW) of its annual municipal electricity consumption from Duke's solar systems starting in 2022.

The city also partnered with Solar United Neighbors (SUN), a non-profit that enables residential groups to purchase photovoltaic systems at lower prices. By participating in the SUN Greater St. Pete Solar Co-op program, interested Clearwater residents joined with other Pinellas County residents to organize and purchase **photovoltaic systems** in bulk. This enables each household to receive the system at a significant reduction in price. The city will continue partnering with SUN to enable future solar co-ops across Clearwater.

Another option that is available to residents is the Solar and Energy Loan Fund (SELF). SELF is a nonprofit organization that provides loans, project management and contractor vetting for home improvement options that improve energy efficiency, water conservation and storm preparedness. The organization prioritizes low- and moderate-income neighborhoods to achieve positive environmental impacts while reducing the costs of home ownership. The city will work to publicize the availability of SELF programs at events and in its publications.

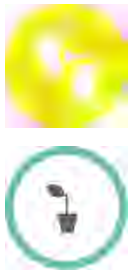
6.9.- Energy-Efficient Streetlights



- A. Request conversion of all Duke Energy-owned electric streetlights to LED.

Compared to conventional lighting, light emitting diode (LED) lighting can reduce energy use by 50% and requires less maintenance. Since 2015, the city has converted over 11 thousand streetlights to LED bulbs. All traffic signals, including pedestrian signals, now use LED lighting as well. With support from local governments such as Pinellas County and St. Petersburg, Clearwater will approach Duke to request conversion of the electric utility's streetlights to LED lighting for lights that have yet to be converted.

6.10.- Municipal Energy Management Program & Policy



- A. Partner with a third-party company to create an energy savings program including staff training and web-based energy consumption tracking, and benchmarking for municipal buildings.
- B. Develop a formal energy management policy for city buildings and operations.

Behavior change can go a long way when it comes to saving energy. The city will work with a third-party company to create an energy savings program for its facilities. This program will include staff training, web-based energy tracking of individual buildings and energy benchmarking. 🍃 From this program, the city will develop a formal energy management policy for city buildings and operations with the intent to reduce electricity intensity (kilowatt-hours per square foot) an additional 10% below our 2019 levels by 2025. The policy will set reduction targets and dates, standardize operation practices (e.g., thermostat set points), establish energy benchmarking protocol and specify acceptable and prohibited equipment use and purchases. Best practices and results will be shared with the business community to expand the **energy efficiency** practices city-wide.

6.11.- Municipal Re-commissioning Plan



- A. Establish a re-commissioning plan to inspect, test, and make proper adjustments at regularly scheduled intervals to optimize the performance of its buildings and equipment.
- B. Create an LED lightbulb conversion program for city buildings.
- C. Train key staff that do not have the appropriate skills to test the equipment.
- D. Identify any environmentally harmful refrigerants in its operations and phase them out as part of its re-commissioning process (see Green Energy and Buildings Strategy #11)

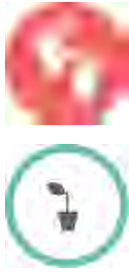
COBENEFITS

The city has made investments in **energy efficiency** upgrades of its buildings and has been able to save hundreds of thousands of dollars in energy and operational costs. Through these upgrades, the city is expected to continue saving money, with an expectation that these upgrades could create millions of dollars in savings over the next six years. However, the full energy savings will not be achieved without ongoing maintenance of the equipment.

The city will establish a **re-commissioning plan** to inspect, test and make proper adjustments at regularly scheduled intervals to optimize the performance of its buildings and equipment. An LED light bulb conversion program will be created for city buildings in order to strategically change out energy-wasting light bulbs and quantify the resulting energy savings on a building-by-building basis. Where necessary, the city will provide training to key staff that currently do not have the appropriate skills to test the equipment.

In addition, certain chilling appliances have a high impact on the climate due to the refrigerants they use. These refrigerants are powerful GHGs called hydrofluorocarbons (HFCs). HFCs are short-lived pollutants, but they have a heat-trapping impact on global warming that's thousands of times more powerful than that of carbon dioxide. Appliances such as chillers, refrigerators, freezers, ice makers, dehumidifiers and air conditioners likely contain HFCs. Unfortunately, as the world gets hotter, demand for air conditioning increases. In fact, by 2050, Florida is projected to experience some of the highest frequencies of extreme heat in the nation. 🌿 Thankfully, HFC substitutes, like propane and ammonia, are available. The city will identify any environmentally harmful refrigerants in its operations and phase them out as part of its re-commissioning process (Green Energy and Buildings Strategy #11).

6.12.- Municipal Performance Standard



- A. Build all new municipal facilities to a nationally recognized high-level performance standard (e.g., Leadership in Energy and Environmental Design, Florida Green Building Coalition, and Energy Star).

The city will lead by example by building all new municipal facilities to a nationally recognized, high-level performance standard such as LEED, Florida Green Building Coalition or Energy Star. Within a chosen standard, the city will prioritize energy and water efficiency as well as waste reduction features.

6.13.- Resilient Infrastructure



- A. Existing and new infrastructure complies with comprehensive resilience guidelines and the recommendations provided by the Tampa Bay Regional Resiliency Coalition.
- B. Prioritize resilience upgrades in capital and operational.
- C. Create educational materials and events for the public to improve the adaptive capacity of their own buildings, structures, and properties.
- D. Explore grant opportunities for municipal solar photovoltaic and energy storage for critical building infrastructure (e.g., emergency shelters, schools, cooling centers, and nursing or assisted-living homes) to protect vulnerable populations and reduce GHG emissions.

COBENEFITS:




Existing city facilities and infrastructure may need to be retrofitted extensively in order to withstand local **climate change** impacts. The **vulnerability assessment**, outlined in item 5.7(c) of the Resilience Planning and Outreach Strategy, will provide a greater understanding of the projected climate change impacts and risks, as well as the city infrastructure that is most vulnerable. The city will aim to have both existing and new buildings and infrastructure comply with comprehensive **resilience** guidelines and the recommendations provided by the Tampa Bay Regional Resiliency Coalition. The city will also routinely update its design criteria and community development code to further advance this shift towards resilience.

The city will also prioritize resilience upgrades in its capital and operational budgets in order to reduce the long-term risk and negative economic impact of climate change.

Finally, the city will create educational materials and events for the public to improve the adaptive capacity their own buildings, structures, and properties. Information such as FEMA flood zone identification, hurricane preparedness, living shoreline or sea wall installation, sea level rise projections and more will be provided in an understandable and reoccurring manner. To protect vulnerable populations while reducing GHG emissions, the city will also explore grant opportunities to add photovoltaic and energy storage for critical building infrastructure, including emergency shelters, schools, cooling centers and nursing or assisted-living homes.



Learn More About Green Energy and Building:

	<p>Renewable Energy Financing</p>	<p><i>Guide to Purchasing Green Power</i> (Rep.). (2018, September). Retrieved February 21, 2021, from United States Environmental Protection Agency website: https://www.epa.gov/sites/production/files/2016-01/documents/purchasing_guide_for_web.pdf</p>
	<p>Fuel Switching</p>	<p>U.S. Energy Information Administration - About 13% of U.S. electricity generating capacity can switch between natural gas and oil (2020, February 2). Retrieved January 28, 2021, from https://www.eia.gov/todayinenergy/detail.php?id=42776</p> <p>Clean Energy Solutions Center: Natural Gas Fuel Switching. (n.d.). Retrieved January 28, 2021, from https://cleanenergysolutions.org/resources/technology/natural-gas-fuel-switching</p>
	<p>Building Energy Benchmarking</p>	<p>Benchmarking. (n.d.). Retrieved January 28, 2021, from https://www.energystar.gov/partner_resources/residential_new/program_reqs/mfhr/benchmarking</p>
	<p>Extreme Heat in Florida</p>	<p><i>Killer Heat in the United States Climate Choices and the Future of Dangerously Hot Days</i> (Rep.). (2019, July). Retrieved February 22, 2021, from Union of Concerned Scientists website: https://www.ucsusa.org/sites/default/files/attach/2019/07/killer-heat-analysis-full-report.pdf</p>

Transportation

Photo Credit: City of Clearwater

Transportation is a key sustainability issue for the city of Clearwater, as the combustion of fuels for transportation is the second-largest contributor to the city's **greenhouse gas emissions**. The ability to travel easily and affordably using multiple types of transportation is also essential to a healthy local economy. Therefore, providing safe, convenient, and affordable transportation options for residents, workers, and visitors is an important component of the city's sustainability plan. Having true transportation choices requires continued investment in "**complete streets**," which accommodate pedestrians, bicyclists, transit, and cars; and in designing communities that make these transportation options possible. 🌱

Clearwater is a largely developed community and most of the major streets in the city have been widened to the maximum extent. This means that new street widening projects to accommodate greater traffic flow are not possible in most areas. With this constraint in mind, we will need alternatives to automobile travel to meet the travel demands that come with increasing population. The pattern and design of our urban places should better support walking, **transit**, and bicycling. At the same time, the design and function of our street network needs to be rearranged to achieve a balance that meets the needs of all.

In addition to promoting alternatives such as public transit, bicycling and walking, the city will prepare for the next major shift in the automobile industry: the electrification of vehicles. 🌱 Electric vehicles have no direct emissions and are three to six times more energy efficient than a car that runs on gasoline. In addition to their lack of GHGs, switching to electric vehicles decreases the pressure for offshore drilling in the search of oil and results in healthier environments for people by decreasing air pollution. Improvements in the production of electric vehicles over the years have made them increasingly efficient and affordable.

Vehicle Mile Reduction

Complete Streets Policy

Local Transit Improvement

Low Emission Vehicles

Municipal Fleet Conversion

Congestion Management

Municipal Telecommuting Policy

Healthy Street Design

Transportation – Strategies

Section	Strategy Name	Strategies
7.1	Vehicle Mile Reduction	<ul style="list-style-type: none"> A. Launch a VMT reduction campaign. B. Reduce city-wide VMT by 10%. C. Launch an internal VMT reduction program for employees.
7.2	Complete Streets Policy	<ul style="list-style-type: none"> A. Complete actions outlined in the Complete Streets Plan B. Healthy street design is local government policy..
7.3	Local Transit Improvement	<ul style="list-style-type: none"> A. Continue to advocate for more funding to increase bus and trolley stops on existing routes. B. Collaborate with the Pinellas Suncoast Transit Authority (PSTA) to improve bus scheduling. C. Explore and encourage alternative forms of public transportation (e.g., Bus Rapid Transit, carpool, car share, bike share, scooter share, and ferry services).
7.4	Low Emission Vehicles	<ul style="list-style-type: none"> A. Support construction of infrastructure for low-to-zero emission vehicles. B. Continue to install public EV charging stations. C. Change the Community Development Code to require charging stations for electric vehicles for new development and adopt “EV ready” policies. D. Host a minimum of one event per year at which the public is encouraged to try an electric vehicle. E. Partner with an organization such as the Sierra Club or Southern Alliance for Clean Energy to create an event that encourages residents and businesses to shift to hybrid electric vehicles.

7.5

Municipal Fleet Conversion

- A. Adopt a Green Fleet Policy to govern use and procurement of fleet vehicles.
- B. Investigate financing mechanisms to offset cost of fleet conversion (e.g., vehicle leasing and federal tax credit).
- C. Increase the share of municipal light-duty vehicles running on alternative fuels.

7.6

Congestion Management

- A. Manage traffic congestion by considering alternative intersection designs.
- B. Continue to include roundabouts in new road construction projects.
- C. Consider use of other congestion management practices.

7.7

Municipal Telecommuting Policy

- A. Increase the alternative work schedule and telecommuting opportunities available to city workforce.
- B. Encourage virtual meetings in lieu of in-person meetings requiring travel by automobile whenever possible.



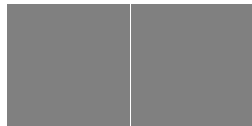
Photo Credit: Bryan Beckman

7.1.- Vehicle Mile Reduction



- A. Launch a VMT reduction campaign.
- B. Reduce city-wide VMT by 10%.
- C. Launch an internal VMT reduction program for employees.

COBENEFITS



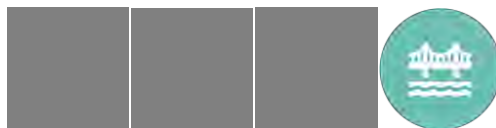
Success in meeting the city's GHG reduction goals will require each of us to commit to reducing the amount of driving we do. The city will promote this change by initiating a **vehicle miles traveled** (VMT) reduction campaign. This campaign will educate residents with the aim of reducing city-wide VMT by 10%. By setting a challenge to reduce VMT by 10%, businesses and residents who participate will consciously consider the amount of driving they do and take specific steps to reduce it. The city will promote a web based VMT reduction challenge tool that will track goals and results and encourage individuals and businesses to develop their own VMT reduction plans. The city will also lead by example through an internal VMT reduction program for their employees, which will require a shift in how employees get to work and conduct city business.

7.2.- Complete Streets Policy



- A. Complete actions outlined in the Complete Streets Plan.
- B. Healthy street design is local government policy

COBENEFITS



Streets are a vital part of livable, attractive communities. Everyone, regardless of age, ability, income, race or ethnicity, should have safe, comfortable and convenient access to community destinations and public places—whether walking, driving, bicycling or taking public transportation. The city has a long-standing commitment to pedestrian and bicycle-friendly infrastructure, which reduces transportation-related GHG emissions, reduces traffic congestion, promotes a healthier lifestyle for Clearwater residents, and creates community cohesion. Providing sidewalks, trails, and bike lanes along city streets is a matter of policy for the city.

According to Smart Growth America, Complete Streets are, “*designed and operated to prioritize safety, comfort, and access to destinations for all people who use the street, especially people who have experienced systemic underinvestment or whose needs have not been met through a traditional transportation approach*”. The city has made significant progress on its **complete streets** efforts since City Council approved the original Greenprint in 2011. Multiple trails were constructed to connect larger trails, and trail users can now travel all the way from Tampa to Clearwater Beach. A transportation planner position was created in 2016 to focus on the future of the city’s transportation and a Complete Streets Advisory Committee was also established to review future plans.

Many residents from the Skycrest Neighborhood worked with city staff to secure a state grant for the Skycrest Complete Streets project in 2018. The intent of the project is to balance accessibility for all modes of transportation, enhance safety, and to encourage economic revitalization and reinvestment along Drew Street and surrounding neighborhoods. Most recently, Clearwater’s city council approved the Complete Streets Implementation Plan to achieve appropriate, active, and safe streets. Such streets can occur by analyzing the types of land uses (residential, commercial, industrial, public, and so on) within an area and understanding how the surrounding streets can be re-designed to meet the mobility needs of people who use them.

According to the article, “Street Design Guidelines for Healthy Neighborhoods”, by Dan Burden of Walkable Communities, Inc., healthy streets are, “*networks of roadways and connector trails in communities designed primarily for use by people, not just motorized vehicles.*” 🍃 Such streets are designed for motorists to feel comfortable operating at low speeds. Low traffic volume and low noise, easy access, and multiple routes to destinations are also features. Pedestrian and bicycle movements are favored.” The city of Clearwater will implement healthy street design principles as part of local government policy. The city will also consider the 12 Steps of Walkable Communities according to the Florida Department of Transportation Pedestrian and Bicycle Program and the Street Design Guidelines for Healthy Neighborhoods from Walkable Communities, Inc. in formulating new strategies and policy, and in daily operations.

7.3.- Local Transit Improvement



- A. Continue to advocate for more funding to increase bus and trolley stops on existing routes.
- B. Collaborate with the Pinellas Suncoast Transit Authority (PSTA) to improve bus scheduling.
- C. Explore and encourage alternative forms of public transportation (e.g., Bus Rapid Transit, carpool, car share, bike share, scooter share, and ferry services).

COBENEFITS



Improving the **transit** system will give residents, employees, and visitors access to jobs, services and tourist destinations. In 2017, the city partnered with the Pinellas Suncoast Transit Authority (PSTA) to construct the Clearwater Beach Transit Center. The center added a bus bay, multiple covered pedestrian waiting areas, and new stops for riders making connections along the beach. Most notably, the Clearwater Beach Transit Center included Pinellas county's first queue-jump, signal prioritization which allows buses to pull ahead of traffic to shorten travel times. The city also funds additional trolley services during the time period in which most schools have spring break in order to reduce the amount of congestion to and from the beach. Most recently, the city is working with the Florida Department of Transportation and the PSTA to form a Memorial Causeway Busway Plan to improve traffic flow to Clearwater Beach.

The PSTA has also made significant advancements in its ability to keep passengers informed about real-time bus schedules and wait times. Both a website and a downloadable phone application are available to improve user experience and increase ridership. The city has and will continue advocating for more funding to increase bus and trolley stops on existing routes, which will improve ridership by increasing convenience. The city can also work with the PSTA to prevent poor scheduling of buses and require a minimum amount of wait time between buses.

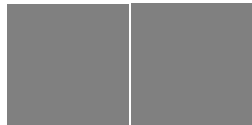
Public **transit** has also evolved beyond what was envisioned at the time Clearwater Greenprint was first created. Public **transit** now includes **Bus Rapid Transit**, carpooling, car share systems (i.e. Uber, Lyft, etc.), zip cars, bike share, and scooters. Water transportation with ferry services, like the Clearwater Ferry, have also become a possibility. The city will explore and further encourage these initiatives.

7.4- Low Emission Vehicles



- A. Support construction of infrastructure for low-to-zero emission vehicles.
- B. Continue to install public EV charging stations.
- C. Change the Community Development Code to require charging stations for electric vehicles for new development and adopt “EV ready” policies.
- D. Host a minimum of one event per year at which the public is encouraged to try an electric vehicle.
- E. Partner with an organization such as the Sierra Club or Southern Alliance for Clean Energy to create an event that encourages residents and businesses to shift to hybrid electric vehicles.

COBENEFITS

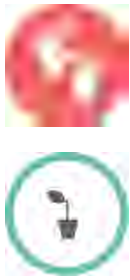


The city will create an environment where low-to-zero emission vehicles have infrastructure that supports them. This includes opportunities for different fueling, parking, and operational needs. High fuel efficiency combustion engine vehicles of all kinds have a place in the future community vehicle fleet mix. 🌿 This includes high fuel efficiency cars, hybrid vehicles, electric vehicles, motorcycles, mopeds, scooters, and golf carts.

Electric driving requires a shift in how we fuel our vehicles as fueling can take place at home, in the community, or along our highways. Perceived lack of charging stations is cited as one of the top barriers to electric vehicle ownership. 🌿 Therefore, increasing awareness and access to charging infrastructure is one of the best things the community can do to encourage electric vehicle use. The city will continue installing public EV charging equipment and will adopt policies to encourage private investment in charging infrastructure.

The city will also adopt “EV ready” policies and changes to the Community Development Code that include charging stations for electric vehicles in new developments. The city will also aim to hold at least one event each year that encourages the public to try an electric vehicle. Multiple organizations, including the Sierra Club and Southern Alliance for Clean Energy can assist in creating an educational and engaging event. Through readiness, the city will provide residents and local businesses encouragement to shift to hybrid and electric vehicles and lower their transportation related GHGs.

7.5- Municipal Fleet Conversion



- A. Adopt a Green Fleet Policy to govern use and procurement of fleet vehicles
- B. Investigate financing mechanisms to offset cost of fleet conversion (e.g., vehicle leasing and federal tax credit)
- C. Increase the share of municipal light-duty vehicles running on alternative fuels.

Over the last ten years, a number of vehicles within the city's fleet, including 70 garbage and recycling trucks, have been converted to run on compressed natural gas instead of conventional gasoline. While natural gas does produce GHG emissions, current energy-use models find it to produce 6-11% less emissions than gasoline.

The city will continue to improve the sustainability of its municipal fleet by adopting a Green Fleet Policy to govern its vehicle purchases and driving practices. As part of this policy, the city will create a vehicle replacement procedure to replace all light duty vehicles with alternative fuels as replacement is needed. This will also require that the city install EV charging stations at key places in order to allow its electric vehicles to charge. The city will investigate the use of certain financing mechanisms, such as vehicle leasing, to participate in the federal tax credit available on electric vehicles.

7.6.- Congestion Management



- A. Manage traffic congestion by considering alternative intersection designs.
- B. Continue to include roundabouts in new road construction projects.
- C. Consider use of other congestion management practices.

COBENEFITS 

Projects that reduce **congestion** and idling have a significant effect on GHG emissions from vehicles. Since the first version of Greenprint, multiple intelligent transportation systems (ITS) and advanced traffic management systems (ATMS) have been installed around the city to improve congestion, and pedestrian signals have been installed at key intersections. Furthermore, all ATMS facilities have dynamic message signs (DMS) that relay real-time

information to travelers, allowing drivers to prepare for road closures, accidents, or emergency news.

The city can further manage traffic congestion by considering alternative intersection designs. Continuing to include roundabouts in new road construction projects can have multiple benefits including the reduced frequency and severity of crashes, reduced traffic delays, increased traffic capacity, reduced long-term operational costs, and reduced emissions and noise. To date, there are 34 roundabouts throughout the city. Additional congestion management practices include: ITS technology that includes real-time congestion and auto travel information; transit **trip** planning; mobile ticketing; bike/car sharing; and vanpooling technology.

7.7.- Municipal Telecommuting Policy



- A. Increase the alternative work schedule and telecommuting opportunities available to city workforce
- B. Encourage virtual meetings in lieu of in-person meetings requiring travel by automobile whenever possible

With transportation being a large and increasing contributor to our city-wide GHG emissions, the city will lead by example in reducing vehicle miles traveled within city boundaries by using alternative work schedules and increasing telecommuting opportunities within its workforce. It will also encourage virtual meetings, rather than in-person meetings that require driving, wherever possible. The city will develop a Telecommuting Policy to establish alternative work schedule options and define eligible positions and candidates.



Photo Credit: Dondi Gutierrez



Learn More About Transportation:

	Complete Streets	<p>What are Complete Streets? Smart Growth America. (2020, December 2). https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/what-are-complete-streets/.</p> <p>Complete Streets. U.S. Department of Transportation. (2015, August 24). https://www.transportation.gov/mission/health/complete-streets.</p>
	Electric Vehicles	<p>Hofstatter, T., Krawina, M., Muhlreiter, B., Pohler, S., & Tschiesner, A. (2020, November 6). Reimagining the auto industry's future: It's now or never. McKinsey & Company. https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/reimagining-the-auto-industrys-future-its-now-or-never.</p>
	Fleet Replacement and Energy Efficiency	<p>US Department of Energy. Strategies for Fleet Managers to Conserve Fuel. Alternative Fuels Data Center: Strategies for Fleet Managers to Conserve Fuel. https://afdc.energy.gov/conserve/behavior_strategies.html.</p>
	Electric Vehicle Adoption	<p>Linke, R. (2017, August 3). The real barriers to electric vehicle adoption. https://mitsloan.mit.edu/ideas-made-to-matter/real-barriers-to-electric-vehicle-adoption.</p> <p>Egbue, O., & Long, S. (2012). Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions. Energy Policy, 48, 717–729. https://doi.org/10.1016/j.enpol.2012.06.009</p>
	Healthy Street Design	<p>Burden, D., Wallwork, M., Sides, K., Trias, R., & Rue, H. (1999). Street design guidelines for healthy neighborhoods (pp. 1-15). Sacramento, Calif: Center for Livable Communities.</p> <p>Report available online at http://onlinepubs.trb.org/onlinepubs/circulars/ec019/ec019_b1.pdf</p>

Livability

The city of Clearwater was shaped during a time when fuel was cheap and abundant and driving was the primary mode of transportation. These conditions resulted in important destinations such as workplaces, homes, schools, and commercial centers being built far apart from one another. Clearwater's sprawling development pattern contributes to residents' heavy dependence on personal automobiles for travel. Because most of Clearwater is already developed, the city must look towards improving vacant or underutilized properties to make it easier to access resources and promote growth. Creating conditions that enable sustainable growth requires thoughtful consideration of the relationships between how a property is used and the transportation options available to the surrounding community.

Many areas in the city are either stable in **redevelopment** or are attracting new building development at a very slow rate. Where redevelopment is not occurring, buildings will need to be maintained, repurposed, or **retrofitted**. This will ensure that quality housing, jobs, goods and services are available throughout the community. Improving existing buildings was identified as one of the biggest long-term challenges facing the city in the original Clearwater Greenprint plan. That challenge continues to exist. There has been an increasing rate of building obsolescence due to rapid residential and commercial growth using infrastructure that regularly needs to be replaced. These buildings require a large amount of ongoing maintenance and energy to operate. The present and future owners of Clearwater's existing buildings will be challenged to invest enough money to successfully maintain the building frame while upgrading the infrastructure inside to be more energy efficient. 🌱

In addition to challenges in the existing building stock, there are demographic trends that need to be considered when designing a sustainable approach to land use. According to United States Census Bureau estimates, Pinellas County was one of only two counties in Florida that did not increase in permanent population from 2000 to 2010. Permanent population consists of those residents who live in the county year-round. However, other local projects from the Pinellas County planning agency and Forward Pinellas anticipate some population growth in the decades to come. 🌱 This growth is not expected to be as large as what is expected in other neighboring counties with more vacant land.

There is also the potential for change in the retired population that moves to the area. Clearwater will continue to attract new retirees over time, but it will most likely be a population of retirees with less spending money than past generations. If the retiree migration rate declines over time, that population will need to be replaced to keep the local

economy growing and strong. As a result, there is a need to attract different demographics to the city including young and working-aged people to the city.

In light of this information, the city will need to find a balance between encouraging high quality, energy-efficient development and maintaining an economic environment that is attractive to developers to create new homes and jobs. At the same time, the city will need to incentivize reuse and revitalization of the existing structures so they can remain usable over the long term. 🌿 Finally, the city has the opportunity to improve quality of life and mitigate **greenhouse gas emissions** by improving or transforming land area that is currently underutilized. The city will continue to increase the tree canopy through its own plantings and by encouraging plantings on private property. It will also continue to seek opportunities to create and maintain areas for recreational purposes and protect environmental resources.

Ultimately, the city wishes to create a **livable** neighborhood, or one that is pleasant, safe, affordable, and supportive of its members. Such a neighborhood may include attractive pedestrian-oriented streets with low traffic speed and congestion as well as affordable, sustainable housing that is within reasonable distance to employment opportunities that offer living wages.

Development Incentives

Property Revitalization

Diverse Housing Options

Greenspace Expansion

Urban Tree Program and Canopy Target

Environmental Conservation

Integrated Pest Management

Energy Efficient Streets and Parking

Environmental Justice



Photo Credit: Kathleen Beckman

Livability – Strategies

Section	Strategy Name	Strategies
8.1	Development Incentives	<ul style="list-style-type: none"> A. Continue to provide for mixed-use development in livable, transit-oriented neighborhoods. B. Improve regulation, investment, and incentives that will fulfill residents' household and transportation needs.
8.2	Property Revitalization	<ul style="list-style-type: none"> A. Encourage restoration and reuse of buildings as an alternative to demolition. B. Maintain the historic designation process to ensure that historically significant properties and neighborhoods remain stable, well-maintained, and available for long-term use. C. Continue to implement a brownfield program and identify incentives such as tax credits for brownfield and greyfield development. D. Consider partnership with an educational institution or non-profit organization to demonstrate the benefits of compost in a pilot program or through a publication.
8.3	Diverse Housing Options	<ul style="list-style-type: none"> A. Continue to cultivate a self-sustaining community and local economy to reduce VMT and increase accessibility.
8.4	Greenspace Expansion	<ul style="list-style-type: none"> A. Support and expand the community's capacity to manage, develop, and enhance greenspace for natural habitat, recreation, gardening, and outdoor education activities.

8.5

**Urban Tree Program
and Canopy Target**

- A. Continue to host an annual tree giveaway.
- B. Develop a program to educate community members on the benefits of planting trees and recognize residents and businesses that participate.
- C. Assess current tree canopy and set an increased canopy goal based on assessment results.
- D. Create an implementation plan to increase tree canopy coverage.
- E. Require mitigation for consumption of natural habitat or resources.
- F. Enact and enforce a tree preservation or land-clearing ordinance.
- G. Pilot a forest carbon sequestration project on municipal land which will sequester carbon to offset a portion of the community's annual GHG emissions.
- H. Develop the planting program under an existing urban forestry project protocol to allow for recording and reporting the results of the program.

8.6

**Environmental
Conservation**

- A. Become a certified community under National Wildlife Federation Wildlife Habitat Program.
- B. Enact a sea turtle ordinance.
- C. Create an endangered lands conservation/purchasing program.
- D. Promote eco-literacy.

8.7

**Integrated Pest
Management**

- A. Create an IPM plan address invasive species and problematic insects at city-owned properties.
- B. Provide the public with educational materials concerning invasive species identification and IPM best practices.
- C. Consider partnership with an educational institution (e.g., Saint Petersburg College of the University of South Florida) to develop an IPM plan and subsequent educational outreach.

8.8

Energy Efficient Streets and Parking

- A. Develop street design standards that maximize energy efficiency and minimize heat.

8.9

Environmental Justice

- A. Explore options for preventing excessive levels of pollution and mitigate environmental and other impacts such as noise, odor, and traffic in low-income communities and communities of color.
- B. Include potential environmental and public health impacts of land use decisions into planning and zoning activities.
- C. Prioritize affordable housing for historically displaced groups to prevent green gentrification.
- D. Consider measures to ensure that rent in improved neighborhoods remains affordable and savings from energy efficiency improvements are passed on to tenants.
- E. Assess current city zoning and land use policies to determine where environmental justice criteria can be incorporated.



Photo Credit: Dondi Gutierrez

8.1.- Development Incentives



COBENEFITS

- A. Continue to provide for mixed-use development in livable, transit-oriented neighborhoods
- B. Improve regulation, investment, and incentives that will fulfill residents' household and transportation needs

The city has continued to provide for mixed-use development in livable, transit-oriented neighborhoods. Mixed-use development is development that consolidates commercial, residential, or industrial spaces on a single property. In 2012, the city's Planning and Development department worked with a consultant to create US 19 Corridor Redevelopment plan. This plan focused on increasing the density of available commercial and residential buildings in order to allow for greater transportation options. In essence, the plan intends to bring a "live, work, and play" element to an area that previously experienced only heavy commuting traffic. Following this plan, amendments to the city's Comprehensive Plan occurred in 2016 to support the new zoning district and development standards.

The areas identified in the original Clearwater Greenprint document have not been formally established as Energy Conservation Areas; however, each of the identified areas have been included in the Citywide Design Structure as Activity Centers and Redevelopment Corridors. The city will work to improve regulation, investment, and incentives that will fulfill residents' household and transportation needs.



Photo Credit: Maranda Douglas

8.2.- Property Revitalization



COBENEFITS

- A. Encourage restoration and reuse of buildings as an alternative to demolition
- B. Maintain the historic designation process to ensure that historically significant properties and neighborhoods remain stable, well-maintained, and available for long-term use
- C. Continue to implement a brownfield program and identify incentives such as tax credits for brownfield and greyfield development
- D. Consider partnership with an educational institution or non-profit organization to demonstrate the benefits of compost in a pilot program or through a publication

A sustainable urban environment has a variety of building types, sizes, and ages. This variability allows buildings to be reused for different purposes over the course of their life. New buildings should be designed with flexible space to maximize the potential for reuse in the future. Designing buildings that can be used for many potential purposes reduces vacancy. It also reduces the need for costly demolition. 🌿 In addition to economic benefits, reducing construction and demolition waste greatly reduces the amount of garbage generated by the city, as both practices make up a large percentage of the waste stream. Restoration and reuse of building materials prevent this waste. 🌿

The city will encourage restoration and reuse of buildings rather than demolition. If demolition is needed, the city will look to deconstruct buildings, reusing or **recycling** the building's materials wherever possible. The city will also maintain the **historic designation** process, which helps ensure certain properties and neighborhoods are stable, maintained, and available for long term use. The city will continue to implement its **brownfields** program and identify incentives, such as tax credits, for brownfield and **greyfield** development. These are properties that have a degree of hazardous waste or abandoned buildings on them and are difficult to sell as a result. Financial incentives will offset some of the cost of **remediation** and promote reuse of these usable but sometimes abandoned lands.

When **remediation** is needed, the city will look towards adding compost as an amendment to disturbed land. In addition to preventing food waste from being discarded as trash, compost has a remediating quality for soil. It increases the needed beneficial micro-biotic life within soil, retains water, and allows the ground to **sequester** carbon. This reduces GHG emissions in the atmosphere. The city will consider working with an educational institution or non-profit organization to demonstrate the benefits of compost in a pilot program site or publication.

8.3.- Diverse Housing Options



COBENEFITS

- A. Continue to cultivate a self-sustaining community and local economy to reduce VMT and increase accessibility

Available housing choices must have a range of prices to attract residents in all life stages and income levels. 🌱 Affordable, energy-efficient, and location-ideal housing will increase the chances that Clearwater will continue to maintain and attract a diverse population. 🌱 Monitoring and working toward creating the right mix of housing type and cost will create a balance of housing supply to jobs. This balance will reduce the need for Clearwater residents to commute outside the city to work. Reducing the distance residents drive to work not only reduces the city's GHG emissions from fuel, it also creates a more affordable and enjoyable living experience for Clearwater residents.

The city has created plans, known as the Consolidated Plan and Local Housing Assistance Plan, with policies that support a variety of housing types and prices. Furthermore, two new districts have been created to encourage further diversity of housing type and redevelopment within Clearwater's downtown and U.S. Highway 19 areas. The city will continue to create a more self-sustaining community and local economy that will reduce the need for driving while increasing convenience and accessibility to employment.

Photo Credit: Maranda Douglas



8.4.- Greenspace Expansion



- A. Support and expand the community's capacity to manage, develop, and enhance greenspace for natural habitat, recreation, gardening, and outdoor education activities



COBENEFITS

Maintaining passive parks with minimal recreation opportunities (i.e.. walking, biking only) and maximize natural **greenspace** and ecosystem function is a win-win. 🌿 Our community benefits by having access to much needed natural landscape while providing ecosystem relief in a highly urbanized region.

The city is continuing with its goals of preserving and expanding greenspace. In February 2019, Moccasin Lake Nature Park reopened after renovations and is now home to a butterfly garden and multiple **native plant** installations. By offering hiking trails and nature classes, the center is a beautiful resource for those interested in learning more about Florida's natural ecosystems and wildlife. Clearwater's Coachman Ridge Park also underwent renovations that were needed to allow greater **stormwater** flow from the city's new Solid Waste Transfer Station. The Parks & Recreation department and Engineering department updated the park by increasing the number of trees from 300 to 1,911.

Clearwater Greenies, a component of the city's Parks and Recreation Department, hosts a number of beach, park, and neighborhood cleanup projects throughout the year. The department also offers Adopt-A-Trail, Adopt-A-Park, Adopt-A-Street, and Adopt-A-Waterway programs for citizens and businesses. In 2018, over a thousand hours were spent beautifying spaces and removing litter from areas within Clearwater.

The city will continue to support and expand the community's capacity to manage, develop, and enhance greenspaces for natural habitat, recreation, gardening, and outdoor education opportunities. This includes improving and maintaining public property, creating public-private partnerships to transition underutilized land to these uses and enabling and encouraging these uses on private property through public policies and programs. Enhancing and expanding greenspace will result in better stormwater management, higher carbon sequestration, and a better quality of life for residents.

8.5.- Urban Tree Program and Canopy Target



- A. Continue to host an annual tree giveaway
- B. Develop a program to educate community members on the benefits of planting trees and recognize residents and businesses that participate
- C. Assess current tree canopy and set an increased canopy goal based on assessment results
- D. Create an implementation plan to increase tree canopy coverage
- E. Require mitigation for consumption of natural habitat or resources
- F. Enact and enforce a tree preservation or land-clearing ordinance
- G. Pilot a forest carbon sequestration project on municipal land which will sequester carbon to offset a portion of the community's annual GHG emissions
- H. Develop the planting program under an existing urban forestry project protocol to allow for recording and reporting the results of the program

COBENEFITS



For Arbor Day 2019, the city celebrated its 37th year as a Tree City USA by giving away thousands of young trees to residents. This tree giveaway is an annual tradition. The city will continue its legacy as a Tree City by developing a program to educate community members on the benefits of planting trees and recognize residents and businesses that participate. The city will consider piloting a forest carbon sequestration project on **municipal** land, which along with other existing landscape installations will sequester carbon to offset a portion of the community's annual GHG emissions. Carbon sequestration is the process by which atmospheric carbon dioxide is taken up by trees, grasses, and other plants through photosynthesis and stored as carbon in **biomass** (trunks, branches, foliage, and roots) and soils. The sequestration of carbon in forests and wood products helps to offset sources of carbon dioxide to the atmosphere, such as fossil fuel emissions. 🌿 The planting program should be developed under an existing urban forestry project protocol to allow for recording and reporting the results of the program.

The city will also assess its current tree canopy and set an increased canopy goal based on that assessment. The project will look at the three Ps of natural resource management (Possible, Potential, and Preferable), **GIS** methodology, and the Forest Opportunity Spectrum (FOS) for goal setting. From this goal, an implementation plan to increase the city's tree canopy will be established. Local ordinances, regulations, and the city's Comprehensive Plan will be updated as needed to accommodate the tree canopy goal. The city will maintain its current tree canopy through a tree preservation and protection ordinance requiring property

owners to apply for permit and compensate the city when removing trees from the public right of way and apply for a permit for certain clearing activities on private property to the extent permitted by law.

It's important to note, however, that canopy size is just one of many criteria to consider when evaluating urban trees. For instance, a robust tree canopy comprised of largely **invasive species** is not desirable. Age and species diversity, condition of trees and equitable distribution across income levels, to name a few, should also be considered in any future targets.

8.6.- Environmental Conservation



- A. Become a certified community under the National Wildlife Federation Wildlife Habitat Program
- B. Adopt a sea turtle ordinance
- C. Create an endangered lands conservation/purchasing program
- D. Promote eco-literacy

COBENEFITS

The city will create programs to increase awareness of our region's plants and animals and the importance of preserving our natural resources. These initiatives could build on existing partnerships with local organizations such as the Clearwater Marine Aquarium, the Florida Native Plant Society, the Audubon Society, the Tampa Bay Estuary Program, and others. These programs will further assist already existing efforts to raise public awareness of Clearwater's green spaces and trees, including existing nature preserves such as Moccasin Lake Nature Park.

The city of Clearwater will become a certified community under the National Wildlife Habitat Program. As part of this undertaking, the city will take the National Wildlife Foundation Mayor's Monarch Pledge which involves committing to create habitat for the monarch butterfly and pollinators and educating residents. The city will also create and participate in programs that increase awareness of our region's plants and animals and the importance of preserving our natural resources. These initiatives include creation of an endangered lands conservation and purchasing program and could build on existing partnerships with local organizations. These programs will further assist already existing efforts to raise public awareness of Clearwater's green spaces and trees, including existing nature preserves such as Moccasin Lake Nature Park. To support program participation and creation, the city of Clearwater will draft and adopt regulations as necessary. For instance,

the city has adopted language in Section 3-1302(D) of the City of Clearwater Community Development Code which protects sea turtle nesting areas through lighting regulations.

8.7.- Integrated Pest Management



COBENEFITS

- A. Create an IPM plan address invasive species and problematic insects at city-owned properties
- B. Provide the public with educational materials concerning invasive species identification and IPM best practices
- C. Consider partnership with an educational institution (e.g., Saint Petersburg College of the University of South Florida) to develop an IPM plan and subsequent educational outreach

Integrated Pest Management (IPM), is a practice used to remove organisms that are causing harm to a desirable plant, ecosystem, or structure. IPM is designed to solve these problems while minimizing risks to people and the environment. IPM provides long-term pest prevention, using natural control methods and only uses pesticides if no other option is effective. IPM pest control materials are selected to affect a specific target organism without harming surrounding organisms. 🌿 Furthermore, the pest control materials are applied in a manner that minimizes risks to human health.

The city will create an IPM plan to alleviate city-owned properties of invasive species and problematic insects. The plan will provide guidance on non-native, invasive plants and species, as well as a detailed plan for removal and/or management of such species. The plan will emphasize non-toxic options and consider potential expansion of invasive species due to **climate change**. Educational materials about invasive species identification and best IPM removal practices will be provided to the public. Working with an educational institution, like Saint Petersburg College or the University of South Florida, should be considered for both the development of an IPM plan and the work of providing public education.

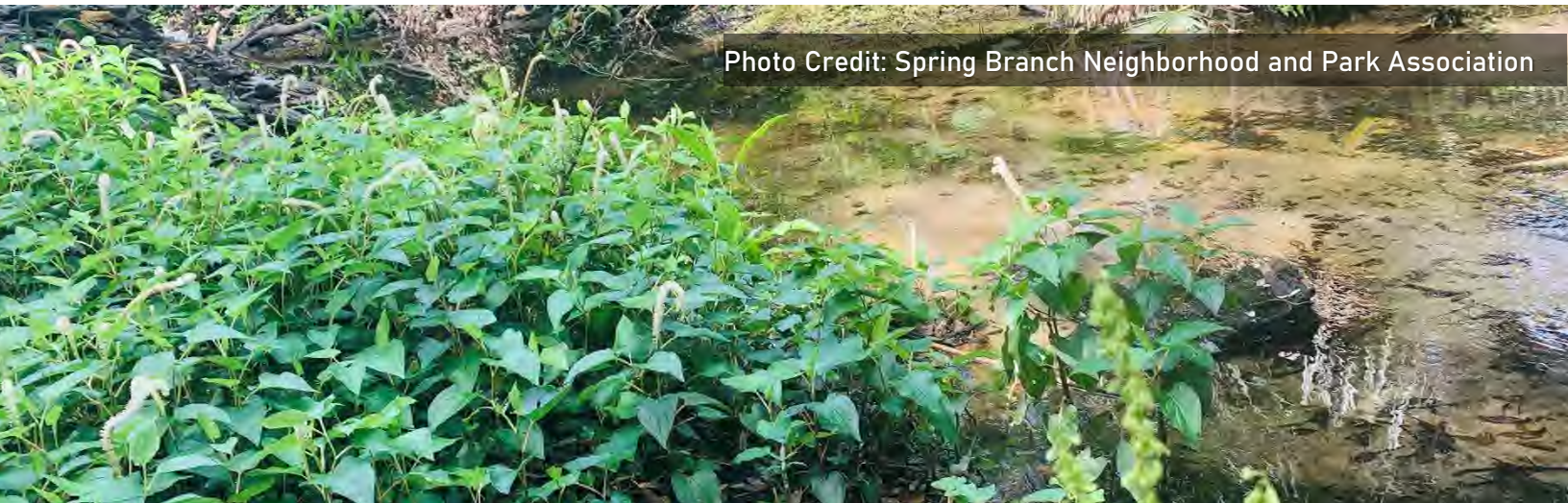


Photo Credit: Spring Branch Neighborhood and Park Association

8.8.- Energy-efficient Streets and Parking



- A. Develop street design standards that maximize energy efficiency and minimize heat



COBENEFITS

Energy-efficient street design reduces the amount of heat absorbed by streets, which translates into cooler neighborhoods and less air conditioning use in buildings and cars. 🌿 Energy-efficient streets are often oriented to protect and enable solar access, and are narrower, better shaded, and constructed with cool paving materials. Tactics include utilizing shade from tree canopies and using cool pavements that enhance water percolation or reflect the sun’s energy rather than absorb it. Shading streets and other paved surfaces will minimize the pavement’s exposure to the sun thereby reducing ambient neighborhood temperatures by as much as 10°F. 🌿 This, in turn, reduces the cooling loads in buildings. The city will develop street design standards that maximize energy-efficiency and minimize heat.

8.9.- Environmental Justice



- A. Explore options for preventing excessive levels of pollution and mitigate environmental and other impacts such as noise, odor, and traffic in low-income communities and communities of color
- B. Include potential environmental and public health impacts of land use decisions into planning and zoning activities
- C. Prioritize affordable housing for historically displaced groups to prevent green gentrification
- D. Consider measures to ensure that rent in improved neighborhoods remains affordable and savings from energy efficiency improvements are passed on to tenants
- E. Assess current city zoning and land use policies to determine where environmental justice criteria can be incorporated



COBENEFITS




The U.S. Environmental Protection Agency defines **environmental justice** as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.”

In promoting environmental justice, the city will actively explore how it can prevent excessive levels of pollution and mitigate environmental and other impacts like noise, odor, and traffic in low-income and communities of color. This can be achieved by assessing current city zoning and land use policies to determine where environmental justice criteria can be incorporated. The city will also include the potential environmental and public health impacts of land use decisions into planning and zoning activities. 🌿







In an effort to prevent green **gentrification**, a phenomenon in which the addition of parks, better **transit** options, and health measures push people out of newly improved neighborhoods, the city will prioritize affordable housing for historically displaced groups. Measures will be considered as to how the city can ensure rent in improved neighborhoods remains affordable and savings from energy-efficiencies can be passed along to tenants.



Learn More About Livability:

	<p>Building Resilience and Efficiency</p>	<p><i>U.S. Climate Resilience Toolkit.</i> U.S. Climate Resilience Toolkit U.S. Climate Resilience Toolkit. https://toolkit.climate.gov/.</p> <p>Office of Energy Efficiency & Renewable Energy. Why Energy Efficiency Upgrades. https://www.energy.gov/eere/why-energy-efficiency-upgrades.</p>
	<p>Population</p>	<p>Pinellas County. <i>Demographics.</i> Pinellas County, Florida - Planning - Demographic Reports and Data. http://www.pinellascounty.org/plan/demographics.htm.</p>
	<p>Adaptive Reuse</p>	<p>Florida Housing Coalition. (2020). <i>Eyesore to Asset: Building Housing Affordability + Sustainable Communities.</i> Retrieved from https://www.flhousing.org/wp-content/uploads/2020/05/Fannie-Mae-SCIC-Guidebook-04.2020-1.pdf</p>

	<p>Environmental Cost of Demolition</p>	<p>Clark, D. (2008, April 1). <i>Adapting an Older Building for a New Use</i>. Buildings. https://www.buildings.com/articles/34689/adapting-older-building-new-use.</p> <p>Grimmer, A. E., Hensley, J. E., Petrella, L., & Tepper, A. T. (2011). <i>The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Building</i>. National Parks Service. https://www.nps.gov/tps/standards/rehabilitation/sustainability-guidelines.pdf.</p>
	<p>Reuse of Building Materials</p>	<p>Environmental Protection Agency. (2020, November 12). <i>Sustainable Management of Construction and Demolition Materials</i>. Environmental Protection Agency. https://www.epa.gov/smm/sustainable-management-construction-and-demolition-materials#:~:text=Demolition%20represents%20more%20than%2090,materials%20in%20the%20C%26D%20debris.</p>
	<p>Housing Diversity</p>	<p>Chakraborty, A., & McMillan, A. (2018). Is Housing Diversity Good for Community Stability?: Evidence from the Housing Crisis. <i>Journal of Planning Education and Research</i>. https://doi.org/10.1177/0739456x18810787</p>
	<p>Demographics and Growth</p>	<p>Mackres, E. (2020, February 13). <i>4 Surprising Ways Energy-Efficient Buildings Benefit Cities</i>. World Resources Institute. https://www.wri.org/blog/2016/05/4-surprising-ways-energy-efficient-buildings-benefit-cities#:~:text=Energy%2Defficient%20buildings%20reduce%20indoor,better%20ventilation%20than%20traditional%20buildings.&text=Efficient%20buildings%E2%80%944those%20that%20make,vital%20to%20achieving%20sustainable%20development.</p> <p><i>Why is affordable housing important?</i> Habitat for Humanity. https://www.habitat.org/stories/reinforcing-importance-of-our-work.</p>

	<p>Parks</p>	<p>D., & Schwartz, R. <i>The Roles of an Urban Parks System</i>. World Urban Parks.</p> <p>Report available online at https://www.worldurbanparks.org/images/Documents/The-Roles-of-an-Urban-Parks-System.pdf</p> <p>Levitz, D. (2014). <i>The role of Parks in Shaping Successful Cities</i>. National Recreation and Parks Association and American Planning Association.</p> <p>Report available online at https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/Role-of-Parks-Shaping-Successful-Cities.pdf</p>
	<p>Carbon Sequestration</p>	<p><i>Carbon Sequestration</i>. UC Davis Science and Climate. (2020, May 13). https://climatechange.ucdavis.edu/science/carbon-sequestration/.</p>
	<p>Integrated Pest Management</p>	<p>Eileen Buss and Adam G. Dale. (2020, November 23). <i>Landscape Integrated Pest Management</i>. EDIS New Publications RSS. https://edis.ifas.ufl.edu/in109.</p>
	<p>Energy Efficient Street Design</p>	<p>New York State Energy Research and Development Authority. (2002). (rep.). <i>NYSERDA How-to Guide to Effective Energy-Efficient Street Lighting for Planners and Engineers</i>. Retrieved from https://www.rpi.edu/dept/lrc/nystreet/how-to-planners.pdf</p>
	<p>Sustainable Streetscape Design</p>	<p>Environmental Protection Agency. (2019, September 6). <i>Heat Island Cooling Strategies</i>. Heat Islands - Heat Island Cooling Strategies. https://www.epa.gov/heatislands/heat-island-cooling-strategies.</p> <p>Rehan, R. M. (2013). Sustainable streetscape as an effective tool in sustainable urban design. <i>HBRC Journal</i>, 9(2), 173-186. https://doi.org/10.1016/j.hbrcj.2013.03.001</p>
	<p>Public Health, Planning and Zoning</p>	<p>Zoning, equity, and public health. (2001). <i>American Journal of Public Health</i>, 91(7), 1033-1041. https://doi.org/10.2105/ajph.91.7.1033</p>



Water Conservation

Water has economic, social, and political implications that make it a unique and challenging natural resource to manage. Our habits, practices, and expectations about the availability of freshwater threaten long term enjoyment of this vital resource. 🌿 Clearwater residents use approximately 11.2 million gallons of drinking water every day. Around 80% of this water is pumped from city-owned and operated groundwater wells. The remaining water is supplied by water purchased from Pinellas County Utilities. While vital to the community, the water treatment process requires a large amount of energy. Transporting and treating water is the highest energy user and **greenhouse gas emissions** source of all the **municipal** operations.

Water use and the energy demand associated with it can be reduced through behavioral change. There are many behavior-related conservation strategies that can be implemented as first steps toward achieving a more sustainable water resource management system. These types of strategies simply require awareness of the issue and the corrective action, along with personal or organizational desire to be part of the solution. Although Clearwater residents use significantly less water per capita per day (81 gallons) than the national average (88 gallons), water conservation measures can still result in savings. Beyond behavioral changes, there is the installation of water-saving devices in homes and businesses. These low-cost investments produce long-term savings, especially when coupled with reduced need for hot water, which requires a significant amount of energy to produce.

Limiting water used for irrigation is essential to reducing water use. Though it requires some knowledge, planning, and investment, landscaping can be designed to use small amounts of water and irrigation systems can be configured to operate only where and when needed. 🌿 By watering lawns and gardens more efficiently, the U.S. Environmental Protection Agency estimates that Florida residents could save 46 million gallons of water each day, or the daily amount needed to supply every household in Tampa.

As a coastal community, it is also important to consider potential impacts from the forecasted **sea level rise** in Clearwater; among them, flooding and reduced access to drinking water.

Water Conservation

Waterwise Landscapes

Low Impact Development

Water Conservation – Strategies

Section	Strategy Name	Strategies
9.1	Water Conservation	<ul style="list-style-type: none">A. Continue to encourage water conservation in homes, businesses and industries.B. Continue to consider changes to water use regulations and fees on an annual basis.C. Encourage residents and businesses to adopt water conservation standards such as Florida Water Star for existing and new construction.D. Consider developing year-round water restrictions that are more stringent than Southwest Florida Water Management District restrictions.
9.2	Waterwise Landscapes	<ul style="list-style-type: none">A. Use code-based incentives (e.g., accelerated site plan review time) to encourage community members to create landscapes at the same time as new development or redevelopment that integrate water saving measures.B. Promote and facilitate neighborhood-based projects that train residents on Florida-Friendly landscaping practices.C. Partner with neighborhoods and local organizations to recognize existing Florida-Friendly yards and highlight effective and affordable xeriscaping techniques.
9.3	Low Impact Development	<ul style="list-style-type: none">A. Identify and prioritize potential retrofits to city buildings for rainwater capture.B. Create guidance for private property owners to develop and implement rainwater collection plans.C. Increase awareness of co-benefits of low-impact development.D. Consider installations that capture, retain and treat stormwater runoff from parking lots, driveways and roads.



9.1.- Water Conservation



- A. Continue to encourage water conservation in homes, businesses and industries.
- B. Continue to consider changes to water use regulations and fees on an annual basis.
- C. Encourage residents and businesses to adopt water conservation standards such as Florida Water Star for existing and new construction.
- D. Consider developing year-round water restrictions that are more stringent than Southwest Florida Water Management District restrictions.

COBENEFITS

The city has and will continue to encourage water conservation in Clearwater homes, businesses, and industries. The city's Public Utilities department actively educates community members about the availability of water-saving devices such as low-flow toilets and high-efficiency irrigation systems. These devices have been popular in the region and have resulted in significant water savings over the last decade. As a result, the city has a very low usage of water per person. Since the first Clearwater Greenprint plan, the city has continued to progress completing each of the reclaimed water services identified in its Water Supply & Treatment Master Plan.

On an annual basis, the city will continue to consider changes to water use regulation and fees. The assessment will include continued evaluation of options to revise rates for promotion of water conservation. The city will encourage residents and businesses to adopt water conservation standards such as Florida Water Star for existing and new construction and will consider developing



Figure 1.- Painted rain barrels (XXXX)

year-round water restrictions that are more stringent than Southwest Florida Water Management District restrictions.

9.2.- Waterwise Landscapes



COBENEFITS

- A. Use code-based incentives (e.g., accelerated site plan review time) to encourage community members to create landscapes at the same time as new development or redevelopment that integrate water saving measures.
- B. Promote and facilitate neighborhood-based projects that train residents on Florida-Friendly landscaping practices.
- C. Partner with neighborhoods and local organizations to recognize existing Florida-Friendly yards and highlight effective and affordable xeriscaping techniques.

The city will use code-based incentives (e.g. accelerated site plan review time) to encourage community members to create landscapes at the same time as new development or redevelopment that integrate water saving measures such as Florida-Friendly Landscaping principles. Along with incentives, the city will promote and facilitate neighborhood-based projects that train residents on Florida-Friendly landscaping practices. The city will partner with neighborhoods and local organizations to recognize existing Florida-friendly yards and highlight effective and affordable xeriscaping techniques. Community members also have access to rainwater collection and water conservation workshops through Pinellas County.

9.3.- Low Impact Development



COBENEFITS

- A. Identify and prioritize potential retrofits to city buildings for rainwater capture.
- B. Create guidance for private property owners to develop and implement rainwater collection.
- C. Increase awareness of co-benefits of low-impact development.
- D. Consider installations that capture, retain and treat stormwater runoff from parking lots, driveways and roads.

Low Impact Development (LID) is a design approach that emphasizes conservation and use of on-site natural features to protect water quality. Collecting rainwater is a great example of LID. 🌿 By collecting and using rainwater, we can greatly reduce the use of treated water for landscape irrigation. Rainwater collecting systems, especially from roof areas, are easy to install and there are a variety of sizes and styles of rain barrels and cisterns for rainwater storage. Other examples of LID include **bioswales**, rain gardens, green roofs, and more.

The National Resource Defense Council analyzed 17 LID case studies comparing the cost of LID and conventional **stormwater** management practices. In most cases, LID methods were both economically and environmentally beneficial, with capital cost savings ranging from 15 to 80%.

Since Clearwater Greenprint was first created, the city has incorporated LID elements into its Stormwater Drainage Criteria Manual and the development standards it uses for the US 19 and Downtown zoning districts. The Cleveland Streetscape Phase III design will also incorporate LID practices such as integrating stormwater detention into vegetated street areas so that it can be stored temporarily until it can drain naturally instead of diverting it directly into the city's stormwater system.

Looking forward, the city will identify and prioritize potential **retrofits** to city buildings for rainwater capture. Additionally, the city will create guidance for private property owners to develop and implement rainwater collecting plans with a goal of capturing runoff from at least 10% of impervious surfaces, or surfaces that prevent the entry of water (e.g., asphalt, concrete, brick, and stone). The focus of the efforts should be on roof area, but might include installations that capture, retain and treat stormwater runoff from parking lots, driveways and roads. Rainwater collecting systems, in combination with reuse of greywater, which is relatively clean wastewater from baths, sinks or washing machines, will reduce demand for and expense of piped water for landscape irrigation.

As part of the overall sustainable water resources program, integrating LID principles into building and site designs, such as bioswales, rain gardens, and other vegetated areas, will go a long way toward raising awareness of water resource issues. LID also has many non-water saving benefits, including conserving **greenspace** and stormwater retention. The city will work to increase awareness of these co-benefits.



Learn More About Water Conservation:

	<p>Importance of Water Conservation</p>	<p><i>Conservation.</i> United States Department of Agriculture. https://www.usda.gov/topics/conservation.</p> <p><i>Manage Every Drop.</i> American Water Works Association Resources and Tools. https://www.awwa.org/Resources-Tools/water-knowledge/water-conservation.</p>
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		<p><i>Water Conservation.</i> Pinellas County Florida - Utilities - Water Conservation. https://www.pinellascounty.org/utilities/water-conservation.htm.</p>
	<p>Florida Friendly Landscapes</p>	<p>Florida Friendly Landscaping Program, UFIFASFFL <i>Florida-Friendly Landscaping™ Program</i>. Florida Friendly Landscaping. https://ffl.ifas.ufl.edu/.</p>
	<p>Environmentally Friendly Street Design</p>	<p><i>Benefits of Low Impact Development: How LID Can Protect Your Community's Resources.</i> United States Environmental Protection Agency. (2012, March). https://www.epa.gov/sites/production/files/2015-09/documents/bbfs1benefits.pdf.</p>



Photo Credit: Kathleen Beckman


Waste Reduction



PICK UP
TRASH

Clearwater's garbage is collected, transported, then processed at the Pinellas County Waste-to-Energy Facility in St. Petersburg, Florida. While the waste-to-energy process reduces the amount of solid waste deposited in landfills and generates electricity, it also produces **greenhouse gas emissions** from the burning of plastics, tires, and other carbon-based waste materials. 90% of the garbage created in the county is burned through waste-to-energy while 10% is landfilled. The landfilling of material also creates methane, a harmful GHG when produced in excess.

In 2018, Clearwater residents and businesses generated 6.6 million tons of garbage and recycled 9.6 thousand tons of plastic containers, glass bottles, metal cans, mixed paper, and newspaper. Additionally, 3.7 thousand tons of yard waste was collected and repurposed.

Both businesses and consumers can have a large impact on **waste reduction**.  Business can make products using less toxins and packaging while increasing their use of packaging that is recyclable or **compostable**. Consumers can better manage their waste by reusing items, **recycling** properly, composting, and correctly disposing of electronics and other hazardous waste.

We should all do our best to avoid products that generate large amounts of waste and choose to reuse items rather than placing them in the trash. Further sustainable practices include composting at home, recycling properly, and buying products that are made of material that was previously recycled.

Yard Waste Collection

Recycling Program Expansion

Backyard Composting Program

Commercial Composting

Trash to Trends Event

Municipal Waste Reduction Policy

Waste Reduction – Strategies

Section	Strategy Name	Strategies
10.1	Yard Waste Collection	A. Continue to offer yard waste collection to residents, encourage more households to participate, and investigate opportunities for collection of other organic waste such as food waste for composting.
10.2	Recycling Program Expansion	A. Continue to offer recycling services to residents and businesses.
10.3	Backyard Composting Program	A. Continue the virtual Clearwater Creates Compost course and complete an annual compost bin giveaway day
10.4	Commercial Composting	A. Develop a pilot composting program to divert food scraps from landfills and demonstrate the viability of a city-wide program.
10.5	Trash to Trends Event	A. Organize an annual community event for swapping reusable goods to divert reusable goods from the solid waste stream.
10.6	Municipal Waste Reduction Policy	A. Adopt formal waste reduction policy and goals that address ocean-friendly recycling and printing practices. B. Consider development of standards for events held on municipal sites to reduce waste generation, consumption of single-use plastics, and increase recycling by thousands of eventgoers per year.



Photo Credit: City of Clearwater

10.1.- Yard Waste Collection



- A. Continue to offer yard waste collection to residents, encourage more households to participate, and investigate opportunities for collection of other organic waste such as food waste for composting.

In 2010, the city started a residential yard waste program to divert yard waste (i.e. leaves, grass clippings, branches) away from the county waste-to-energy facility and landfill. Instead, the yard debris material was collected and sent to a company that repurposes it into mulch or fuel. The program has reduced operating hours and **solid waste** disposal fees paid by the city's Solid Waste and Recycling department. The city will continue to offer yard waste collection to residents, encourage more households to participate, and investigate opportunities for collection of other **organic waste** such as food waste for composting.

10.2.- Recycling Program Continuation



- A. Continue to offer recycling services to residents and businesses.

The city expanded previous recycling options to include more types of plastic as well as glass. It also launched a single-stream recycling program in 2013 to make recycling more convenient and provided 90-gallon barrels to every single-family home. In the fiscal year that extended from 2016 to 2017, almost 14 thousand tons of material was recycled as opposed to the 6,000 tons in 2009.

In January of 2018, China, which traditionally was the largest importer of the world's recycling - receiving over 30% of all global material, announced that it would not accept any recycling that contained more than 0.05% contamination. In regard to recycling, contamination is anything that is not recyclable - this includes plastic bags, food waste, containers with liquid, Styrofoam, fabric, hoses, wood, paint, scrap metal, etc. 🌿

An audit of Clearwater's recycling stream was also conducted in 2018 and found that the city's recycling ranged from 25-30% contamination. This is a trend that can be seen across the United States, with many cities having a similar contamination rate in their recycling. Contamination can create very hazardous working conditions, as plastic bags and electronics can cause fires in our facilities. Contamination can also cause an entire load of true recyclables to be rejected by the city's processors and then it all must be disposed of as trash. Furthermore, contamination also makes recycling programs costly.

China's essential closure as a market, in addition to improper recycling practices across the U.S., has made recycling very expensive for cities - even more so than taking the material to a landfill or waste-to-energy facility. As a result, cities around the country have decided to end their recycling programs. 🌱 Fortunately, the city of Clearwater remains committed to offering a recycling program to its residents and businesses. The city is actively focusing on improving the quality of its recycling and is educating the public about what is accepted in the city's program. Focusing on waste reduction, first and foremost, is the best course of action - with proper composting and recycling being used as secondary practices to repurpose valuable material.

10.3.- Backyard Composting Program

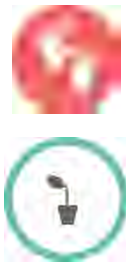


A. Continue the virtual Clearwater Creates Compost course and complete an annual compost bin giveaway day

Organic waste, like food scraps and yard trimmings, release methane when placed within the oxygen-free conditions of a landfill. Methane is an incredibly potent GHG. In 2018, methane produced roughly 9.5% of all human made U.S. GHG emissions. While that percentage is small, methane has a global warming factor that is 25 times greater than carbon dioxide over a 100-year period. 🌱

In an effort to reduce food waste as well as methane generation, the city launched an online "Create Compost" course in late 2020 that encourages people to learn to compost in their backyard. Program participation was incentivized by providing a starter composting bin to residents who enroll in the program and live within City of Clearwater limits.

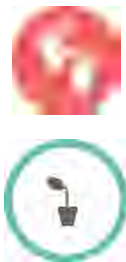
10.4.-Commercial Composting



- A. Develop a pilot composting program to divert food scraps from landfills and demonstrate the viability of a city-wide program.

With the help of local organizations, the city will develop a pilot composting program to divert food scraps from the landfill and demonstrate the viability of a city-wide program. The pilot program will initially target the commercial sector, with preference for high volume generators of food waste including hospitals, schools, hotels, and restaurants for on-site or collection composting programs. Information on participation rates, challenges, benefits, and costs will be tracked and monitored. If demonstrated that the program's economic, environmental and social benefits outweigh the costs, the study may be expanded to collecting and processing food waste from select neighborhoods in the residential sector.

10.5.-Trash to Trends Event



- A. Organize an annual community event for swapping reusable goods to divert reusable goods from the solid waste stream.

Similar to websites like FreeCycle and Craigslist that provide a platform for giving away or exchanging used goods, the city will organize an annual community event for swapping reusable goods. The event, like the Clearwater Community Swap held in downtown in 2010, would serve to divert reusable goods from the solid waste stream and could be combined with an educational and awareness campaign on waste reduction practices.

10.6.-Municipal Waste Reduction Policy



COBENEFITS

- A. Adopt formal waste reduction policy and goals that address ocean-friendly recycling and printing practices.
- B. Consider development of standards for events held on municipal sites to reduce waste generation, consumption of single-use plastics, and increase recycling by thousands of eventgoers per year.

At present, the city promotes payment of bills online. Moving forward, where possible, the city will also transmit important billing documents on recycled paper. Furthermore, the city offers recycling at many of its facilities and has transitioned to paperless (i.e., electronic) systems in most of its departments. In 2018, the Clearwater City Council also unanimously passed Resolution 18-08 to encourage Clearwater businesses to adopt **ocean-friendly** practices. Ocean-friendly businesses choose reusable, paper-based biodegradable, compostable or recyclable materials instead and maintain a clean recycling program. Ocean-friendly practices include not using plastic bags, plastic straws, plastic utensils, Styrofoam, and balloons.

The city's next step will be to adopt a formal waste reduction policy and goals that address ocean-friendly, recycling, and printing practices. Also, standards for events held on **municipal** sites will be developed to reduce waste generation and use of single use plastics as well as increase recycling by thousands of event goers in Clearwater each year. Guidelines for this municipal waste reduction policy will be outlined under the city's Green Procurement Policy (Green Economy strategy #8).



Learn More About Livability:

	<p>Waste Generation</p>	<p>Environmental Protection Agency. <i>Municipal Solid Waste</i>. EPA. https://archive.epa.gov/epawaste/nonhaz/municipal/web/html.</p> <p><i>Waste Reduction</i>. Florida Department of Environmental Protection. https://floridadep.gov/waste/waste-reduction.</p>
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	<p>Recyclable Material</p>	<p><i>Residential Recycling: City of Clearwater, FL. Residential Recycling City of Clearwater, FL.</i> https://www.myclearwater.com/government/city-departments/solid-waste-general-services-department/recycling-services/single-stream-recycling.</p>
	<p>Cost of Recycling</p>	<p>Corkery, M. (2019, March 16). <i>As Costs Skyrocket, More U.S. Cities Stop Recycling.</i> The New York Times. https://www.nytimes.com/2019/03/16/business/local-recycling-costs.html</p>
	<p>Global Warming Potential</p>	<p>Environmental Protection Agency. (2020, September 9). <i>Understanding Global Warming Potentials.</i> EPA. https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.</p>



Photo Credit: Beth Davis



Photo Credit: City of Clearwater

Local Food

Pinellas County is largely developed with only a few small farms within its boundaries. As a result, most food consumed by Clearwater residents comes from other counties, states, and even countries. Transporting this food from far-away locations requires fuel and accounts 14% of the total energy used to get food from farm to market.

A sustainable community provides healthy food for its people. The quality of food, health, and the natural environment are interconnected. The availability of healthy foods directly influences what people eat and therefore their physical well-being. **Local foods** are transported shorter distances from farm to consumer tables, ensuring fresher foods while reducing **greenhouse gas emissions**. Local foods also tend to be less processed and require less refrigeration, which also reduces GHG emissions. Local foods are generally fresher than foods transported long distances. Most locally-produced food also uses fewer toxic chemicals, which can impact community health and the natural environment. Eating a diet that is also rich in plants has a lower carbon footprint and conserves more water than diets with higher amounts of meat. 🌿

While younger generations have grown up without great awareness of where their food comes from, there are many people in Clearwater that have substantial knowledge about small-scale food production that could provide guidance for community gardening. This presents a significant opportunity for learning, experimenting, and knowledge sharing within the community and even bridging cultural and generational divides. Growing food also brings about a greater knowledge of Clearwater’s seasons, soil, and wildlife. This knowledge adds to a greater sense of place and care for our land.

Urban Agriculture Task Force

Local Food Production

Urban Agriculture

Community Garden Grant Program

Climate-Friendly Food Policy

Local Food – Strategies

Section	Strategy Name	Strategies
11.1	Urban Agriculture Task Force	<ul style="list-style-type: none">A. Organize and facilitate a task force to assist in developing and implementing recommendations for expanding local food production.B. Develop partnerships among non-profits, ministries, neighborhood associations, and private interests to increase local food production and commerce, funding opportunities, and pooling of resources.C. Leverage partnerships to obtain grant funding for planning and project start-up activities.
11.2	Local Food Production	<ul style="list-style-type: none">A. Define “local” in the context of food production and the community’s needs.B. Develop a “foodshed program”, “Buy Fresh Buy Local”, in collaboration with regional partners to increase availability of local foods.
11.3	Urban Agriculture	<ul style="list-style-type: none">A. Conduct an inventory of public and semi-public lands that would be suitable for food production for pilot projects.B. Amend the Community Development code to allow and support community gardens and other forms of urban agriculture.
11.4	Community Garden Grant Program	<ul style="list-style-type: none">A. Create a Community Garden Grant Program.
11.5	Climate-Friendly Food Policy	<ul style="list-style-type: none">A. Encourage staff and residents to eat a plant-rich meal at least once a week.B. Integrate climate-friendly food procurement guidelines into the Green Procurement Policy.C. Consider a resolution in support of “Meatless Mondays”.

Photo credit: Kathleen Beckman



11.1.- Urban Agriculture Task Force



COBENEFITS

- A. Organize and facilitate a task force to assist in developing and implementing recommendations for expanding local food production.
- B. Develop partnerships among non-profits, ministries, neighborhood associations, and private interests to increase local food production and commerce, funding opportunities, and pooling of resources.
- C. Leverage partnerships to obtain grant funding for planning and project start-up activities.

A new task force organized and facilitated by the city will assist in developing and implementing recommendations for expanding local food production. The task force will develop partnerships among non-profits, ministries, neighborhood associations and private interests to increase local food production and commerce, funding opportunities, and pooling of resources. Partnerships will increase opportunities for grant funding for planning and project start-up activities. The task force could create an educational campaign to bolster awareness and use of existing initiatives that promote local food consumption.

11.2.- Local Food Production



COBENEFITS

- A. Define “local” in the context of food production and the community's needs.
- B. Develop a “foodshed program”, “Buy Fresh Buy Local”, in collaboration with regional partners to increase availability of local foods.

The Urban Agriculture Task Force should define what is “local” in the context of food production and the community's needs and develop a “**foodshed**” program in collaboration with regional partners to increase the availability of local foods. A “Buy Fresh Buy Local”

program will serve as a model program for strengthening local and regional markets. It will identify and highlight local growers, exposing them to the local Clearwater market. It will also provide general information on the benefits of locally sourced food. The program would create multiple food growing, processing, storing, and selling opportunities, increase awareness, and provide linkages between farmers, consumers and organizations. Developing more local food systems will also serve to create greater **resilience** throughout our community by increasing **food security**.

11.3.- Urban Agriculture



- A. Conduct an inventory of public and semi-public lands that would be suitable for food production for pilot projects.
- B. Amend the Community Development code to allow and support community gardens and other forms of urban agriculture.



COBENEFITS

The city will conduct an inventory of public and semi-public lands that would be suitable for food production for the purpose of identifying sites for food production pilot projects. The city will amend the Community Development Code to allow and support community gardens and other forms of **urban agriculture**. Amendments will address hydroponics or other food production facilities in existing and new buildings.

11.4.- Community Garden Grant Program



- A. Create a Community Garden Grant Program.



COBENEFITS

Getting outside and gardening has known physical, mental, and emotional health benefits. Participating in a community gardens can multiply these benefits. 🌿 From a **sustainability** perspective, community gardens are great because they increase our community’s access to fresh and local produce, improving Clearwater’s carbon footprint by decreasing the travel distance food takes from farm to table. This close proximity also helps to encourage a more resilient food system. Community gardens go even further to enable additional social benefits, as they encourage neighbors to get to know one another and support a sense of place and pride within our community.

To support Clearwater’s existing community gardens and encourage new community gardens to develop, the city of Clearwater will create a Community Garden Grant Program. The mission of the Program will be to advance the city’s sustainability goals by supporting the creation or development of community gardens within city limits.

11.5.- Climate-Friendly Food Policy



COBENEFITS

- A. Encourage staff and residents to eat a plant-rich meal at least once a week.
- B. Integrate climate-friendly food procurement guidelines into the Green Procurement Policy.
- C. Consider a resolution in support of “Meatless Mondays.”

U.S. citizens consume roughly 2.6 times more meat than the global per person average. Greenhouse gas emissions from agriculture have increased by 10.1% since 1990 and animal agriculture is now responsible for more than half of all food related greenhouse gas emissions. Alternatively, diets that are plant-rich, meaning they include more vegetables, fruits, and grains, have lower emissions than diets that mostly derived from animal products. There are also additional health benefit for plant-rich diets, including reducing the risk of heart disease and diabetes. 🌿

As large population centers, cities and counties have a critical role to play. By reducing the amount of animal products purchased with **municipal** funds and serving more plant-rich options on city property and events, we can reduce our indirect greenhouse gas emissions and water footprints, all while offering healthier food. The city of Clearwater will consider a resolution in support of “Meatless Mondays” and will encourage staff and residents to eating more plant-rich meals at least once a week. The city will also integrate climate-friendly food procurement guidelines in its Green Procurement Policy (Green Economy strategy #8).



Learn More About Local Food:

	Meatless Mondays	<p>Editorial Board. (2019, September 22). <i>Give Up Meat (for a Day, at Least)</i>. Bloomberg.com. https://www.bloomberg.com/opinion/articles/2019-09-22/meatless-mondays-small-diet-changes-have-big-climate-effects.</p> <p>Schiermeier, Q. (2019, August 8). <i>Eat less meat: UN climate-change report calls for change to human diet</i>. Nature News. https://www.nature.com/articles/d41586-019-02409-7.</p>
	Benefits of Gardening	<p>Soga, M., Gaston, K. J., & Yamaura, Y. (2017). Gardening is beneficial for health: A meta-analysis. <i>Preventive Medicine Reports</i>, 5, 92–99. https://doi.org/10.1016/j.pmedr.2016.11.007</p> <p>Wang, D., & MacMillan, T. (2013). The Benefits of Gardening for Older Adults: A Systematic Review of the Literature. <i>Activities, Adaptation & Aging</i>, 37(2), 153–181. https://doi.org/10.1080/01924788.2013.784942</p>
	Low Meat Diet Health Benefits	<p>Mayo Foundation for Medical Education and Research. (2020, August 20). <i>It's time to try meatless meals</i>. Mayo Clinic. https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/meatless-meals/art-20048193.</p>



Photo Credit: Dondi Gutierrez

Green Economy

Photo Credit: City of Clearwater

“Greenwashing” is a new phenomenon in which a product or business is advertised as being better for the environment than it really is. As a result, it can be confusing when trying to choose the best item to purchase or business to support. Many people want to support a business that is doing something good for the world, but these businesses can be difficult to identify. Many businesses would consider more sustainable products and practices if they were provided with direction and shown that “going green” is a good financial decision. 🌱

A green economy fosters businesses that help protect, restore, and enhance our natural environment. By supporting green businesses, Clearwater’s economy can thrive and prosper while achieving community goals of generating less waste and pollution, saving energy, restoring green spaces, growing food locally, and conserving water. Green businesses could include companies that develop **renewable energy** or alternative fuels, grow organic produce locally, make products from recycled materials, implement resource conservation practices, or choose to avoid single-use plastics. Traditional companies that modify their practices to be more resource efficient, such as builders who learn to use energy-efficient, environmentally sustainable materials and construction practices, could also meet the definition of green business.

[Green Business Database](#)

[Best Practices Sharing](#)

[Green Job Development](#)

[Green Guide](#)

[Regional Partnerships](#)

[Municipal Green Revolving Fund](#)

[Green Purchasing Policy](#)

Green Economy – Strategies

Section	Strategy Name	Strategies
12.1	Green Business Database	<ul style="list-style-type: none"> A. Develop a database of green businesses and the number and types of green jobs within the city. B. Establish criteria for classifying green businesses and jobs, allowing for flexibility as new developments in green industry and business practices arise.
12.2	Best Practices Sharing	<ul style="list-style-type: none"> A. Recognize businesses that have received LEED, FGBC, Florida Green Lodging Program, and Ocean Friendly certifications on the city website.
12.3	Green Job Development	<ul style="list-style-type: none"> A. Become a member of Florida Local Environmental Resource Agencies (FLERA). B. Connect unemployed and underemployed people to local green job opportunities. C. Partner with existing institutions and organizations like St. Petersburg College and CareerSource Pinellas to offer workforce training programs in green job skills.
12.4	Green Guide	<ul style="list-style-type: none"> A. Partner with tourism-based businesses and other local tourism agencies to create a green guide that promotes local businesses that commit to green practices. B. Increase participation in green business designation programs by the hospitality industry (e.g., the Florida Green Lodging Program).
12.5	Regional Partnerships	<ul style="list-style-type: none"> A. Continue to partner with local and regional organizations and focus on devising new strategies to attract green businesses to the area. B. Leverage economic development centers to spur local economic development in the green business sector.
12.6	Municipal Green Revolving Fund	<ul style="list-style-type: none"> A. Develop a municipal GRF to fund sustainable projects and uphold cost-effective services.

12.7

Green Purchasing Policy

- A. Develop a “Green Purchasing Policy” to encourage the purchase of environmentally preferable products that mitigate the city’s environmental impact.
- B. Create procedures to help departments make the most sustainable purchases possible.

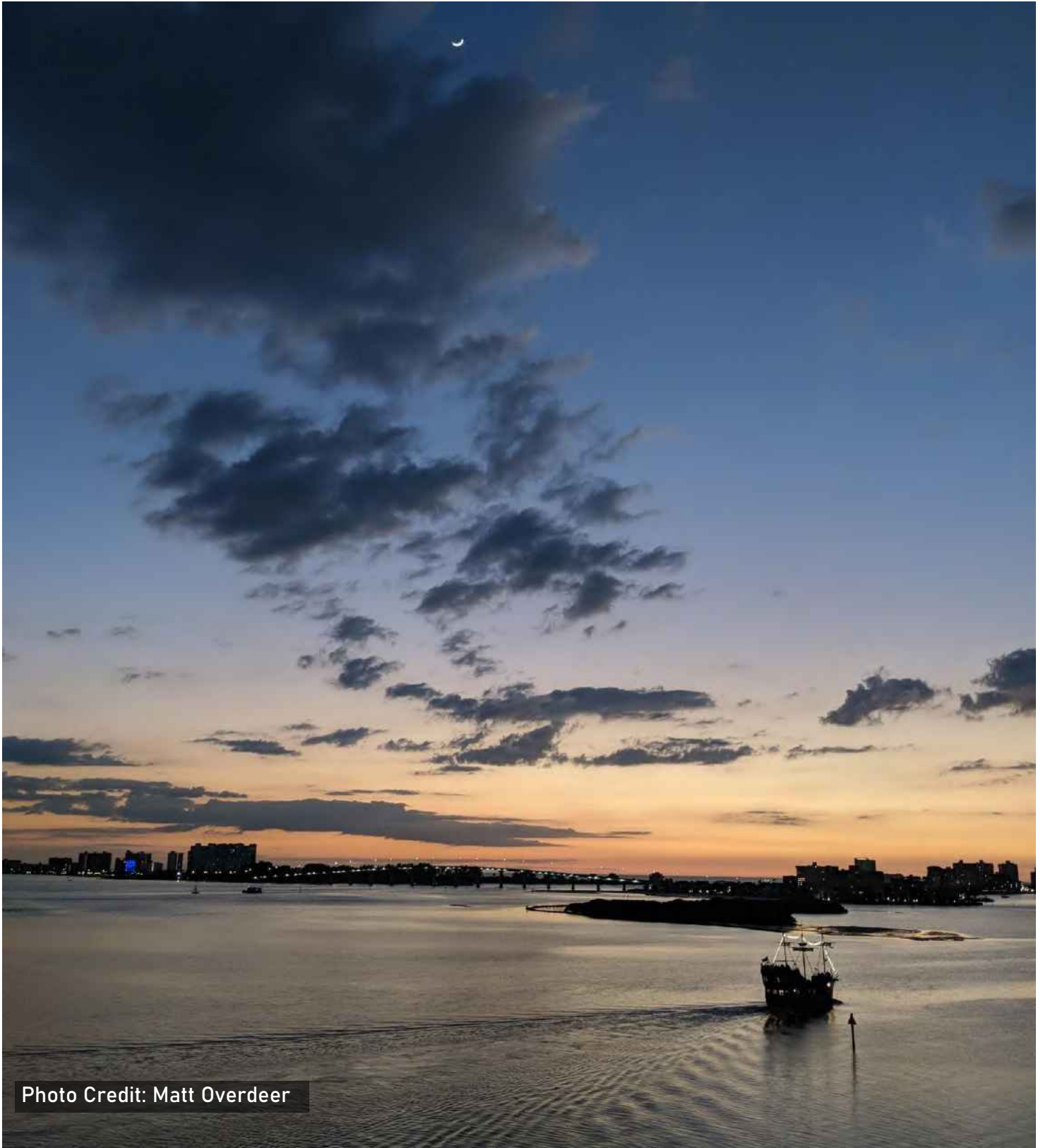


Photo Credit: Matt Overdeer

12.1.- Green Business Database



COBENEFITS

- A. Develop a database of green businesses and the number and types of green jobs within the city.
- B. Establish criteria for classifying green businesses and jobs, allowing for flexibility as new developments in green industry and business practices arise.

The city will develop a database of all green businesses including the number and types of green jobs in Clearwater. The city will need to establish criteria for classifying green businesses and jobs, allowing for flexibility as new developments in green industry and business practices arise. This data can be collected through surveys, online business searches, and phone interviews with the development community and industry organizations. Clearwater can use the business tax receipt application and renewal process to facilitate data collection.

12.2.- Best Practices Sharing



COBENEFITS

- A. Recognize businesses that have received LEED, FGBC, Florida Green Lodging Program, and Ocean Friendly certifications on the city website.

The city Sustainability & Resilience website will recognize businesses that have received green certifications from Leadership in Energy and Environmental Design (LEED), the Florida Green Building Coalition (FGBC), the Florida Green Lodging Program, and Ocean Allies certified Ocean Friendly. The city will also develop a system to recognize and profile other businesses that are taking steps to become more sustainable and resource efficient

without pursuing certifications. The profiles will highlight best practices and the environmental, economic, and social benefits of different companies' efforts.

12.3.- Green Job Development



- A. Become a member of Florida Local Environmental Resource Agencies (FLERA).
- B. Connect unemployed and underemployed people to local green job opportunities.
- C. Partner with existing institutions and organizations like St. Petersburg College and CareerSource Pinellas to offer workforce training programs in green job skills.



COBENEFITS

In conjunction with generating green jobs locally, the city will also work to connect people who may be unemployed or underemployed to these new opportunities. The city will partner with existing institutions and organizations, like St. Petersburg College and CareerSource Pinellas, to offer workforce training programs in green job skills, such as renewable energy, energy efficiency, waste reduction, food production, and green building. The program will be implemented in tandem with programs and initiatives that are available in Clearwater to ensure that training results in job placement.

12.4.- Green Guide



- A. Partner with tourism-based businesses and other local tourism agencies to create a green guide that promotes local businesses that commit to green practices.
- B. Increase participation in green business designation programs by the hospitality industry (e.g., the Florida Green Lodging Program).



COBENEFITS

Many businesses in Clearwater rely on tourism, including local hotels, restaurants, real estate rentals, tour operators, and visitor travel outlets. People now want to spend money

at businesses that align with their personal values. 🌱 As a result, the city will partner with these tourism-based businesses and other local tourism agencies to create a green guide that promotes local businesses that have made a commitment to green practices. This partnership can also create participation in green business designation programs for the hospitality industry, such as the Florida Green Lodging Program, and for other types of businesses that qualify under programs such as Pinellas County's Green Business Partnership. The city may choose to create its own designation criteria or registration program in implementing this strategy.

12.5.- Regional Partnerships



COBENEFITS

- A. Continue to partner with local and regional organizations and focus on devising new strategies to attract green businesses to the area.
- B. Leverage economic development centers to spur local economic development in the green business sector.

Economic development centers can be leveraged to spur local economic development in the green business sector. Collaborations are being developed at many levels in the Tampa Bay region, from local municipalities, including the city, up to regional levels like the Tampa Bay Partnership which encompasses eight counties.

In 2015, Clearwater Business SPARK was formed to provide a variety of services to developing businesses, including educational resources, mentoring programs, and networking opportunities. The city's Economic Development department also directs businesses and entrepreneurs to additional facilities and programs, such as the Tampa Bay Innovation Center (TBIN). TBIN is committed to cultivating entrepreneurs and developing technology startups. Other regional organizations include the Tampa Bay Entrepreneur Center, Tampa Bay Wave, USF Connect, and Pasco SmartStart. The city will also become a member of Florida Local Environmental Resource Agencies (FLERA), an organization formed in the 1960s that aims to enhance communication, education, and advocacy for Florida local environmental protection efforts. The city will continue to partner with local and regional organizations and will focus on devising new strategies to specifically attract green businesses to the area.

12.6.- Municipal Green Revolving Fund



COBENEFITS

- A. Develop a municipal GRF to fund sustainable projects and uphold cost-effective services.

A Green Revolving Fund (GRF) is an internal funding pool that is reserved for financing energy efficiency improvements, renewable energy projects, and other **sustainability** projects that produce a cost savings. A portion of those savings are then used to replenish the fund and enable an organization to reinvest in future sustainable projects that produce similar savings. Thus, a revolving source of capital is generated to facilitate more green projects and financial savings. The city will develop a **municipal** GRF to fund sustainable projects and uphold cost-effective services. The Better Buildings Solution Center, a program of the U.S. Department of Energy, offers a number of tools and example programs that the city can use to form its own GRF.

12.7.- Green Purchasing Policy



- A. Develop a “Green Purchasing Policy” to encourage the purchase of environmentally preferable products that mitigate the city’s environmental impact.
- B. Create procedures to help departments make the most sustainable purchases possible.

In order to ensure that the city is purchasing goods and services that best align with the city’s environmental values and sustainability goals, the city will develop a Green Purchasing Policy to encourage the purchasing of environmentally preferable products that improves the city’s overall impact on the environment. Preferred products or services are those that have the most positive effect on human health and the environment when compared with competing products or services that serve the same purpose. When considering a product, the entire life cycle of that product should be assessed. In addition to this policy, the city will create procedures to help departments make the most sustainable purchases.



Learn More About Green Economy:

	<h3>Business Case for Sustainability</h3>	<p>Whelan, T., & Fink, C. (2017, June 1). The Comprehensive Business Case for Sustainability. https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability.</p>
	<h3>Impact of Personal Values on Purchasing Patterns</h3>	<p>Vinson, D. E., Scott, J. E., & Lamont, L. M. (1977). The Role of Personal Values in Marketing and Consumer Behavior. <i>Journal of Marketing</i>, 41(2), 44-50. https://doi.org/10.1177/002224297704100215</p> <p>Chaudhry, D. A., & Follow. (2014, September 8). <i>Does Culture Influence Our Consumer Behavior? If so, How?</i> LinkedIn. https://www.linkedin.com/pulse/20140908174823-354556068-does-culture-influence-our-consumer-behavior-if-so-how/.</p>



Photo Credit: City of Clearwater

Concluding Remarks

Clearwater's most important assets are its people.

Residents, visitors, business owners, and city staff - each have a role to play in making Clearwater a thriving sustainable community for all.

On our journey towards sustainability, we will each learn about and experience new technologies, world events, and perspectives. Changes will happen and our community must remain adaptable and innovative. The Clearwater Greenprint 2.0 is a living document, intended to grow and change to meet the needs of the city as a whole. The city is committed to monitoring Strategy progress and updating the plan to reflect advancements and additions, but it will need your help to succeed.

How to make an impact:

1. **VISIT OUR WEBSITE**, myclearwater.com/sustainability, to find additional resources to live a more sustainable lifestyle.
2. **STAY INFORMED** and sign up to be notified of news and events by joining [the city's email list](#).
3. **SHOW UP** to city meetings and events. Participating in City Council meeting or learning more at a city-sponsored educational event can greatly support the city's sustainability efforts.
4. **SIGN UP** to volunteer with a local non-profit organization or to join a city clean-up event.
5. **START A CONVERSATION** about sustainability with your family and friends. Increasing the awareness in our community is one of the greatest things we can do to make a difference.



Photo Credit: City of Clearwater

Appendix I.- Strategies No Longer Included

Waste Reduction – Pay-As-You-Throw

A Pay-As-You-Throw program was considered by the Solid Waste/Recycling department to reduce the amount of material sent to the Pinellas County Waste-to-Energy facility and landfill. It was decided that a more effective method of reducing waste would be to implement a single-stream recycling program. This decreased the need to collect garbage from twice a week to once a week. The city has seen 20% reduction in trash production since the program was introduced.

Commercial Recycling

Since the first edition of Clearwater Greenprint in 2011, the city of Clearwater's Solid Waste and Recycling Department has provided education to commercial businesses in the forms of waste audits, educational posters, and presentations. This Clearwater Greenprint also suggested that the city should propose an ordinance to mandate recycling by commercial establishments. However, the global recycling market is vastly different than it was 10 years ago and mandating commercial recycling is not feasible for the city at this time. To re-establish robust and secure recycling programs, the city is focusing on improving the quality of its residential and commercial recycling programs rather than solely the quantity of materials at this time.

Appendix II.- Implementation & Measurement Methodologies

Purpose

This appendix presents Implementation and Measurement Methodologies for tracking progress on Strategies. It also details other technical information gathered and used throughout the report alongside assumptions made in the measurement of Clearwater Greenprint 2.0 Strategies. Each Strategy's Implementation and Measurement Methodologies is assigned a timeframe for completion based on the section 3, Target Timelines.

Assumptions

During the creation of Clearwater Greenprint 2.0, Clearwater staff serving on the Sustainability and Resilience Committee were asked to fill out a short survey to better understand the city's priorities and capacities for improving Clearwater's response to climate change in the next 30 years.

The survey consisted of the following questions:

1. Which of these activities do you think will have the greatest positive impact on the city of Clearwater? (Choose your Top 3)
2. Using the scale below, rate the cost and benefit of public outreach and education activities related to sustainability.
3. Using the scale below, rate the cost and benefit of training certain staff on sustainable practices.
4. Using the scale below, rate the cost and benefit of updating codes and other regulating documents (not including implementation).
5. Using the scale below, rate the cost and benefit of upgrading, rehabilitating, or replacing any municipal infrastructure or equipment to a more energy efficient or environmentally friendly standard.
6. Using the scale below, rate the cost and benefit of coordinating programs and outreach in collaboration with local and regional agencies/organizations.
7. Using the scale below, rate the cost and benefit of applying for and managing grants.
8. Please select the primary activity you are involved in.

Staff’s responses to these questions are summarized in Table II.1 and Figure II.1 below. Staff’s input and budget documentation were used to estimate the costs and benefits of strategies based on their Core Topics.

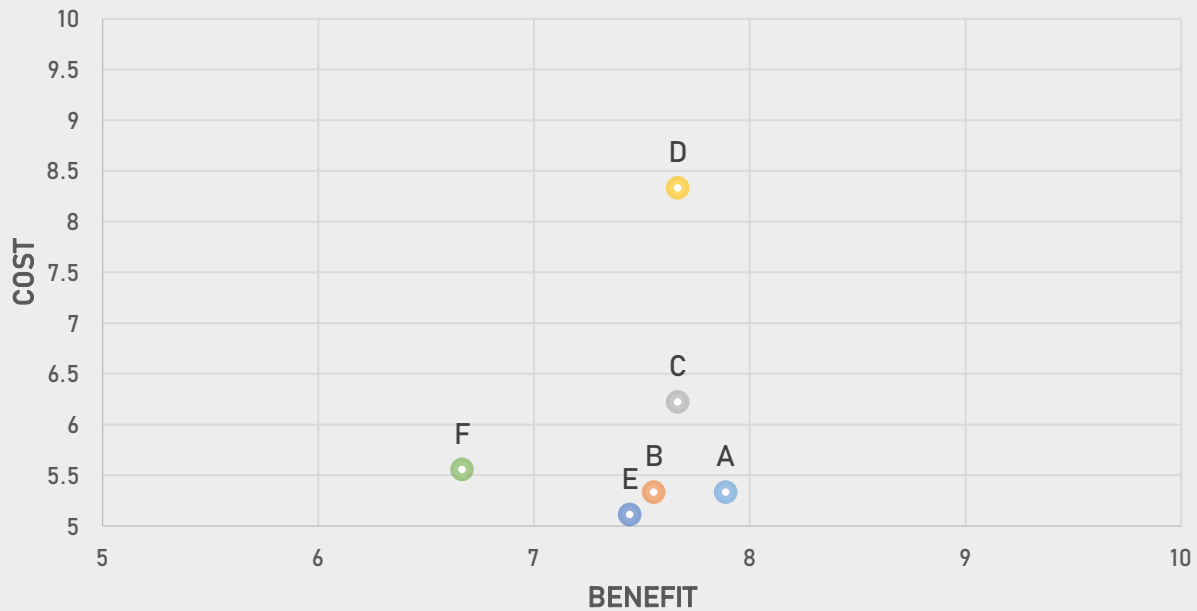
The Implementation and Implementation and Measurement Methodologies contained in this report are based on the following overarching assumptions:

- Annual budget allocations to various departments will remain the same,
- The relative cost and benefit rating assigned by staff to each action reflects the typical scope for their department or division, and
- Staff will review the recommendations contained in this Appendix and draft a final budget for the accomplishment of the monitoring methodologies contained within this report.

In addition to the foregoing assumptions and limitations, Implementation and Measurement Methodologies outlined in all Core Topics may necessitate legal review which should occur prior to any budgetary appropriations, applications for grant funding, or any similar expenditure associated with the recommendations set forth in this document. To ensure the health and safety of city staff and attendees, all activities involving gatherings of people described in this document will abide by pertinent health advisories in effect in addition to applicable state, local, territorial, or tribal health and safety laws, rules, and regulations.

Table II.1.- Top Priority Areas Ranked by Vote Count		
Priority Area	Rank	Count
Public Outreach and Education	1	7
Green Energy and Buildings	2	6
Transportation and Accessibility	3	6
Planning and Building	4	3
Water Conservation	5	3
Waste Reduction	6	1
"Green" Economic Development	7	1
Easy Access to Food Locally	8	0

Figure II.1.- Average Cost/Benefit for Each Activity Type



- A** Public outreach and education activities related to sustainability.
- B** Training certain staff on sustainable practices.
- C** Updating codes and other regulating documents (not including implementation).
- D** Upgrading, rehabilitating, or replacing any municipal infrastructure or equipment to a more energy efficient or environmentally friendly standard.
- E** Coordinating programs and outreach in collaboration with local and regional agencies/organizations
- F** Applying for and managing grants.

Figure II.2.- Administrative and Social Strategies



Education and Awareness

The following section provides the Implementation and Measurement Methodologies for Education and Awareness Core Topic Strategies. Categorization of the relative cost and benefit of the Education and Awareness Core Topic Strategies is provided in **Figure II.2.- Administrative and Social Strategies**. Strategies in this graphic represent a grouping of Strategies considered to be within similar range of cost to implement. In addition to Education and Awareness, the graphic includes strategies from Green Energy and Buildings, Livability, Local Food, and Green Economy.

Strategies within the Education and Awareness Core Topic are largely limited by budgetary allocation and staff hours and consist of programming and data management. The proposed strategies assume the city of Clearwater's willingness to establish programs, create and maintain databases, launch information collection campaigns, and take other necessary measures to implement the actions described in this section. Feasibility of implementation would be established after budget and hour allocation is determined by staff. Once this occurs, metrics such as number of attendees, number of registrants, attendee demographics, number of downloads, clicks, or website traffic may be used to gauge the success of activities.

5.1 Mission Statement *(Short-Term)*

- Write or re-write mission statement for city of Clearwater to include environmental commitment.
- Incorporate the mission statement into the local government's comprehensive plan.

5.2 Community Education *(Short-Term)*

A. Promote education through publications and public events

- Set timeline goals and publication schedules for commencement of reports and conduct workshops.
- Layout publication schedule and publication format.
- Workshops should be held online, quarterly, covering a two-year schedule. Upon completion, the workshop cycle should repeat.

B. Provide pertinent local GIS and other data online

- Develop and maintain a geographically referenced databases of buildings (including building age), gas transmission lines, wastewater lines, and septic tank locations.
- Use these data to inform and direct implementation programs.

5.3 Community Outreach *(Short-Term)*

A. Develop new events that engage the community in sustainability through fun and innovative activities

- New events shall occur no less than two times per year.

B. Continue to host an annual sustainability conference

- The conference shall be held annually.

5.4 Youth Programs *(Short-Term)*

A. Continue youth education programs to educate students about resource conservation

- Earmark funding for course/program design and implementation for youth education programming.

B. Further current efforts by coordinating with the Pinellas County School Board

- Work with Pinellas County or draft and present an ordinance to be ratified by the School Board directing creation of a School Sustainability Committee.
- Include purpose and direction on how the Committee will make changes in curriculum or after school programming.

5.5 Municipal Staff Education *(Short-Term)*

A. Organize ongoing educational workshops and presentations to keep staff and elected officials up to date on sustainability initiatives and opportunities

- Integrate programming with Strategy 5.1 and use the same materials and metrics with some modification to limit duplication of efforts.

B. Integrate sustainable practices into daily operations and serve as ambassadors and educators about city sustainability programs and projects in daily interactions with the public

- Designate staff to spend at least one hour per month participating in these activities.
- Appropriate staff will complete one continuing education unit (CEU)-approved course in green buildings on a bi-annual basis.
- Provide re-usable mugs or water bottles to all employees.
- Include the city's commitment to the environment in new employee orientation.

5.6 Continuous Reporting *(Short-Term)*

A. Continuously measure, evaluate, and address both mitigation and adaptation progress in accordance with ICLEI Local Governments for Sustainability, USA Five Milestones for Climate Mitigation and Adaptation

- Prepare a reporting calendar schedule and incorporate it into the Strategy 5.1 reporting schedule.

5.7 Resilience Planning and Outreach *(Short-Term)*

A. Form a Resilience Committee comprised of city staff and community partners

- The Resilience Committee shall be comprised of representatives from departments involved in planning and zoning, utilities, and transportation.

B. Initiate a vulnerability assessment throughout the Clearwater area to identify the factors most at risk to climate change stressors

- Coordinate this strategy with Strategy 5.1. and report on committee structure as well as the communications program within one year following establishment.

C. Formulate a Climate Action Plan to address each of the vulnerabilities identified and further direct the city's resilience work

- The Sustainability and Resilience Committee will assess risks using climate change data sources such as IPCC sea level rise scenarios and advanced hurricane planning incidence and intensity under climate change/global warming scenarios.
- The city of Clearwater will develop digital mapping and modeling capability either in-house or through an outside consultant to assess risk in 1-2 years.
- In the 1-2 years adoption of Clearwater Greenprint 2.0, the city of Clearwater will develop a Climate Action Plan.

Green Energy & Buildings

The following section provides the Implementation and Measurement Methodologies Green Energy and Building Core Topic Strategies. Refer to **Figure II.2.- Administrative and Social Strategies** for the categorization of the relative cost and benefit of each Green Energy and Buildings Core Topic Strategy. The Green Energy and Buildings Implementation and Measurement Methodologies pivots on several assumptions, mainly that the approval process for each project is informed by its financial feasibility ("project pro-forma") as well

as fiscal impact analyses under two conditions: one with the proposed climate change mitigation measure and one without. Furthermore, it is assumed that prior to undertaking other actions, the city of Clearwater will first conduct an inventory of municipal buildings and assess their conditions, and that the city has agency to make improvements to the municipal buildings they seek to retrofit. Additionally, following completion of the building inventory, the city will set targets for retrofits or new construction and assign specific costs.

Costs and subsequent budgetary appropriations may be based on a wide variety of metrics including the following publicly available data sources:

- Pinellas County Property Appraiser Records,
- U.S. Census Data, and
- American Community Survey Estimates.

6.1 PACE – Energy Finance Program *(Short-Term)*

A. Partner with public and private organizations to establish an energy finance program

- Form a special district or financing district to enable Property Assessed Clean Energy program (PACE) partnerships on non-residential properties.
- Staff will use the U.S. Census-based residential characteristics inventory to assess costs and average level of energy efficiency upgrades needed per residential unit.
- Staff will set the financial amount the city will provide to seed and support building rehabilitation finance.

6.2 Resource Conservation Program *(Short-Term)*

A. Develop and implement a program that performs comprehensive energy evaluations, recommends conservation practices and upgrades, provides basic information on financing options, and measures the environmental and economic benefits after implementation

- Coordinate with electric and water utilities to enhance, supplement existing programs.
- Measure monthly kilowatt hours (KwH) or gallons per day (GPD) usage before and after conservation implementation at the user level.
- Track historic usage and set future consumption targets.

6.3 Incentives for Upgrades *(Short-Term)*

A. Implement a “feebate” program

- Coordinate this Strategy with Strategies 6.1 and 6.2.
- Track, measure, and record annual funding occurring in the feebate program.

6.4 Performance Standards *(Short-Term)*

A. Encourage and assist developers in incorporating green building practices and standards into their design, construction, maintenance, and operations plans

- Strengthen, enhance, update, and upgrade Comprehensive Plan and land development regulations applicable to new construction.

B. Encourage the use of national building performance standards

- Provide funding and PACE options for retrofits in redevelopment.

6.5 Natural Gas Conservation *(Short-Term)*

A. Continued offering of programs by Clearwater Gas System to increase the number of residents and businesses using natural gas to power appliances

- Provide funding incentives for new hookups.
- Update digital system maps for gas availability.
- Determine program for system expansion if warranted.
- Determine if there are efficiency ratings and retrofit standards and potential for existing gas appliances similar to home heating A/C units.
- Provide natural gas conservation tips to customers.

6.6 Local Power Generation *(Medium-Term)*

A. Request proposals from private companies to design, build, install and operate small-scale energy generation facilities that can utilize available resources to generate electricity and/or heat

- Enable zoning laws to allow small scale solar facilities on site, or integrated with new construction.
- Identify suitable sites of 400 acres to accommodate small scale solar plants.

6.7 Renewable Energy Challenge *(Short-Term)*

A. Preparation of a marketing and outreach campaign challenging property owners to install renewable energy technologies

- Coordinate implementation with Strategy 5.1 and 6.1.

B. Support code changes that remove obstacles to installing renewable energy systems

- Identify code-based obstacles.
- Validate obstacles with energy providers.
- Develop a plan to revise municipal codes.

C. Provide information to assist residents with purchasing renewable energy equipment

- Identify renewable energy equipment suppliers.
- Verify and certify suppliers through Chamber of Commerce
- Help fund an information program and include verified suppliers in workshop and outreach presentations.

D. Include information about local, state, and federal incentives, economic and environmental benefits, contact information for local contractors, financing options

- See Strategy 6.7.C.

E. Create a website that allows the Clearwater community to submit property information and view addresses where renewable energy systems have been installed

- Obtain client lists from local renewable energy suppliers.

6.8 Renewable Energy Finance *(Short-Term)*

A. Investigate financing mechanisms for expanding renewable energy generation

- Coordinate with Strategy 6.1 and include information in Strategy 5.1.

B. Launch a solar co-op program in which residents can coordinate bulk purchase of PV systems for reduced price

- Identify sites for a solar plant with grid access for existing or new development.

6.9 Energy Efficient Streetlights *(Short-Term)*

A. Request conversion of all Duke Energy-owned electric streetlights to LED

- Negotiate a municipal rate reduction or rebate to finance LED streetlight conversion.
- Coordinate with Clearwater-owned public lighting.

6.10 Municipal Energy Management Program and Policy *(Short-Term)*

A. Partner with a third-party company to create an energy savings program including staff training and web-based energy consumption tracking, and benchmarking for municipal buildings

- Develop public database of municipal buildings to provide comprehensive energy consumption data.

B. Develop a formal energy management policy for city buildings and operations

- Within 1-3 years of commencement, conduct engineering assessment of all municipal buildings to evaluate energy savings potential from windows, insulation, lighting, ventilation, temperature, plant/AC efficiency ratings/harmful refrigerant use, and water usage.
- Design comprehensive custom energy management program.
- Create an Energy Manager position to administer the formal energy management policy and related municipal programs such as that described in Strategy 6.12.

6.11 Municipal Re-Commissioning Plan *(Short-Term)*

A. Establish a re-commissioning plan to inspect, test, and make proper adjustments at regularly scheduled intervals to optimize the performance of its buildings and equipment

- Coordinate with Strategy 6.10.

B. Create an LED lightbulb conversion program for city buildings

- Inventory all light fixtures in all city buildings by indicating the type of bulb or fixture.

C. Train key staff that do not have the appropriate skills to test the equipment

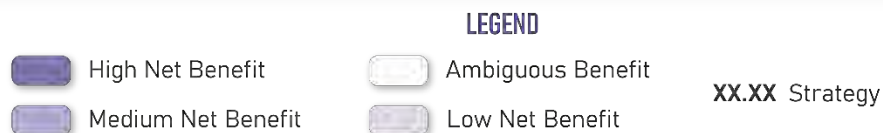
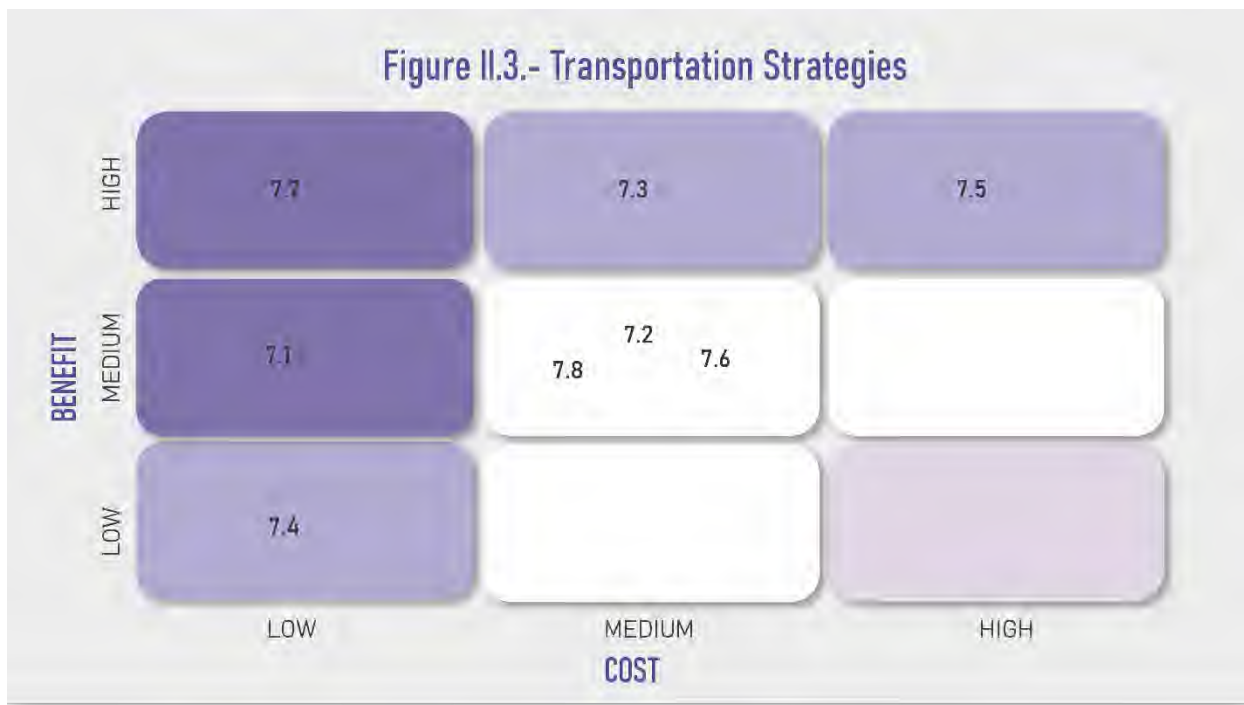
- Design a preventative maintenance program to replace existing non-LED bulbs (and fixtures if necessary) with LEDs.
 - Estimate the total cost of replacement and track total cost saving from reduced operational costs following LED installation for 10 years.
- D. Identify any environmentally harmful refrigerants in its operations and phase them out as part of its re-commissioning process (see Green Energy and Buildings Strategy #11)**
- Coordinate implementation with Strategy 6.10.

6.12 Municipal Performance Standard *(Short-Term)*

- A. Build all new municipal facilities to a nationally recognized high-level performance standard (e.g., Leadership in Energy and Environmental Design, Florida Green Building Coalition, and Energy Star)**
- Update and modernize building code standards. Include resiliency and performance standards which may exceed national standards due to specific local conditions such as humidity, sun, or salt.

6.13 Resilient Infrastructure *(Short-Term)*

- A. Existing and new infrastructure complies with comprehensive resilience guidelines and the recommendations provided by the Tampa Bay Regional Resiliency Coalition**
- Coordinate implementation with Strategy 6.10.
- B. Prioritize resilience upgrades in capital and operational budgets**
- Estimate capital cost of resilience upgrades.
 - Estimate damage avoidance over 20 years and operational efficiency cost savings from resilience upgrades.
- C. Create educational materials and events for the public to improve the adaptive capacity of their own buildings, structures, and properties.**
- Coordinate with Strategies 5.1 and 5.2.
- D. Explore grant opportunities for municipal photovoltaic and energy storage for critical building infrastructure (e.g., emergency shelters, schools, cooling centers, and nursing or assisted-living homes) to protect vulnerable populations and reduce GHG emissions**
- As part of any update to the city's Comprehensive Plan, identify two medium to large scale inundation, drainage, and flood water storage projects which will protect surrounding structures from floods; storage projects may be passive recreational areas when dry.



Transportation

The following section provides the Implementation and Measurement Methodologies for Transportation Core Topic Strategies. Categorization of the relative cost and benefit of the Transportation Core Topic Strategies is provided in **Figure II.3.- Transportation Strategies**. For Implementation and Measurement Methodologies in this Core Topic it is assumed that sufficient permissions to alter county, state, and federal roads will be attained from the appropriate governing agencies and that work carried out will be consistent with other governing documents, including the city’s existing Complete Streets Plan. Major limitations to implementation of Strategies within this Core Topic are eliciting widespread behavioral change for use of alternative modes of transportation to achieve Vehicle Miles Travelled (VMT) reduction targets, and anticipated major structural changes, including adoption of electric vehicles, remote work, or autonomous vehicles. These changes affect the goals identified by Clearwater Greenprint 2.0 in many ways, including by reducing gas tax revenue used for roadway infrastructure improvements, and changing the metrics (e.g., VMT) by which greenhouse gas emissions are typically measured.

7.1 Vehicle Mile Reduction *(Short-Term)*

A. Launch a VMT reduction campaign

- Build a representative database of total VMT over time on municipal streets based on summation of selected municipal traffic counts.
- Illustrate average annual VMT growth rates.
- Undertake program of study to reduce annual VMT growth.
- Adopt strategies; implement plan.
- Measure and track annual change in VMT.

B. Reduce city-wide VMT by 10%

- Specify how VMT is calculated from mass transit or carpool modes as well as reductions due to trends in remote work.

C. Launch an internal VMT reduction program for employees

- Specify employee rules and standards for work from home. Reference San Mateo County's Office of Sustainability "Telework & Flex-Schedules Toolkit" as a resource for support and guidance.
- Build out IT capacity to support remote work.

7.2 Complete Streets Policy *(Short-Term)*

A. Complete actions outlined in the Complete Streets Plan.

B. Healthy street design is local government policy

- Implement the 12 Steps of Walkable Communities per Florida Department of Transportation Pedestrian and Bicycle Program.
- Implement Strategies identified in the Street Design Guidelines for Healthy Neighborhoods from Walkable Communities, Inc.

7.3 Local Transit Improvement *(Short-Term)*

A. Continue to advocate for more funding to increase bus and trolley stops on existing routes

- Develop a plan for bus/trolley improvement needs and opportunities. Assign funding requirements. Develop a cost share funding plan to build out improvements over a 10-year time frame.

B. Collaborate with the Pinellas Suncoast Transit Authority (PSTA) to improve bus scheduling

C. Explore and encourage alternative forms of public transportation (e.g., Bus Rapid Transit, carpool, car share, bike share, scooter share, and ferry services)

- Enhance mobility-related zoning and municipal codes to accommodate alternative modes of transportation regarding parking and land use.
- Implement a mobility impact fee to replace transportation impact fees through year five of implementation.

7.4 Low Emission Vehicles *(Short-Term)*

A. Support construction of infrastructure for low-to-zero emission vehicles

- Develop charging station installation fees to assess total program costs to provide for EV fleet.

B. Continue to install public EV charging stations

C. Change the Community Development Code to require charging stations for electric vehicles for new development and adopt “EV ready” policies

- Determine the percentage of residents driving electric/hybrid or low emissions vehicles.

D. Host a minimum of one event per year at which the public is encouraged to try an electric vehicle

- Partner with nearby auto sales dealerships or the Southern Alliance for Clean Energy for an electric vehicle test drive event.

E. Partner with an organization such as the Sierra Club or Southern Alliance for Clean Energy to create an event that encourages residents and businesses to shift to hybrid electric vehicles

- Coordinate implementation with Strategies 5.1 and 5.2.

7.5 Municipal Fleet Conversion *(Medium-Term)*

A. Adopt a Green Fleet Policy to govern use and procurement of fleet vehicles

- Assign Green Fleet program development to the Fleet Manager.
- Develop the Green Fleet Policy within two years of the Greenprint 2.0 plan adoption.
- The Green Fleet Policy or Program will include the following: Inventory of fleet, identification of repair/replace cycle, development of fleet replacement costs, and identification of time frames for replacement.
- Coordinate with the current policy study being undertaken by the city.
- Fleet transition should be completed by 2035 or 2050 per the current assessment.

B. Investigate financing mechanisms to offset cost of fleet conversion (e.g., vehicle leasing and federal tax credit)

- Within three years following adoption of Clearwater Greenprint 2.0, identify replacement cost and review finance options with Financial Advisor.

C. Increase the share of municipal light-duty vehicles running on alternative fuels

- All municipal light-duty vehicles will run on alternative fuels by 2040.

7.6 Congestion Management *(Medium-Term)*

A. Manage traffic congestion by considering alternative intersection designs

- Coordinate implementation with Strategies 7.1, 7.2, and 7.3.

B. Continue to include roundabouts in new road construction projects

- Coordinate implementation with Strategies 7.1, 7.2, and 7.3.

C. Consider use of other congestion management practices

- Coordinate implementation with Strategies 7.1, 7.2, and 7.3.

7.7 Municipal Telecommuting Policy *(Short-Term)*

A. Increase the alternative work schedule and telecommuting opportunities available to city workforce

- Coordinate implementation with Strategy 7.1.
 - Support alternative work schedule and telecommuting opportunities by expanding IT capability to include secure remote access for employees to internal city networks.
- B. Encourage virtual meetings in lieu of in-person meetings requiring travel by automobile whenever possible**
- State policy requires some public meetings to be in-person only; lobby to update the state mandate for in-person meetings.

Livability

The following section provides the Implementation and Measurement Methodologies for Livability Core Topic Strategies. Categorization of the relative cost and benefit of the Livability Core Topic Strategies is provided in **Figure II.2.- Administrative and Social Strategies**. Similar to the Green Energy and Buildings Core Topic area, Strategies within the Livability Core Topic area pivot on the assumption that the approval process for each project is informed by its financial feasibility (“project pro-forma”) as well as fiscal impact analyses under two conditions: one with the proposed climate change mitigation measure and one without. In addition to this, it is also assumed that the city will measure equity and inclusion.

Though this consideration applies to all Strategies within the Clearwater Greenprint 2.0, issues of equity and inclusion are particularly relevant for those of the Livability Core Topic area. This is because most of the area’s Strategies involve improvements that typically occur in small geographic areas (e.g., new construction and building retrofits) and are likely to affect historically under-resourced populations. To measure equity, the city will define measures that quantify the qualitative aspects of livability. To this end, factors such as aesthetics, and emotion may be monitored by way of routine survey of the city’s stakeholders (e.g., residents, workers, and business-owners). Surveys may ask stakeholders to rate their levels of satisfaction with city services, or the physical condition of the built environment.

8.1 Development Incentives *(Short-Term)*

A. Continue to provide for mixed-use development in livable, transit-oriented neighborhoods

- Coordinate implementation with Strategies 5.6, 6.4, 6.6, 6.8, and 6.12.

B. Improve regulation, investment, and incentives that will fulfill residents’ household and transportation needs

- Coordinate with Strategy 6.1 and evaluate and specify finance mechanism such as revolving loan or letter of credit support amounts city will provide.

8.2 Property Revitalization *(Short-Term)*

A. Encourage restoration and reuse of buildings as an alternative to demolition

- Strengthen and update local codes to shift redevelopment toward these goals.
 - Where demolition is unavoidable, encourage deconstruction of buildings and subsequent reuse and recycling of building materials.
- B. Maintain the historic designation process to ensure that historically significant properties and neighborhoods remain stable, well-maintained, and available for long-term use**
- Measure potential savings from historic designation.
 - Consider conducting a cost benefit analysis through literature search or direct analysis to determine if there are property value increases due to historic designation and carbon footprint savings from rehabilitation vs demolition and reconstruction.
 - Conduct pro-forma analysis and fiscal impact analysis to determine profitability and fiscal revenue conditions of proposed project.
 - Employ Public Private Partnership (P3) mechanisms to help assure minimum profitability standards to help assure project financial viability.
 - Employ tax increment financing (TIF) capture, synthetic sales tax, or other mechanisms to help offset costly capital requirements; thereby helping assure project financial viability.
- C. Continue to implement a brownfield program and identify incentives such as tax credits for brownfield and greyfield development**
- Coordinate implementation with Strategy 6.1.
- D. Consider partnership with an educational institution or non-profit organization to demonstrate the benefits of compost in a pilot program or through a publication**
- Identify 10 pilot compost sites and provide bins, scales and operational instruction to weigh and measure compost material by volume to illustrate weight and volume metrics of landfill savings per home.
 - Track data and report in educational outreach events.
 - Pursue financial incentives to offset some of the cost of brownfield remediation and promote reuse of land.
 - Where remediation is needed, consider the addition of compost as an amendment to disturbed land.

8.3 Diverse Housing Options *(Short-Term)*

- A. Continue to create a self-sustaining community and local economy to reduce VMT and increase accessibility**
- Inventory vacant land and target areas for mixed use options as part of any future updates to the city's Comprehensive Plan.

8.4 Greenspace Expansion *(Short-Term)*

- A. Support and expand the community's capacity to manage, develop, and enhance greenspace for natural habitat, recreation, gardening, and outdoor education activities**
- Incentivize or supplement beach renourishment.
 - Improve and maintain public property.
 - Create P3s to transition underutilized land to greenspace.
 - Encourage provision of greenspace on private property through public policy and programs.

8.5 Urban Tree Program and Canopy Target *(Short-Term)*

A. Continue to host an annual tree giveaway

- Create partnership with the Audubon Society, Arbor Day Foundation, or other similar organizations to create a tree inventory for a tree giveaway program.

B. Develop a program to educate community members on the benefits of planting trees and recognize residents and businesses that participate

- Coordinate implementation with Strategy 5.1.

C. Assess current tree canopy and set an increased canopy goal based on assessment results

- Coordinate and review tree policy with Pinellas County.

D. Create an implementation plan to increase tree canopy coverage

- See Strategy 8.5.F below.

E. Require mitigation for consumption of natural habitat or resources

- Identify active land bank mitigation sales in Florida.
- Engage in transfer and sale program with existing mitigation land banks; obtain cost of land bank mitigation credits.
- Review city land development code and based on review, amend code to require mitigation as part of the development code.

F. Enact and enforce a tree preservation or land-clearing ordinance

- Hire a municipal arborist to manage the tree inventory and the preservation, recommendation of mitigation and maintain GHG mitigation and carbon sequestration data.

G. Pilot a forest carbon sequestration project on municipal land which will sequester carbon to offset a portion of the community's annual GHG emissions

- Calculate GHG savings per 1,000, 5,000, and 10,000 trees.
- Consider differences in tree species and growing zones.
- Develop a planting program under an existing urban forestry project protocol to allow for recording and reporting the results.

8.6 Environmental Conservation *(Short-Term)*

A. Become a certified community under National Wildlife Federation Wildlife Habitat Program

- Take the National Wildlife Federation Mayor's Monarch Pledge

B. Enact a sea turtle ordinance

C. Create an endangered lands conservation/purchasing program

- Coordinate with Strategies 8.3 and 11.3 to identify and evaluate lands with high environmental or conservation value.

D. Promote eco-literacy

- Create programs to increase awareness of regional flora and fauna as well as the importance of natural resource preservation.
- Build on existing partnerships with local organizations (e.g., the Clearwater Marine Aquarium, Florida Native Plant Society, Audubon Society, and Tampa Bay Estuary Program).
- Coordinate implementation with Strategies 5.1, and 8.5.

8.7 Integrated Pest Management *(Short-Term)*

A. Create an IPM plan address invasive species and problematic insects at city-owned properties

- Provide guidance on non-native, invasive plants and species as well as a detailed plan for removal and/or management of such species.
- Emphasize non-toxic options and consider potential expansion of invasive species due to climate change.
- Coordinate implementation with the University of Florida IFAS Extension Office.

B. Provide the public with educational materials concerning invasive species identification and IPM best practices

C. Consider partnership with an educational institution (e.g., Saint Petersburg College of the University of South Florida) to develop of an IPM plan and subsequent educational outreach

8.8 Energy Efficient Streets and Parking *(Short-Term)*

A. Develop street design standards that maximize energy efficiency and minimize heat

- Coordinate with any future amendments to the city's Comprehensive Plan's Transportation Element.
- Document cost differentials for capital and maintenance, changes in materials use, cost offsets with embedded solar panels, or integrated traffic flow technology.

8.9 Environmental Justice *(Short-Term)*

A. Explore options for preventing excessive levels of pollution and mitigate environmental and other impacts such as noise, odor, and traffic in low-income communities and communities of color

B. Include potential environmental and public health impacts of land use decisions into planning and zoning activities

- Conduct literature review and analysis of issues and costs surrounding environmental justice.
- Identify applicable concerns in Clearwater within 1 year of authorization.

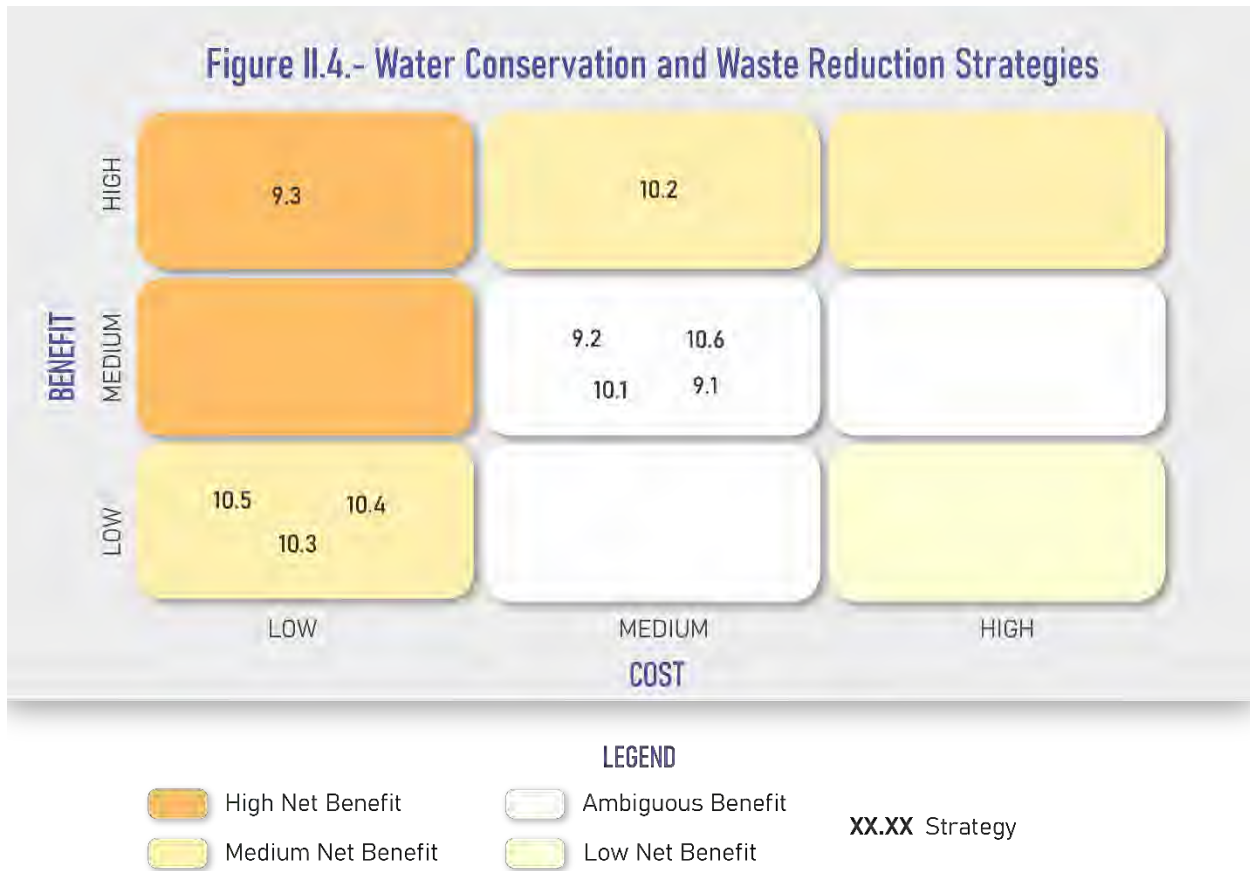
C. Prioritize affordable housing for historically displaced groups to prevent green gentrification

- Develop Environmental Justice plan 2-3 years following authorization.

D. Consider measures to ensure that rent in improved neighborhoods remains affordable and savings from energy efficiency improvements are passed on to tenants

- Allocate up to \$250,000-\$400,000 over the span of two years to undertake zoning and land use code updates in transportation, energy, development, reuse, and environmental justice.
- Coordinate updates to land use and zoning regulations with Strategies 6.4, 6.14, 7.3, and 8.3.

E. Assess current city zoning and land use policies to determine where environmental justice criteria can be incorporated



Water Conservation

The following section provides the Implementation and Measurement Methodologies for the Water Conservation Core Topic Strategies. Categorization of the relative cost and benefit of the Water Conservation Core Topic Strategies is provided in **Figure II.4.- Water Conservation and Waste Reduction Strategies**. For Implementation and Measurement Methodologies in this Core Topic it is assumed that sufficient permissions to alter water utility infrastructure have been obtained from the Southwest Florida Water Management District (SWFWMD) or other regulating entity. Any improvements are presumed to be based on gathered data as well as the project pro-forma and fiscal impact analysis.

9.1 Water Conservation *(Short-Term)*

A. Continue to encourage water conservation in homes, businesses and industries

- Coordinate with Florida Department of Environmental Protection (FDEP), and the SWFWMD to establish new rules, determine consumption rates, water use per capita, and water sources for the city.

- Coordinate regulatory costs and compliance thresholds with water utility.
- Prepare finance plan for consumption compliance.

B. Continue to consider changes to water use regulations and fees on an annual basis

- Inventory residential plumbing conditions based on US Census data.
- Coordinate with Strategy 6.1 to measure average plumbing requirements for existing inventory of structures.
- Continue to evaluate rate restructuring options to promote water conservation.

C. Encourage residents and businesses to adopt water conservation standards such as Florida Water Star for existing and new construction

- Coordinate implementation with Strategy 5.1.

D. Consider developing year-round water restrictions that are more stringent than Southwest Florida Water Management District restrictions

9.2 Waterwise Landscapes *(Short-Term)*

A. Use code-based incentives (e.g., accelerated site plan review time) to encourage community members to create landscapes at the same time as new development or redevelopment that integrate water saving measures

- Promote widespread adoption of Florida Friendly Landscape Principles.

B. Promote and facilitate neighborhood-based projects that train residents on Florida-Friendly landscaping practices

- Coordinate and incorporate information on best practices with Strategy 5.1.

C. Partner with neighborhoods and local organizations to recognize existing Florida-Friendly yards and highlight effective and affordable xeriscaping techniques

- Coordinate and incorporate information on best practices with Strategy 5.1.

9.3 Low-Impact Development *(Short-Term)*

A. Identify and prioritize potential retrofits to city buildings for rainwater capture

- Conduct engineering conditions inventory of municipal buildings – coordinate with Strategies 6.10 and 9.1.

B. Create guidance for private property owners to develop and implement rainwater collection plans

- Rely on existing rainwater harvesting programs such as that implemented in Santa Fe, New Mexico.

C. Increase awareness of co-benefits of low-impact development

- Incorporate concepts into Strategy 5.1.

D. Consider installations that capture, retain and treat stormwater runoff from parking lots, driveways and roads

Waste Reduction

The following section provides the Implementation and Measurement Methodologies for the Waste Reduction Core Topic Strategies. Categorization of the relative cost and benefit of the Waste Reduction Core Topic Strategies is provided in **Figure II.4.- Water Conservation and Waste Reduction Strategies**. For Implementation and Measurement Methodologies in this Core Topic, it is assumed that sufficient permissions to establish or alter recycling and waste disposal service agreements have been obtained from pertinent regulating entities. Any improvements are presumed to be based on gathered data as well as the project proforma and fiscal impact analysis.

10.1 Yard Waste Collection *(Short-Term)*

A. Continue to offer yard waste collection to residents, encourage more households to participate, and investigate opportunities for collection of other organic waste such as food waste for composting

- Institute a survey of the number of pickups per month, per season.
- Gather dump statistics for the monthly weight of yard waste collected to determine household participation rates.

10.2 Continuation of Recycling Program *(Short-Term)*

A. Continue to offer recycling services to residents and businesses

- Continue the City's existing recycling program.
- Focus on waste reduction and promote composting.
- Determine efficiencies and service expansion opportunities.
- Enable customers to make online bill payments or utilize recycled paper.

10.3 Backyard Composting Program *(Short-Term)*

- Continue providing access to the virtual Clearwater Creates Compost course
- Hold an annual compost bin pick up event for residents

10.4 Commercial Composting *(Short-Term)*

A. Develop a pilot composting program to divert food scraps from landfills and demonstrate the viability of a city-wide program

- Target the city's commercial sector initially with preference for high-volume generators of food waste (e.g., hospitals, schools, hotels, and restaurants) for on-site or collection composting programs.
- Monitor participation rates, challenges, benefits, and costs.
- Consider expanding the study to collecting and processing food waste from select neighborhoods in the residential sector.
- Determine food scrap versus vegetable/non-meat composting requirements.
- Identify compost dump sites for site development or contract with an existing facility.
- Maintain a monthly data base with material tonnage.

10.5 Trash to Trends Event *(Short-Term)*

A. Organize an annual community event for swapping reusable goods to divert reusable goods from the solid waste stream

- Coordinate implementation with Strategy 5.1.

10.6 Municipal Waste Reduction Policy *(Short-Term)*

A. Adopt formal waste reduction policy and goals that address ocean-friendly recycling and printing practices

- Build a database tracking all waste by type, volume and weight based on waste removal services estimates under current contract.
- Determine average monthly levels.
- Set waste reduction targets and strategies by type and measurement.

B. Consider development of standards for events held on municipal sites to reduce waste generation, consumption of single-use plastics, and increase recycling by thousands of eventgoers per year

- Estimate the cost of waste removal, recycle value of waste material, and value of waste savings.

Local Food

The following section provides the Implementation and Measurement Methodologies for the Local Food Topic area Strategies. Refer to **Figure II.2.- Administrative and Social Strategies** for the categorization of the relative cost and benefit of each Green Energy and Buildings Core Topic Strategy. The Local Food Implementation and Measurement Methodologies assume that the approval process for each project is informed by the project pro-forma as well as fiscal impact analysis. Similar to the Livability Core Topic area, measurement of equity is a primary consideration of this topic area. To this end, measurement of access to quality local food is assumed. Access may be measured through a variety of means, and data on the subject may be obtained from the following public and open-source data sources:

- United States Department of Agriculture Economic Research Service (refer to the Food Access Research Atlas)
- Property Appraiser Records
- U.S. Census Data
- American Community Survey Estimates
- Open Street Map

11.1 Urban Agriculture Task Force *(Short-Term)*

A. Organize and facilitate a task force to assist in developing and implementing recommendations for expanding local food production

- Create an educational campaign organized by the task force to bolster awareness and use of existing initiatives that promote local food consumption.
 - Within the first year of Strategy implementation, create an Urban Agriculture Task Force.
 - Within the second year of Strategy implementation, develop a local farm to table plan.
- B. Develop partnerships among non-profits, ministries, neighborhood associations, and private interests to increase local food production and commerce, funding opportunities, and pooling of resources**
- C. Leverage partnerships to obtain grant funding for planning and project start-up activities**

11.2 Local Food Production *(Short-Term)*

A. Define “local” in the context of food production and the community’s needs

- See Strategy 11.1.

B. Develop a “foodshed program”, “Buy Fresh Buy Local”, in collaboration with regional partners to increase availability of local foods

- Identify sites for a municipal farm and local farmers market.
- Inventory and prepare a database of local growers and food producers.
- Coordinate implementation with Strategy 5.1 and the local University of Florida IFAS Extension Office.

11.3 Urban Agriculture *(Short-Term)*

A. Conduct an inventory of public and semi-public lands that would be suitable for food production for the purpose of identifying sites for food production pilot projects

- Coordinate with Strategies 6.4, 8.3 and 8.9 as part of any future updates to the city’s Comprehensive Plan.

B. Amend the Community Development Code to allow and support community gardens and other forms of urban agriculture

- Incorporate hydroponics or other types of food production facilities into new and existing buildings.
- Undertake the amendment as part of municipal code evaluation and update.
- Coordinate with considerable code review and updates in Strategies 6.4, 6.7, 6.12, 7.3, 7.4, 8.1, 8.5, 8.9, 9.2, and 9.3.

11.4 Community Garden Grant Program *(Short-Term)*

A. Create a Community Garden Grant Program

- Coordinate implementation with Strategies 5.1 and 5.2.
- Consider co-locating community gardens with farmer’s market locations.
- Following the launch of the program in 2020, track stakeholders and provide staff assistance/guidance help with grant applications.

11.5 Climate Friendly Food Policy *(Short-Term)*

A. Encourage staff and residents to eat a plant-rich meal at least once a week

B. Integrate climate-friendly food procurement guidelines into the Green Procurement Policy

C. Consider a resolution in support of “Meatless Mondays”

Green Economy

The following section provides the Implementation and Measurement Methodologies for the Green Economy Core Topic area Strategies. Refer to **Figure II.2.- Administrative and Social Strategies** for the categorization of the relative cost and benefit of each Green Economy Core Topic Strategy. The Green Economy Implementation and Measurement Methodologies assume that the approval process for each project is informed by the project pro-forma as well as fiscal impact analysis. It should be noted that prior to commencement of work, a formal definition of “green jobs” should be established by staff; in the process, a distinction should be made between “green jobs” and “green industry.” Actions to promote green jobs should be based on a database generated based on staff’s definition.

12.1 Green Business Database *(Short-Term)*

A. Develop a database of green businesses and the number and types of green jobs within the city

- Collect data through surveys, online business searches, and phone interviews with the development community and industry organizations.
- Consider using the Business Tax Receipt application and renewal process to facilitate data collection.
- Use municipal business license records to expand data fields to classify business by green criteria.
- Update business license application to institutionalize collection of data.

B. Establish criteria for classifying green businesses and jobs, allowing for flexibility as new developments in green industry and business practices arise

- Research a paradigm for classification green jobs.
- Develop a detailed database of green jobs from NAICS data and municipal occupational/business licenses data.
- Add classification fields to business license forms.

12.2 Best Practices Sharing *(Short-Term)*

A. Recognize businesses that have received LEED, FGBC, Florida Green Lodging Program, and Ocean Friendly certifications on the city website

- Develop a system for recognizing and profiling other businesses that take steps to become more sustainable and resource efficient without pursuing costly certifications.
- Highlight best practices and the environmental, economic, and social benefits of different companies’ efforts.
- Coordinate implementation with Strategy 5.1.

12.3 Green Job Development *(Short-Term)*

A. Become a member of Florida Local Environmental Resource Agencies (FLERA)

B. Connect unemployed and underemployed people to local green job opportunities

- Using the green business database, classify job opportunities within companies by degree of green character.

C. Partner with existing institutions and organizations like St. Petersburg College and CareerSource Pinellas to offer workforce training programs in green job skills

- Consider a green jobs tax credit to incentivize employers to create green jobs.
- Implement this program in tandem with programs and initiatives already available in Clearwater to ensure that training results in job placement.
- Promote green job opportunities in existing workforce training.

12.4 Green Guide *(Short-Term)*

A. Partner with tourism-based businesses and other local tourism agencies to create a green guide that promotes local businesses that commit to green practices

- Highlight high-scoring companies with green jobs from municipal license database.

B. Increase participation in green business designation programs by the hospitality industry (e.g., the Florida Green Lodging Program)

- Create designation criteria or registration program for green businesses.
- Coordinate implementation with Strategy 12.1.

12.5 Regional Partnerships *(Short-Term)*

A. Continue to partner with local and regional organizations and focus on devising new strategies to attract green businesses to the area

- Define green business characteristics.
- Identify resources needed to accommodate green business (i.e., land, workforce, infrastructure, and utilities).
- Coordinate implementation with Strategy 12.1.

B. Leverage economic development centers to spur local economic development in the green business sector

- Target development of necessary resources to support business attraction.

12.6 Municipal Green Revolving Loan Fund *(Short-Term)*

A. Develop a municipal GRF to fund sustainable projects and uphold cost-effective services

- Determine the purpose and use of revolving loan funds, namely development, redevelopment, retrofit, business methods and process, materials usage, transportation, and utilities.
- Leverage the U.S. Department of Energy's Better Buildings Solution Center program to offer tools and example programs for creation of a GRF.

- Determine any capital needs or funding volume.
- Identify a revenue source.
- Earmark revenue source and budget funds.

12.7 Green Purchasing Policy *(Short-Term)*

A. Develop a “Green Purchasing Policy” to encourage the purchase of environmentally preferable products that mitigate the city’s environmental impact

- Consider the entire lifecycle of products in purchasing decisions.
- Evaluate and rank all municipal purchases for green alternatives.
- Calculate the cost differential in buying green.
- Calculate the social/environmental cost savings of green products to offset direct cost of buying green, if any.

B. Create procedures to help departments make the most sustainable purchases possible

Appendix III.- Climate Change Science

The Intergovernmental Panel on Climate Change (IPCC)'s Fifth Assessment Report affirms that “warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.”ⁱ Researchers have made progress in their understanding of how the Earth's climate is changing in space and time through improvements and extensions of numerous datasets and data analyses, broader geographical coverage, better understanding of uncertainties and a wider variety of measurements.ⁱⁱ These refinements expand upon the findings of previous IPCC Assessments – today, observational evidence from all continents and most oceans shows that “regional changes in temperature have had discernible impacts on physical and biological systems.”

The Fifth Assessment asserts that “it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcings together. Globally, economic and population growth continued to be the most important drivers of increases in CO₂ emissions from fossil fuel combustion. Changes in many extreme weather and climate events have been observed since about 1950. Some of these changes have been linked to human influences, including a decrease in cold temperature extremes, an increase in warm temperature extremes, an increase in extreme high sea levels and an increase in the number of heavy precipitation events in a number of regions”.

In short, the Earth is already responding to climate change drivers introduced by mankind.

Temperatures and Extreme Events are Increasing Globally

Surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise. Changes in many extreme weather and climate events have been observed since about 1950. Some of these changes have been linked to human influences, including a decrease in cold temperature extremes, an increase in warm temperature extremes, an increase in extreme high sea levels and an increase in the number of heavy precipitation events in a number of regions.ⁱⁱⁱ

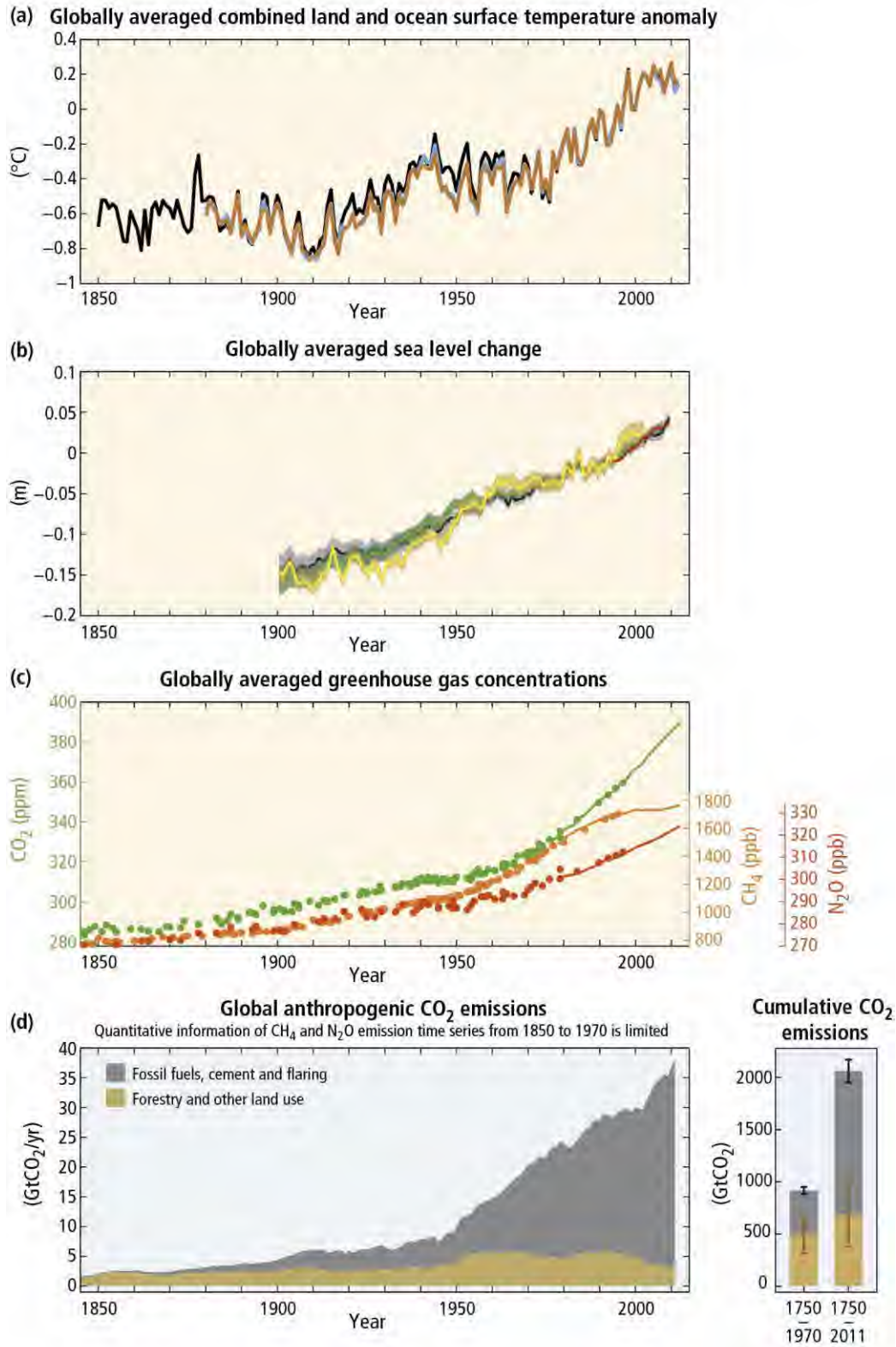


Figure 1 Observations and other indicators of a changing global climate system^{iv}

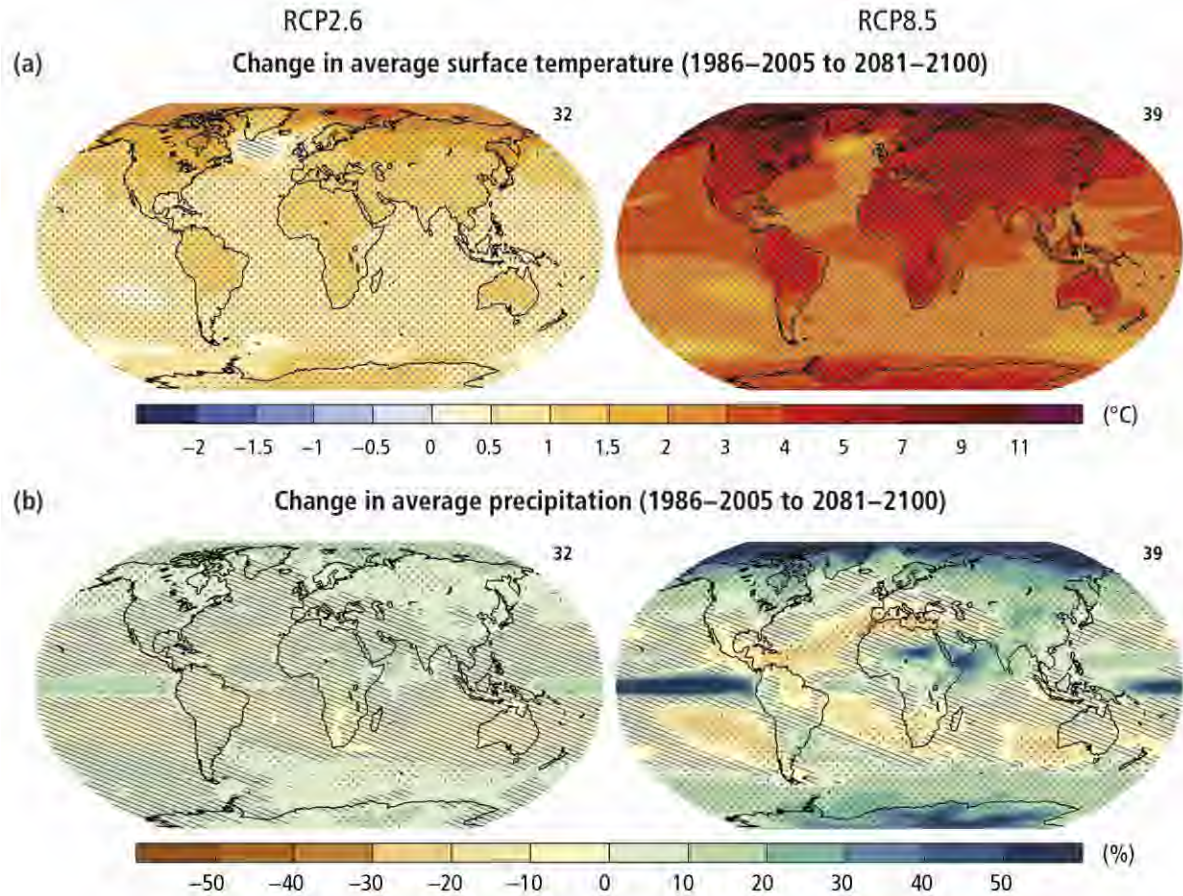


Figure 2 Change in average surface temperature (a) and change in average precipitation (b) based on multi-model mean projections for 2081–2100 relative to 1986–2005 under the RCP2.6 (left) and RCP8.5 (right) scenarios.

Climate Risks

Climate change is projected to undermine food security. Due to projected climate change by the mid-21st century and beyond, global marine species redistribution and marine biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity and other ecosystem services. For wheat, rice and maize in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late 20th century levels, although individual locations may benefit. Global temperature increases of ~4°C or more above late 20th century levels, combined with increasing food demand, would pose large risks to food security globally. Climate change is projected to reduce renewable surface water and groundwater resources in most dry subtropical region, intensifying competition for water among sectors.

Until mid-century, projected climate change will impact human health mainly by exacerbating health problems that already exist. Throughout the 21st century, climate change is expected to lead to increases in ill-health in many regions and especially in

developing countries with low income, as compared to a baseline without climate change. Health impacts include greater likelihood of injury and death due to more intense heat waves and fires, increased risks from foodborne and waterborne diseases and loss of work capacity and reduced labor productivity in vulnerable populations. Risks of undernutrition in poor regions will increase. Risks from vector-borne diseases are projected to generally increase with warming, due to the extension of the infection area and season, despite reductions in some areas that become too hot for disease vectors.

In urban areas climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea level rise and storm surges. These risks are amplified for those lacking essential infrastructure and services or living in exposed areas. Rural areas are expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world.

Climate change is projected to increase displacement of people. Populations that lack the resources for planned migration experience higher exposure to extreme weather events, particularly in developing countries with low income. Climate change can indirectly increase risks of violent conflicts by amplifying well-documented drivers of these conflicts such as poverty and economic shocks.^v

Regional and Local Impacts

Because the impacts of climate change vary geographically. The Tampa Bay region is frequently ranked as an area with the most vulnerability to climate change risks. These risks include increased intensity of extreme weather events, heat, precipitation, sea level, and vector-borne diseases.

Numbers in ovals (Figure 3) indicate regional totals of climate change publications from 2001 to 2010, based on the Scopus bibliographic database for publications in English with individual countries mentioned in title, abstract or key words (as of July 2011). These numbers provide an overall measure of the available scientific literature on climate change across regions; they do not indicate the number of publications supporting attribution of climate change impacts in each region. Studies for polar regions and small islands are grouped with neighboring continental regions.^{vi}

Widespread impacts attributed to climate change based on the available scientific literature since the AR4

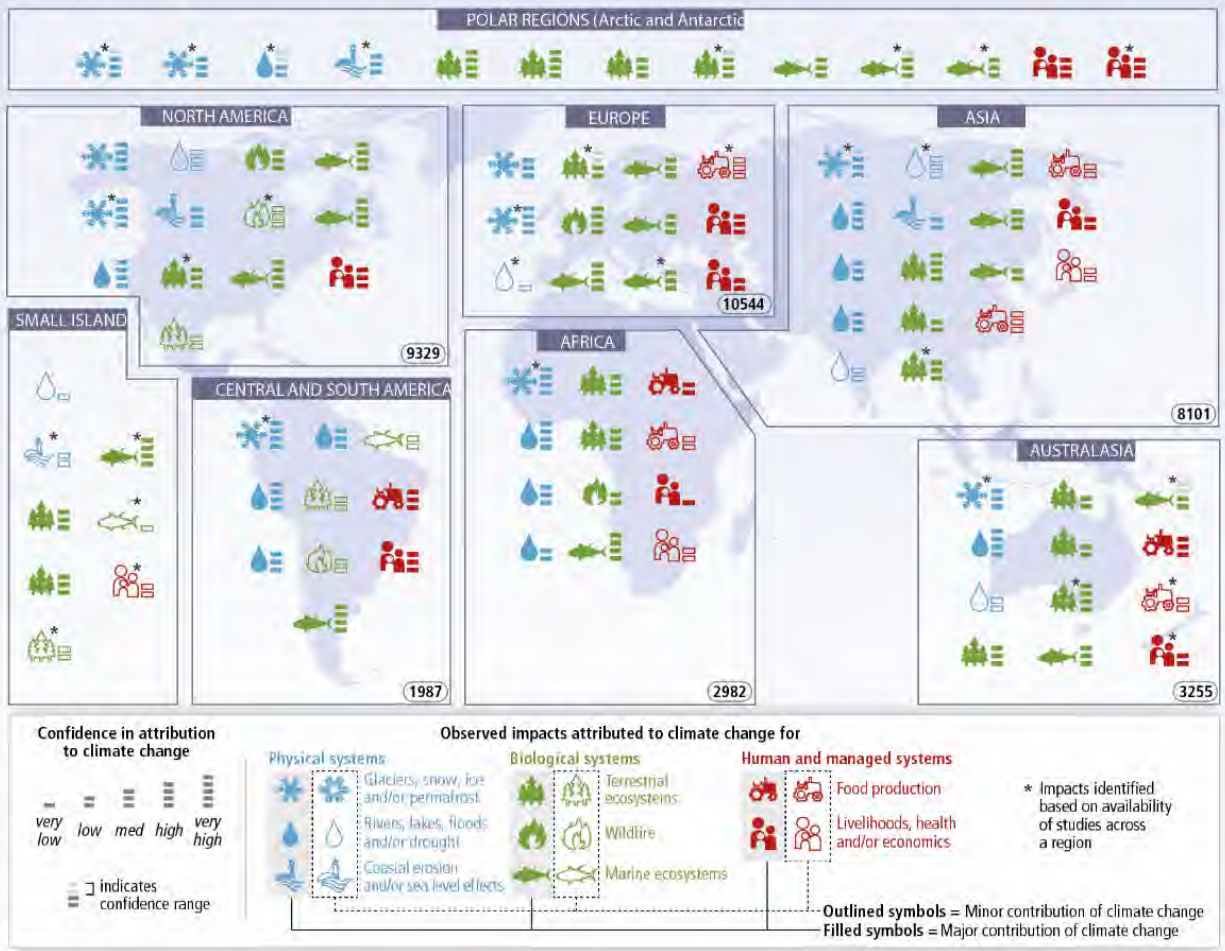


Figure 3 Climate impacts around the world. Symbols indicate categories of attributed impacts, the relative contribution of climate change (major or minor) to the observed impact and confidence in attribution.

Greenhouse Gas Emissions Must be Reduced

Limiting risks across Reasons For Concern (a) would imply a limit for cumulative emissions of CO₂ (b) which would constrain annual GHG emissions over the next few decades (c). Panel A reproduces the five Reasons For Concern. Panel b (Figure 4) links temperature changes to cumulative CO₂ emissions (in GtCO₂) from 1870. They are based on Coupled Model Intercomparison Project Phase 5 simulations (pink plume) and on a simple climate model (median climate response in 2100), for the baselines and five mitigation scenario categories (six ellipses). Panel c shows the relationship between the cumulative CO₂ emissions (in GtCO₂) of the scenario categories and their associated change in annual GHG emissions by 2050, expressed in percentage change (in percent GtCO₂-eq per year) relative to 2010. The ellipses correspond to the same scenario categories as in Panel b, and are built with a similar method.^{vii}

The recent and massive buildup of greenhouse gases in our atmosphere is conceivably even more extraordinary than changes observed thus far regarding temperature, sea level, and snow cover in the Northern hemisphere in that current levels greatly exceed recorded precedent going back much further than the modern temperature record.

Anthropogenic greenhouse gas emissions have increased since the pre-industrial era driven largely by economic and population growth. From 2000 to 2010 emissions were the highest in history. Historical emissions have driven atmospheric concentrations of carbon dioxide, methane and nitrous oxide to levels that are unprecedented in at least the last 800,000 years, leading to an uptake of energy by the climate system.^{viii}

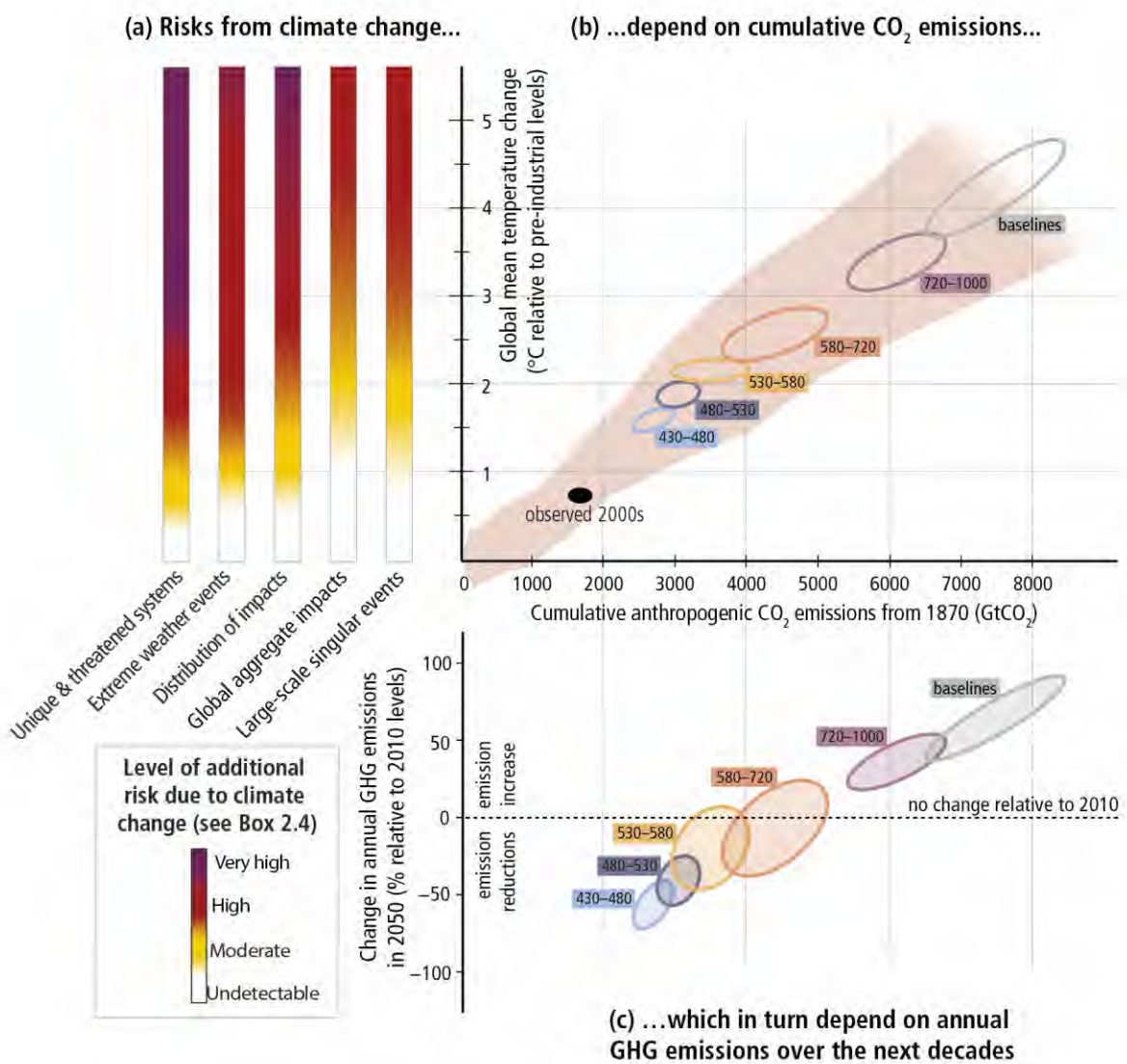


Figure 4: The relationship between risks from climate change, temperature change, cumulative carbon dioxide (CO₂) emissions and changes in annual greenhouse gas (GHG) emissions by 2050.

In response to the problem of climate change, many communities in the United States are taking responsibility for addressing emissions at the local level. Since many of the major sources of greenhouse gas emissions are directly or indirectly controlled through local policies, local governments have a strong role to play in reducing greenhouse gas emissions within their boundaries. Through proactive measures around land use patterns, transportation demand management, energy efficiency, green building, and waste diversion, local governments can dramatically reduce emissions in their communities. In addition, local governments are primarily responsible for the provision of emergency services and the mitigation of natural disaster impacts. While this Plan is designed to reduce overall emissions levels, as the effects of climate change become more common and severe, local government adaptation policies will be fundamental in preserving the welfare of residents and businesses.

i. IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K Pachauri, and L.A. Meyer (eds.)]. Geneva, Switzerland, 151 pp

ii. IPCC, 2014: Summary for Policymakers. In: Climate Change 2014: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

iii. IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K Pachauri, and L.A. Meyer (eds.)]. Geneva, Switzerland, 151 pp

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viii. IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K Pachauri, and L.A. Meyer (eds.)]. Geneva, Switzerland, 151 pp