CITY OF
SEBASTIAN
HOME OF PELICAN ISLAND
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AGENDA
CITY OF SEBASTIAN
PARKS & RECREATION ADVISORY COMMITTEE
MONDAY, JULY 27TH, 2020
6:00 PM

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1) CALL TO ORDER

2) PLEDGE OF ALLEGIANCE

3) ROLL CALL

4) MEETING CHAIR MAKE ANNOUNCEMENTS

5) AGENDA MODIFICATIONS
Modifications and additions require unanimous vote of members. Deletions do not apply.

6) APPROVAL OF MINUTES:
Meeting Minutes from June 22nd, 2020

7) UNFINISHED BUSINESS:

8) PUBLIC INPUT

9) NEW BUSINESS:
Item A: Proposed 2040 Comprehensive Plan Element

Item B: Parks & Properties Integrated Pest Management Plan

10) STAFF MATTERS
Item A: Current Project(s) Update

11) BOARD OR COMMITTEE MEMBER MATTERS

12) ITEMS FOR THE NEXT AGENDA AND DATE: **August 24th, 2020**

13) ADJOURN

ANY PERSON WHO DECIDES TO APPEAL ANY DECISION MADE WITH RESPECT TO ANY MATTER CONSIDERED AT THIS MEETING (OR HEARING) WILL NEED A RECORD OF THE PROCEEDINGS AND MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDINGS IS MADE, WHICH RECORD INCLUDES THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE HEARD. (286.0105 F.S.)
IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), ANYONE WHO NEEDS A SPECIAL ACCOMMODATION FOR THIS MEETING SHOULD CONTACT THE CITY'S ADA COORDINATOR AT 589-5330 AT LEAST 48 HOURS IN ADVANCE OF THIS MEETING.
HOWEVER, THE PUBLIC IS ADVISED TO CHECK THE CITY WEBSITE FOR UP-TO-DATE INFORMATION ON ANY CHANGES TO THE MANNER IN WHICH THE MEETING WILL BE HELD AND THE LOCATION.

CITY OF
SEBASTIAN
HOME OF PELICAN ISLAND

PARKS & RECREATION ADVISORY COMMITTEE
AGENDA TRANSMITTAL FORM

Board Meeting Date: July 27th, 2020

Agenda Item Title: Meeting Minutes from June 22nd, 2020

Recommendation: Approval of Meeting Minutes from the June 22nd, 2020 meeting

Background:

If Agenda Item Requires Expenditure of Funds:
Total Cost: N/A

Attachments:

Parks & Recreation Advisory Committee Minutes of Regular Meeting on June 22nd, 2020

PARKS AND RECREATION ADVISORY COMMITTEE
MINUTES OF REGULAR MEETING
JUNE 22, 2020

1. Call to Order -- Chairperson Webster called the meeting to order at 6:00 p.m.

2. Pledge of Allegiance was recited by all.

3. Roll Call

Present

Mr. Agudelo
Ms. Webster
Ms. White
Mr. Renzi
Mr. Danise (a) (late arrival)
Mr. Mauro (a)

Not Present

Mr. Sims -- Excused

Also Present

Mr. Brian Benton, Leisure Services Director
Mr. Paul Carlisle, City Manager
Mr. Ken Killgore, Chief Financial Officer
Ms. Janet Graham, Technical Writer (via Zoom)

4. Meeting Chair Makes Announcements

Ms. Webster announced that Mr. Sims is excused this evening, and Mr. Danise will be voting in his place. Mr. Richard Mauro is present and has been nominated by City Council as an alternate member.

5. Agenda Modifications -- None

6. Approval of Minutes -- February 24, 2020

Ms. Webster called for a motion. A motion to accept the Minutes as presented was made by Mr. Renzi, seconded by Ms. White, and passed unanimously via voice vote.

7. Unfinished Business

A. Integrated Pest Management Plan for Parks Update

Mr. Benton reviewed that he and Ms. Kim Haigler have been working with the Integrated Pest Management Sub-Committee and have resumed their meetings. Although there were no meetings for a period of time due to the coronavirus, Ms. Haigler has been

working on the Plan and working with some professionals in the field to review it. Now that the meetings are back to being held, the Sub-Committee is able to review the Plan. At the last meeting, the Sub-Committee approved the first five sections of the Plan. The sixth section will be reviewed at the next meeting for approval. It is planned to bring this Plan back to the Parks and Recreation Committee with the Sub-Committee's approval at the July meeting. It will also go to the Natural Resources Board and then to City Council for their review, hopefully in August. He called for questions/discussion.

Ms. Webster asked if the fire ants have been gotten under control. Mr. Benton stated yes, staff were able to treat the playgrounds and their surrounding areas as well as the athletic fields. About every two weeks staff does go around and assess all the playgrounds. Staff is on the ballfields every single day, so they see those every day.

Mr. Agudelo asked how often the ballfields are checked for wasp nests. He has observed nests a few times. Mr. Benton stated he will have staff check for those. They are checking in the dugouts at least once or twice a week doing visual checks. He will have staff check the football fields, around the basketball goals and the skate park on a consistent basis as well.

B. Updated Park Signage Review and Discussion

Mr. Benton reviewed that a sign vendor was chosen in December. This vendor was approved by City Council. Last August, City Council approved the color scheme, etc. for the signs. However, going forward the sign manufacturer has come back with some alternate designs. The poles are metal that are painted with a wood-like finish. The backboard of the signage is a foam material. That is what staff is looking to present to City Council in the future. He has provided this Committee with a mockup and the recommendation for the prototype so it could be reviewed and commented on.

Ms. White asked if the picture that is included in the agenda packet is the type sign that will be used for all the parks. Mr. Benton said yes. He stated most of the parks will have double-sided signs except for Easy Street because of the location. Ms. White asked if the budget of $102,000.00 is for all the signs. Mr. Benton stated that figure is what was allocated for this year. This project will take place over a three-year period. CRA also has $100,000.00, so they are assisting with some of the signage in the CRA district. Ms. White inquired whether the wooden sign along US 1 for Riverview Park will be replaced. Mr. Benton stated that sign will be replaced in a later phase, probably in year three, with an acknowledgement sign that the contractor is developing. Ms. White asked if the sign to replace the for Riverview Park which displays the events and dates will still allow dates and events to be posted. Mr. Benton answered yes. Ms. White asked if the rope design

on the pole will be at an additional cost. Mr. Benton stated there is no additional cost for that.

Ms. Webster asked whether the Barber Street sign will have space to put dates, etc. Mr. Benton stated the decision was made for that sign specifically that the marquee will not be replaced. However, the groups will all have their H-frame signs that they currently use. Ms. Webster called for anyone from the public who wished to speak to this matter. Seeing no one and no one being on Zoom, Ms. Webster called for a motion.

A motion to approve the sign design and colors as presented was made by Mr. Agudelo, seconded by Mr. Renzi, and approved unanimously via voice vote.

8. Public Input

Mr. Ben Hocker, Sebastian, reviewed that sometime ago there was work done on coming up with signage on CR 512. He asked if that had been discontinued or if that plan was still being considered. Mr. Benton stated that the US 1 and County Road 512 gateway signs are included in this plan to be replaced as well.

9. New Business

A. Select a Chairman and Vice-Chairman, adopt rules of procedure.

Motion was made by Ms. White nominating Ms. Webster to continue as Chairperson, seconded by Mr. Renzi, and approved unanimously via voice vote. Motion nominating Ms. White as Vice-Chairperson was made by Ms. Webster, seconded by Agudelo, and approved unanimously via voice vote.

Ms. Webster called for a motion to adopt the Rules of Procedure. Motion was made by Mr. Renzi to adopt the Rules of Procedure, seconded by Mr. Agudelo, and approved unanimously via voice vote.

B. Fiscal Year '21 -- Capital Improvement Projects related to the use of Recreation Impact Fees

Mr. Benton stated Mr. Paul Carlisle, City Manager, and Ken Killgore, Chief Financial Officer, are present tonight and can answer questions anyone has regarding the budget and capital projects. He reviewed that City staff assessed the needs of the parks and identified four projects to be funded with the use of recreational impact fees for fiscal year 2021. The City Code specifically permits recreational impact fees to be used only to

acquire, construct or provide recreational improvements or facilities. This is preliminary until approved by City Council in September. In fiscal '21 there are the following projects that staff has requested to be funded out of recreational impact fees:

- **Continuation of the Park Identification Signage.** That is an additional $30,000.00 to continue that process into the second year.
- **Playground Improvements.** A request for $70,000.00 has been made for playground improvements for next year. George Street will be moved to fiscal year '21. Filbert Park is the next in line for fiscal year '21 as well. Ms. White asked when playground improvements are addressed, will that be all new playground equipment with accessible equipment that is included in the playgrounds. Mr. Benton stated that all of the playgrounds with the exception of Bryant Court have been converted to engineered wood fiber. There was not enough mulch to do Bryant Court, but now that the mulch is in, that park will be converted as well. Ms. White asked if standard-style playgrounds will be used. Mr. Benton said it will depend on the size of the park. Both George Street and Filbert are similar in size. Staff will ask for bids for these parks and will ask for recommendations from a few members of the Parks and Recreation Committee to be involved in this process. It will then come before the entire Committee for approval. This will be included in next year's budget, fiscal year 20-21. Ms. White inquired regarding the $110,000.00 figure in fiscal year 23-24. Mr. Benton stated that is for creative playground. It is actually two playground sets in one, and it is the premier playground within the City. Ms. White asked if there will be any type of shade shelters. Mr. Benton stated when the bid process starts, staff is going to request if there is any possibility of including shade. There will not be a stand-alone shade structure, but a lot of the playgrounds have shade components to them that will be included in the playground.

  Mr. Agudelo asked how many of the City parks have wheelchair-accessible activities for kids who might be disabled but still want to participate. He asked if that is a consideration going forward for the improvements. Mr. Benton stated that going forward, as each playground is improved, they will have accessible components to each one of them.

- **Park Improvements.** Mr. Benton explained that this is the $20,000.00 that is budgeted each year for items that are brought up by the Committee that were not included in the budget year.

  Ms. Webster explained for the new Committee members that whenever there are smaller items that are needed, this Committee does not have to go back to City

Council. There is money in a fund that can be used for smaller things for all the parks.

Ms. White inquired if all the $20,000.00 is not used in a fiscal year, does that balance carry over to the next year. Mr. Benton stated it does not carry over; it replenished itself to $20,000.00, and that money stays in recreational impact fees.

Ms. Webster asked for public comment on what was just reviewed. Seeing no one and hearing nothing from Zoom, Ms. Webster called for a motion.

A motion to approve the items that were presented by Mr. Benton was made by Ms. Webster, seconded by Mr. Agudelo, and approved unanimously via voice vote.

C. Friendship Park Tennis Court Discussion

Mr. Benton stated that on May 14, 2020, staff recommended that the City Council approve the resurfacing of the clay tennis courts at Friendship Park. The cost for this project was budgeted at $30,000.00, and the lowest quote received came in at $23,300.00 by Welch Tennis Courts. City Council postponed voting on this item and asked the City Manager to look into the cost to resurface the courts into hard asphalt courts. In the agenda packet is included a quote from Welch Tennis Courts to do this in the amount of $244,600.00 to convert from clay to asphalt. This quote did not include replacement of the fencing, which Mr. Benton anticipates would be necessary to complete the project. He has since received a quote to do the asphalt work only for $82,000.00. However, this does not take into account the removal of the existing clay, installing the tennis surface, net posts and fencing, which in speaking with another tennis company would cost in the range of $130,000.00, bring that closer to $210,000.00. He has provided the Committee with the information in regard to current staffing costs, hours of operation, and fees charged for session usage and annual passes. Maintenance of the clay courts to extend the life span of resurfacing does have an annual cost, which is dependent on how much maintenance can be done from a City staffing level. At a minimum, there would need to be added approximately one to two tons of clay to each court per year. Municipal clay courts are going to need to be resurfaced every five to seven years, which is similar to the resurfacing of hard courts, and the costs are comparable to resurface clay and to resurface hard asphalt tennis courts. Mr. Benton has received many emails from participants over the past month, and many have outlined the physical benefits to players of the clay courts over asphalt.

There was a lengthy discussion among Mr. Benton and the Committee members on the clay vs. asphalt surfacing of the tennis courts. Subjects covered were cost of clay vs. asphalt, maintenance of both surfaces, staffing, fees charged to use the facility, etc.

Ms. Webster called on anyone from the public to speak.

- Ben Hocker, Sebastian, related that he had stopped by the tennis courts and observed that there should be a time limit to use the courts. He feels that staffing the courts will keep things organized.

- Kim O'Connell spoke for Vincent Fiola (sic), who is a Sebastian resident but could not attend this evening's meeting. Ms. O'Connell read a letter from Mr. Fiola (sic) regarding the tennis courts. He is in favor of the clay courts because of less wear and tear on muscles and joints. He also mentioned that asphalt is not maintenance free, and he gave estimates for what it would cost to maintain both surfaces.

- Charles Edwards, Sebastian, spoke in favor of retaining the clay courts.

- Mark Woodman, Sebastian, spoke in favor of charging a fee to use the courts and maintaining the clay courts.

There being no other public comment, Ms. Webster called for a motion. A motion to keep the clay courts and not convert them to hard courts was made by Mr. Renzi, seconded by Mr. Agudelo, and passed unanimously via voice vote.

Ms. White suggested that Mr. Benton look into raising the fees to use the courts. Mr. Carlisle stated that Mr. Benton is currently working on a park use fee application and rate structure that will be presented to this Committee before it goes to Council. This will involve not just the tennis courts, but pickleball, baseball, etc.

10. Staff Matters

A. Current Project(s) Update

- **Baseball and Softball Field Projects** -- Mr. Benton stated the plan for the fencing project was originally to do one or two fields this year. With the little league being shut down, staff will attempt to do all four fields at the same time. That project is currently out to bid. Those bids will be in next week to be presented to City Council on July 8. The design for the dugouts is still being finalized. He hopes to have that finalized in the next week. Those dugouts will be fenced. Regarding

the batting cages, staff has looked at purchasing an entire new system utilizing the pole system that is currently there. Most of the poles are structurally sound, so staff will install a netting system on the existing pole structure that is there. He has had a discussion with little league about installing turf. He will get them some prices to see if they can afford to do it. On the football fields, Mr. Benton said the four sets of bleachers will be replaced. They have been delivered, and they will begin to be assembled, and on the north side of the football field there will be a small-scale project where millings are installed under the bleachers so that there will be no need to deal with weeds.

- **Pickleball lighting** -- Mr. Benton said there were some delays with the contractor due to COVID. The light fixtures have been received. Poles are expected to be delivered July 1st. The timeframe for installation of the lights will be late July/early August. The token machines have been received.
- **Yacht Club Accessible Dock** -- Mr. Benton stated this is a project that has been in the works for a while. Indian River Docks has been chosen as the contractor. There is a pre-construction meeting scheduled the day after this meeting to begin this process moving forward. After that pre-construction meeting, there will be a better timeline available. They will have to shut down the south side of the Yacht Club boat ramp for approximately one week. Signage will be posted as well as information on social media and the City's website. The north side of the ramp will remain open.
- **Sidewalk Work at Riverview Park** -- Mr. Benton stated that he and Ms. Lisa Frazier are going before City Council at their next meeting for Council to approve improving the sidewalks in Riverview Park. That would include tearing them out, doing some buffering from the trees, and doing some root relocations so that the sidewalk can be replaced. That will involve closing the park down for a couple weeks later this summer if it gets approved.

Mr. Benton called for questions or comments from the Committee.

Ms. White inquired where the monies for these projects come from. Mr. Benton stated all of these projects are funded by the Recreation Impact Fee account except the Riverview Park sidewalk project. Mr. Killgore explained that the project has to be an improvement or an enhancement in order to qualify for the recreation impact fees.

Ms. White asked if the money to improve the sidewalks in Riverview Park comes out of the waterfront money. Mr. Carlisle stated there were some capital projects for Indian River Drive improvements. Some of those funds came in under budget, and some of those funds are being transferred over into the sidewalk funds. The sidewalk work will not come out of impact fees.

Mr. Danise asked about which dock is going to be worked on. Mr. Benton said it will be the dock on the south side.

Mr. Agudelo inquired about bullpens at the Barber Street complex. He asked if it would be possible to put bullpens at each of the fields. Mr. Benton stated the current plan is to install bullpens for the little league fields. On the senior fields, those bullpens can be installed, one on each side or two down the left field section where the clay mound is. Mr. Agudelo also asked when the work on a warning track will be done. Mr. Benton stated that is something that will need to be phased in over a few years. Mr. Agudelo asked if all the fencing is being replaced, as in places the fencing is very rusted. Mr. Benton stated this project is only replacing the fencing from the dugouts outward. However, there are backstop panel replacements. Staff is currently looking for someone who can manufacture those panels. The company that had been used to replace the panels is no longer in business. Those panels can be replaced on an as-needed basis. Mr. Agudelo asked if it would be possible to place padding around the basketball goals. Mr. Benton stated he would look into the cost for padding around the basketball goals. He stated that there is a basketball goal replacement project that could potentially be included in next year's budget.

11. Board or Committee Member Matters

Mr. Renzi commented that Mr. Benton is doing a great job, and he is to be congratulated.

Ms. White asked regarding getting lightning detectors. Mr. Benton stated that is included in this year's budget proposal. He had a discussion with the previous City Attorney on this matter, but he has not had a chance to discuss it with the new City Attorney. Ms. White also asked how the pickleball is going. Mr. Benton stated there have been a lot of people playing, mostly in the mornings and in the evenings.

Mr. Danise stated that he made some notes that he submitted. In his encounters with the public, most are pleased with the park facilities as well as the personnel involved with the parks in Sebastian. Mr. Benton asked that he get a copy of those notes so that they can be put in the Minutes. (SEE ATTACHED)

Mr. Agudelo echoed what the other Committee members said about how good the parks are looking over the past year or so. He asked Mr. Benton to pass along to the City personnel who take care of the parks that they are doing a great job.

Mr. Mauro mentioned that a park down in Vero Beach closed, and there are more people coming to Sebastian to play pickleball. He looked at the signs at the pickleball courts, and he suggested that might be something that needs to be looked at, as it is a little misleading.

Ms. Webster thanked the City staff for the job they are doing.

12. Items for the Next Agenda: July 27, 2020

A. Comprehensive Plan Parks and Open Spaces Elements

Mr. Agudelo suggested that the adopt-a-park program that was instituted last year be discussed at the next meeting. Ms. Webster suggested redoing the program so that the new Committee members can pick the parks they want to adopt.

Mr. Benton stated the Committee will get the proposed Comprehensive Plan elements a couple weeks in advance of the July 27 meeting so they have a chance to go over the proposed elements prior to the meeting.

13. Adjourn

There being no further business, Ms. Webster adjourned the meeting at 7:23 p.m.

By:_____ Date:_____

Joann Webster, Chairperson
Parks and Recreation Committee

jg

CITY OF SEBASTIAN

HOME OF PELICAN ISLAND

PARKS & RECREATION ADVISORY COMMITTEE
AGENDA TRANSMITTAL FORM

Board Meeting Date: July 27th, 2020

Agenda Item Title: Proposed 2040 Comprehensive Plan Element Review and Discussion of the Parks, Recreation & Open Space Element

Recommendation: Committee discussion with staff and consultants on the proposed Parks, Recreation & Open Space Element – *Goals, Objectives, and Policies & Updated Data and Inventory Analysis.*

If Agenda Item Requires Expenditure of Funds:
Total Cost: N/A

Attachments:

Proposed 2040 Comprehensive Plan Element of Parks, Recreation & Open Space

JULY 27, 2020

PARKS & RECREATION BOARD

PARKS, RECREATION & OPEN SPACE ELEMENT

*EDITS TO THE EXISTING ELEMENT ARE RECOMMENDED ACTIONS BASED ON STATUTORY CHANGES, CONSOLIDATIONS, ADDITIONS, ETC. PLEASE NOTE ANY QUESTIONS, CONCERNS, AND RECOMMENDATIONS FOR DISCUSSION WITH CONSULTANTS AT THE NEXT SCHEDULED MEETING.

A. Proposed 2040 Comprehensive Plan Element

1. Review by Staff of Parks, Recreation & Open Space Element – *Goals, Objectives, and Policies & Updated Data and Inventory Analysis*
2. Discussion by Board
3. Public Input
3. Next Steps

CITY OF SEBASTIAN
Comprehensive Plan
2040

PARKS, RECREATION, & OPEN SPACE ELEMENT

The City of Sebastian has a comprehensive system of public and private recreation sites including parks, natural areas, waterway access, and recreation facilities. The City makes it a priority that adequate active and passive recreation and open space is provided and distributed equitably throughout the City. The **Parks & Recreation Element** ensures that the City has a comprehensive system of public recreation and open space which meets the needs of existing and projected users and which enhances the natural resources of the City.

PARKS, RECREATION, & OPEN SPACE ELEMENT

1. Requires Level of Service (LOS) standards for parks and recreation facilities;

2. Ensures equitable distribution of parks to guarantee accessibility to recreational facilities for all residents;

3. Requires the development of a City Parks System Master Plan to identify and plan for the maintenance of existing facilities and development of new facilities;

4. Encourages the utilization of creative urban design concepts such as low impact development and Crime Prevention Through Environmental Design (CPTED);

5. Enforces the City's Integrated Pest Management Plan to encourage nature-based pest management methods;

6. Promotes the conservation of environmentally sensitive open space, environmental teaching, and sustainability efforts at parks;

7. Emphasizes bicycle and pedestrian access and the expansion of the City's trail network;

8. Promotes increased public access to the City's shorelines;

9. Encourages community outreach and promotes environmental education activities; and

10. Identifies City coordination efforts with the public and private sector in order to provide and promote recreational opportunities.

GOALS, OBJECTIVES, & POLICIES

Goal 6-1: Provide Well Planned Parks, Recreational Facilities, and Open Space.

The City's Goal is to provide well planned, active and passive recreation and open space ensuring a comprehensive system of parks, recreational facilities, and open space that meets the health, safety and welfare needs of the City residents and visitors and which enhances the natural environment of the City.

Objective 6-1.1: Parks and Recreation System. The City shall undertake a comprehensive program to ensure that the Level of Service (LOS) for parks and recreation facilities is maintained, with a distribution of parks and recreational facilities throughout the City that meets the needs of all residents and visitors.

> Policy 6-1.1.1: LOS Standards for Parks and Recreation Facilities. The City adopts the standards shown in **Tables 6-1** and **6-2** as the Recreation and Open Space LOS standards. The City shall maintain these adopted LOS standards to reflect the diverse character of Sebastian and the needs of the various age groups, social and economic groups, and recreational preferences of City residents. Facilities and their respective standards and service areas are defined as either neighborhood or community parks. Note, for the purpose of this Element, the definitions provided in the Data Inventory and Analysis (DIA) shall apply.

Table 6-1: Recreation Standards for Size and Location

Classification	Location	Acres/1,000 Residents	Size	Service Area
Neighborhood	Neighborhood area	2.0	1.0 to 5.0 acres	0.5 mile radius
Community	Group of neighborhoods	2.0	5.0 to 25.0 acres	0.5 mile to 3 mile radius

Table 6-2: Recreation Standards for Facilities

Facility	Standard
Baseball/Softball Fields	1 field per 6,000 residents
Basketball Courts	1 court per 5,000 residents
Boat Ramps	1 ramp per 12,500 residents
Equipped Play Areas (playground)	1 area per 10,000 residents
Football Fields	1 field per 20,000 residents
Golf Course	18 holes per 50,000 residents
Recreation Center & Gym	1 center per 25,000 residents
Soccer Fields	1 field per 10,000 residents
Swimming Pools	1 pool per 25,000 residents
Tennis Courts	1 court per 5,000 residents
Volleyball Courts	1 court per 8,500 residents
Bicycle Trail (paved)	1 mile per 31,250 residents
Bicycle Trail (unpaved)	1 mile per 10,750 residents
Hiking Trail	1 mile per 6,000 residents
Pickleball	1 court per 5,000 residents

Note: Standards are based on permanent population.

Policy 6-1.1.2: Public Parks. The City shall use the information and analysis developed as part of the DIA to create a Parks System Master Plan. The Parks System Master Plan shall be consistent with the Open Space LOS Standard, except as may be amended per E below, and provide additional information including development of a schedule for the:

A. Inventory of existing facilities;
B. Identification and maintenance of existing facilities;
C. Development of new facilities;
D. Criteria for the prioritization of funding for the acquisition, development and enhancement of public parks, with an emphasis on existing parks to facilitate projects to maintain adopted LOS standards for the Capital Improvements Program (CIP); and
E. Investigate potential alternative approaches to meeting LOS through the use of a park hierarchy, differential LOS, etc. that looks at not only the inventory of facilities but also the location and proximity to users.

Policy 6-1.1.3: Capital Planning. Consistent with **Policy 6-1.1.2**, the City shall review on an annual basis the need for new recreation sites and facilities as well as the need for repair and renovation of existing facilities. These identified needs shall be incorporated into the capital improvement plan. The analysis shall be directed towards maintaining a system of recreational sites and facilities which is responsive to user needs.

Policy 6-1.1.4: Monitor and Update Recreation Demand and Supply Analysis. When a park activity threshold listed in **Table 6-2** is reached, the City shall investigate the applicability of providing such activity or facility. The investigation shall include public input and may utilize hearings and user surveys to encourage input. Periodically, the continued relevance of the facility standards to current resident needs and desires shall also be investigated in a similar manner.

Policy 6-1.1.5: Population Projections. The City, as part of the Comprehensive Plan update, shall update the population projections for the following five and ten year planning horizons and apply these projections to determine projected future demand. The City will strive to review and update the population projections on a five-year basis.

Policy 6-1.1.6: Current and Projected Unmet Park Facility Demand. Consistent with **Policy 6-1.1.10**, the City shall adopt and maintain a multi-year schedule of capital construction projects to address future projected deficit in park facilities as identified in the DIA. As part of the recommended Parks Master Plan and population projections, the City shall analyze future projected (potential) deficit in Community Park space. Projected deficits in future years shall be scheduled to be addressed prior to their projected occurrence.

Policy 6-1.1.7: Mandatory Land Dedication or Fees in Lieu Thereof. The City shall enforce provisions for the mandatory dedication of land for parks and recreation or fees in lieu thereof for all development with new dwelling units. These regulations are intended to ensure that new development provides for the necessary recreation lands, facilities, and/or fees in lieu in order to accommodate the additional demands generated by residents of the new development.

Policy 6-1.1.8: Land Dedication Enhancement. The City shall update and maintain the Land Development Code (LDC) to match the LOS standards, enhance the applicability of the dedication or fee in lieu provisions, add objective criteria for determining private recreation credits, and eliminate the ability for private recreation credits to satisfy all public recreation land dedication requirements.

Policy 6-1.1.19: Coordination with Governance & Implementation Element. The City shall schedule and incorporate such projects costing $25,000 or more into the **Governance & Implementation Element**.

Policy 6-1.1.10: Maintenance of Existing Recreation Land and Facilities. The City shall maintain existing recreation land and facilities through the use of proper management and funding techniques. The City shall ensure that recreation facilities are well managed, well maintained, and that high quality recreation programs are available to all residents.

Policy 6-1.1.11: Utilize Creative Concepts of Urban Design and Conservation of Environmentally Sensitive Open Space. All plans for development or redevelopment of park land resources involving or adjacent to environmentally sensitive lands shall incorporate creative concepts of

urban design (stormwater/low impact development) and landscape. The plans shall be designed to enhance controlled access along the shoreline and wetland systems. Active and passive recreation areas shall be planned in a manner compatible with unique natural features of the site. Where provided, the design shall provide a circulation system to minimize conflict between pedestrians and vehicles and shall seek to use necessary stormwater management areas as a beneficial feature of the design. Adequate landscape and screening shall be integrated into park development plans to minimize land use conflicts, protect stability of established residential areas, and enhance community appearance.

Policy 6-1.1.12: Promote Environmental Education as Part of Recreation Programs. The City shall promote environmental education and management as an integral part of park and recreation policies and programs. Support for cooperative programming between resource agencies and local educational advisors will provide park and recreation resources as an instrument for environmental teaching, and as a means for accomplishing the City's Goals and Objectives. The City shall promote the development and maintenance of the nature trail at Kildaire Park.

Policy 6-1.1.13: Promote Health Education. The City shall continue to offer community events and provide educational programming that highlights the importance of health and fitness.

Policy 6-1.1.14: Promote Sustainable Development Concepts as Part of Park Design. The City shall utilize native plants and Florida Friendly Landscape techniques when landscaping is added or updated in parks, recreation facilities, and open spaces. The City shall utilize low-impact development strategies to reduce stormwater runoff from parks and recreation facilities. The City shall utilize the 2020 Parks Integrated Pest Management Plan in maintaining parks, recreation, and open space landscapes.

Policy 6-1.1.15: Waterfront Redevelopment. Consistent with **Policy 6-1.1.3**, the City shall consider waterfront redevelopment needs, particularly the potential for new access points to the Indian River, including areas to support parking demands generated by shoreline access improvements. As such land, facility, and improvement needs are identified; the City shall investigate the potential of addressing such needs through the use of public or private not-for-profit agency resources.

Policy 6-1.1.16: Crime Prevention Through Environmental Design (CPTED). The City shall incorporate cost-efficient CPTED principles and practices into the design, construction, and operations of new park and facility construction. The City shall also begin to incorporate CPTED principles in existing properties as it becomes fiscally possible or when renovations take place.

Policy 6-1.1.17: Outings. The City shall continue to offer youth, adult, and senior recreational opportunities and outings.

Objective 6-1.2: Land Acquisition. The City shall maintain a program to continually evaluate the potential purchase of land for parks, recreation, conservation, and open space needs.

Policy 6-1.2.1: Acquisition. The City shall identify and prepare a list of possible acquisition lands for recreation or open space to meet the current and future needs of City residents, as measured by the adopted City LOS standards through 2040. The City shall add proposed land acquisition projects to the City's CIP.

Policy 6-1.2.2: Access. The City shall give priority to acquisition of lands that provide access to parks, recreation or open space areas.

Policy 6-1.2.3: Priority. The City shall give high priority to acquisition of lands in the Coastal High Hazard Area (CHHA) and in or adjacent to jurisdictional wetlands for passive recreational purposes, provided that that the City determines that recreational use of these sites would not endanger the public health, safety, welfare or environment.

Objective 6-1.3: Protect Natural and Open Space. The City shall maintain a comprehensive LDC which includes performance criteria designed to protect lands designated as natural reserves or open space including the Indian River Lagoon, the St. Sebastian River, and their tributaries from incompatible land uses and to ensure such lands shall remain functionally intact.

Policy 6-1.3.1: Implementing the LDC. In addition to the mandatory park and recreation land and facilities regulations, the City shall enforce the LDC which includes specific open space definitions and standards addressing protection of open space, natural vegetation, landscape, and signage. Standards shall include stipulations governing the provision and use of open space for buffering, protection of natural corridors, including drainageways, as well as other commonly accepted uses. The City shall also maintain standards which include performance criteria designed to preserve public access to the Indian River Lagoon, St. Sebastian River, and their tributaries.

Policy 6-1.3.2: Standards for Review and Maintenance. The City shall maintain criteria which shall be used to review all proposals for development in existing and proposed areas designated as open space on the master drainage plan map(s) and/or the Future Land Use Map.

Policy 6-1.3.3: Preservation of Potential Sites. All sites listed in the DIA as Unimproved Future Park Sites shall be retained by the City for use as parks, recreation facilities, or nature reserves.

Policy 6-1.3.4: Incorporation of Green Infrastructure Plan. The City shall strive to incorporate a natural system of connectivity within the park and open space system. The Green Infrastructure will aid in transport of natural ecosystems, reduced flooding of developed area, and increased treatment of stormwater runoff.

Policy 6-1.3.5: Environmentally Sensitive Lands. Whenever possible, recreational sites should be established with active and passive uses to provide a range of recreational facilities and opportunities, and to ensure preservation or conservation of environmentally sensitive lands. The City shall identify those recreational sites containing environmentally sensitive lands and limit those portions to passive use recreation only; where it is determined that passive recreational use of these lands would not endanger the public health, safety, welfare, or environment.

Policy 6-1.3.6: Passive Recreation. The City may use City-owned floodplains, conservation lands or environmentally sensitive lands, and other similar areas for passive recreational land, provided that the City determines that passive recreational use of these sites would not endanger the public health, safety, welfare, or environment. The City shall partnership with local, regional, state and federal agencies in reaching this goal.

Objective 6-1.4: Public Access. Multi-modal access (i.e. pedestrian, bike, vehicular) shall be provided to all public recreation sites, with pedestrian access to all facilities at such sites. As park sites are acquired, developed, or redeveloped, all modes of access shall be considered.

Policy 6-1.4.1: Access. All future City owned parks and recreational facilities shall have direct access on a public street, right of way, or easement. The City shall not vacate necessary existing rights-of-way, easements, walkways, and other properties available for public access to parks and recreation facilities or open space.

Policy 6-1.4.2: Park and Public Space Connectivity. The City shall connect parks and public spaces through pedestrian/bike access ways including linear parks, sidewalks, bicycle lanes, trails, blueways (such as kayak trails), and greenways.

Policy 6-1.4.3: Automobile Access. The City shall ensure an appropriately scaled level of automobile access. Parks with facilities designed to appeal to a wider audience than the immediate adjacent area shall have adequate parking for the anticipated number of users. Parking areas where coverage of sod cannot be maintained due to the level of use shall have paved parking installed. Compatibility with the character of the park and surroundings shall be taken into account in designing automobile access.

Policy 6-1.4.4: Bicycle and Pedestrian Access. The City shall ensure bicycle and pedestrian access to all sites and internal pedestrian access to all recreation facilities. Whenever possible, site access shall be connected to existing sidewalks and pathways providing access to the community at large. Bicycle racks shall be provided at all parks, special facilities, and nature reserve areas.

Policy 6-1.4.5: Accessible Facilities. Recreation sites shall be connected to external accessible routes when present and shall include internal accessible routes to all facilities whenever feasible. All types of amenities shall be provided with barrier-free access in a representative quantity. The City shall identify and schedule any readily constructible barrier-free access improvements and evaluate other improvements for inclusion in the capital improvement plan. The City will provide vehicle parking, ADA-compliant parking, bicycle racks, and barrier-free access at City-owned parks and recreational facilities.

Policy 6-1.4.6: Restrooms. Parks with existing restrooms shall be evaluated for the condition of the restrooms and the level of accessibility provided. Deteriorated facilities shall be scheduled for renovation, with feasible accessibility improvements included in the scope of work.

Policy 6-1.4.7: Opportunity. Each park amenity replacement, improvement, or addition shall be recognized as an opportunity to improve access for all users, including those with special needs, through universal design.

Policy 6-1.4.8: Bicycle and Hiking Trails. The City shall pursue the expansion of the existing network of trails so that a comprehensive, connected system is created which includes integration with State and County networks.

Policy 6-1.4.9: Wayfinding and Voluntary Compliance. The City shall add wayfinding and similar signage, using consistent design themes and language, to all parks that are currently not marked and shall install park system maps at all parks as may be necessary. To improve user understanding and

compliance, and facilitate enforcement, the City shall install a park rules sign of consistent appearance at each site.

Objective 6-1.5: Coordination of Planning and Resources. The City shall coordinate planning for recreation improvements with each level of government including the State of Florida, Indian River County, the Indian River County School Board, non-profits, the private sector, and the public at large in order to provide and promote recreational opportunities, understand needs, and encourage environmental education activities all in a cost effective manner.

Policy 6-1.5.1: Joint School-Park Concept. Consistent with the **Public Schools Element**, the City shall cooperate with the Indian River County School Board to promote joint use of schools and parks for school and public recreation activities. Efforts shall be focused on the two schools within the City limits (Pelican Island and Sebastian elementary schools), however the two schools immediately adjacent to the City may be included as well (Sebastian River Middle and Sebastian River High).

Policy 6-1.5.2: Private Sector. On a continuing basis through the site plan and subdivision approval process, the City shall coordinate with private sector developers in providing needed improvements to recreation facilities by enforcing the recreation land and facility dedication or fee in lieu provisions of the LDC.

Policy 6-1.5.3: Funding Sources. The City shall pursue grants, foundations, and other public/private funding sources for the development, expansion, and maintenance of park and public space resources. The City shall seek out and obtain the advantages of all appropriate local and non-local sources of financial and technical assistance. Alternative funding sources and their operational and administrative impacts shall be regularly monitored so that evolving State and Federal assistance programs can be aggressively pursued in furtherance of the City's recreation goals and objectives while remaining cost effective and fiscally equitable.

Policy 6-1.5.4: Other Human Service Planning Efforts. The City shall create realistic plans and take responsive action to meet identified needs in a cost-effective and fiscally equitable manner by encouraging the use of local park and recreation resources for a wider range of human services delivery (i.e. health information, consumer protection, nutrition, literacy, etc.)

Policy 6-1.5.5: Cooperative Education Programs. Park and recreation resources shall be used by the City as an instrument for environmental education as well as other adaptive education programs. This effort shall facilitate the use of local parks as year-round community education and recreation facilities for all age groups.

Policy 6-1.5.6: Citizen Outreach. The City shall coordinate with local media outlets (newspaper, television, etc.) as well as use the City website and social media as appropriate to inform residents about recreation activities and events. Outreach efforts shall include targeted efforts to reach the entire community.

Policy 6-1.5.7: Volunteer Organizations. The City shall continue to support the efforts of and work closely with volunteer organizations that provide a wide range of recreation programs.

Policy 6-1.5.8: Intergovernmental Coordination. Specific Objectives and Policies regarding intergovernmental coordination and this Element are provided and identified in the **Governance & Implementation Element**.

Objective 6-1.6 Boating And Waterways. The City shall include blueways, waterways, and boating in parks, recreation, and open space planning including the identification of high priority facilities.

Policy 6-1.6.1: Schedule. The City shall develop and maintain a schedule for the assessment of high priority waterways networks, including boating, kayak and canoe trail ways, and other water transportation options including but not limited to inspections, repairs, and future capital improvements projects.

Policy 6-1.6.2: LOS. The City shall adopt LOS standards for boating and fishing facilities, such as boat ramps, kayak and canoe launches, fishing piers, and public access points.

Policy 6-1.6.3: Public Access. The City shall strive to maintain a no net loss policy for public access to waterways and shorelines and will work to maintain and/or expand the publicly accessible location throughout the City.

DATA INVENTORY AND ANALYSIS

INTRODUCTION

The City of Sebastian has a comprehensive system of public and private recreation sites, including parks, natural areas, waterway access, and recreation facilities. This Element provides a recreation inventory, analysis, and policies pursuant to the requirements of Section 163.3177(6)(e) of the Florida Statutes. In addition, current and projected needs for recreation sites, facilities, and open space are analyzed based on an assessment of existing and projected recreation demands and a plan to meet those demands provided.

DEFINITIONS

Neighborhood Park. A smaller park for diverse local recreational activities. Neighborhood parks are generally 1 to 5 acres in size and accessible by foot or bicycle with a service radius of about one-half mile and a service population of up to 5,000 persons. Typical development may include basketball and tennis courts, open play areas, play structures, picnic tables, benches, landscaping, lighting, and limited parking.

Community Park. A larger park that provides a diverse range of community-scale recreational and leisure activities or contains an area of environmental or aesthetic quality. Facilities and activities may include, but are not limited to, athletic fields and courts, swimming pools, gymnasiums, performing and fine arts centers, crafts buildings, play structures, picnic tables, benches, landscaping, lighting, and parking. A community park is typically a "drive-to" facility from 5 to 25 acres in size that services the needs of up to 25,000 people. Community parks are ideally located near collector or arterial roads to accommodate adequate access and should be well-buffered from adjacent residential areas.

Special Facilities. Special recreation facilities are generally identified as unique in their nature and purpose. Special facilities are exemplified by golf courses, community centers, boat ramps, zoos, stadiums, and other single-purpose facilities. While development standards are available for such facilities, the provision of special facilities is typically based more on the desires or unique characteristics of a community rather than numerical standards.

District Park. A major or district park is usually designed to provide recreation opportunities to more than one community or an entire county. These sub-regional parks are often based on a resource or scale that cannot be provided by a community park. District parks can serve populations of about 100,000 people and are typically located within 30 minutes driving time of the users. These parks may provide ample contact with natural aspects of the setting and include large picnic areas, areas for field sports, nature trails, boating facilities, and riding trails.

Regional Park. Regional parks function primarily to provide special natural resource use to people of all ages. They are generally more than 3,000 acres in size and within an hour's driving time of the population they serve. Activities available at a typical regional park include boating, swimming, hiking, horseback riding, picnicking, overnight camping, and nature appreciation.

Nature Reserve Area. Areas primarily designed with consideration for outdoor recreation and nature preservation, including but not limited to, areas for viewing and studying land, aquatic, or avian wildlife;

conservation activities; swimming; hiking; camping; trail facilities; nature centers; or botanical gardens. Service area radius and desirable acreage vary. A nature reserve area may be one of the following:

Conservation / Open Space Area. Are preserved and managed to protect its natural environment or aesthetic quality or to protect health, safety, and welfare by providing open spaces between roadways or development, with recreation and leisure activity serving as a secondary function.

Linear Recreation Area. Area developed to provide travel routes for one or more types of recreational or human operated vehicles such as horseback riding, bicycling, hiking, or jogging.

RECREATION AND OPEN SPACE INVENTORY

This section presents an inventory of park sites, existing resource-based and activity-based recreational facilities and open space, and identifies parks, playgrounds, and beaches accessible to the public within the vicinity of Sebastian. The inventory also indicates the type of improvements (amenities) developed on the sites. Included in the inventory are city, county, and state parks. Recreational facilities at school sites, though only potentially available for public use when classes are not in session, represent another resource included in the inventory.

The inventory provides an emphasis on recreation space within the city limits of Sebastian. However, Indian River County and the State of Florida maintain an abundance of district and regional parks and open space throughout the area in the northern part of Indian River County that are available to and frequented by Sebastian residents and these have been inventoried. Smaller scale county parks immediately nearby Sebastian are also mapped. Recreation facilities that are owned and operated by the private sector which may be available at a private club or as an amenity provided by a housing development are not included due to their restricted access.

A. Classification

Since recreation space provided by the City differs according to purpose, function, and activity, a regimen of recreation space classification was developed and used to profile the existing recreation system. As a design guide helpful to measure the adequacy of future recreation resources and needs, this classification system defines recreation space according to service area and function. Service area classifications include neighborhood and community parks as well as natural areas and special facilities. In addition, recreation areas can be classified into two broad categories: active-based and passive-based recreation activities. Most public parks and open spaces can be classified as either active- or passive-based recreation depending on the facilities and natural resources located at the park site. These terms are defined as follows:

1. Active-Based. Active-based recreation activities involve the pursuit of physical exertion that raises the heart rate to a level significantly above the resting level. This may be achieved through participation in a variety of activities such as team sports like baseball and football, as well as individual activities including jogging, bicycling, hiking, swimming, or playground activity. The main benefits of such recreation uses are increased cardiovascular fitness and improved mental health through release of energy and/or tension.

   Active-based recreation activities rely on the presence of recreational facilities that enable certain activities to function. Without the provision of such facilities, the activity would either be limited in quality or altogether eliminated. Active-based recreation areas may include open space areas which allow for

unprogrammed play of a variety of sports. Active-based recreation activities are further divided into two categories:

a. **User Oriented.** User-oriented activities can be provided anywhere, if funding and space are available. Activities include: baseball, football, basketball, golf, and tennis. User-oriented facilities generally are man-made, and should be located to best serve the population of the community.
b. **Resource Based.** Resource-based activities are those activities that can only occur in certain environments. This includes all water related activities, hiking trails, hunting, and camping. Resource-based activities are designed to make maximum use of the natural resources, such as waterways, woodlands, and wetlands since the resource is not present in all communities.

2. Passive-Based. Passive-based recreation involves activities that do not necessarily raise the heart rate significantly above the resting level, but rather provide refreshment through furnishing visual and/or psychological release from the pressures of everyday urban life. In passive-based recreation facilities, emphasis is placed on enjoyment of a natural resource or an activity and not on participation. The passive-based recreation facilities category includes picnic tables, observation areas, botanical gardens, historical or archaeological sites, and park benches. Passive recreation activities include sunbathing at the beach, walking through a scenic area, or a visit to a local historical site.

   Passive-based recreation areas are often referred to as open spaces and preserves. Open spaces include: fields, walking trails, scenic view points, and greenbelts. Generally, open space areas have minimal facilities. Open space can also be used to enhance urban areas by providing relief from intense or monotonous development.

B. Inventory of Parks and Recreation Areas

The City has a total of approximately 584 acres of developed, city-owned recreation land and other undeveloped recreation land. Within and immediately adjacent to the City are public school sites with recreation areas that can be available to the public. In addition, state and county owned lands available for recreation use are located near the City in the unincorporated portion of Indian River County. Below is a listing of the recreation sites and open space areas within the City of Sebastian and the nearby unincorporated area, including a listing of amenities, organized by type and shown on the associated maps.

1. Neighborhood Parks (See **Table 6-3** and **Map 6-1**)
2. Community Parks (See **Table 6-4** and **Map 6-2**)
3. Special Facilities (See **Table 6-5** and **Map 6-3**)
4. Nature Reserve Areas (See **Table 6-6** and **Map 6-4**)
5. Unimproved Future Park Sites (See **Table 6-7** and **Map 6-5**)
   a. The City of Sebastian obtained a number of unimproved park sites as part of the settlement with General Development Corporation (GDC). These former GDC sites total 52.36 acres of land which can be used in the future for neighborhood parks, community parks, special facilities, or nature reserves depending on their size and location and the community's needs.
6. School Sites (See **Map 6-6**). The Indian River County School Board has two schools within the City of Sebastian as well as two schools immediately abutting City limits. These schools provide areas which could be made available for recreation use by nearby residents.
   a. **Sebastian Elementary.** This 40 +/- acre school is located within the City on CR 512 east of the Florida Power and Light Company easement at 400 Sebastian Boulevard in the northern part of the

City. Facilities include a baseball field, outdoor playground, basketball courts, and open space for passive recreation.

b. **Pelican Island Elementary**. This 32.23 +/- acre school is located within the City at the corner of Schumann Drive and Barber Street at 1355 Schumann Drive in the south portion of Sebastian Highlands. Facilities include a baseball field, an all-purpose field, basketball courts, an outdoor playground, and open space for passive recreation.
c. **Sebastian River Middle.** This 43 +/- acre school is located on CR 512 immediately west of the City limits at 9400 CR 512. Facilities include a baseball field, a football/soccer field, and four tennis/basketball courts.
d. **Sebastian River High.** This 78 +/- acre school is located on 90th Avenue south of CR 512 immediately west of the City limits at 9001 90th Avenue. Facilities include a football stadium with running track, three football/soccer fields, baseball field, softball field, two basketball courts, and eight tennis courts.

7. Indian River County Parks. The County's Parks Department operates the following in the northern portion of Indian River County:
   a. **Amber Sands Beach Access.** This 3.38 acre site is located along the Atlantic Ocean within the Archie Carr National Wildlife Refuge at 12566 North A1A. Amenities include a beach access boardwalk and unpaved parking.
   b. **Dale Wimbrow Park.** Sharing a 74 acre site with Donald McDonald Park west of the City limits, between the Sebastian River and the Airport, this park is located at 11805 Roseland Road. Amenities include a playground, picnic pavilions, an event pavilion, boat launch, fitness trail, fishing access, BBQ grills, restrooms, and paved parking.
   c. **Donald McDonald Park.** Sharing a 74 acre site with Dale Wimbrow Park west of the City limits, between the Sebastian River and the Airport, this park is located at 12315 Roseland Road. Amenities include 29 primitive campsites, 1 campsite with electricity, an observation boardwalk, boat launch, fire pits, picnic tables, restrooms with showers, and a ranger's office with a multi-purpose room.
   d. **Golden Sands Beach Park.** This 15.42 acre site is located along the Atlantic Ocean at 10350 North A1A. Amenities include beach access with lifeguards, a playground, picnic pavilions, restrooms with showers, and paved parking.
   e. **Kiwanis Hobart Park.** This site is located southeast of the City at 5790 77th Street. Amenities include 2 baseball fields, basketball court, playground, 2 large pavilions, covered picnic tables, horseshoe pits, and restrooms.
   f. **North County Regional Park.** This site is adjacent to the west side of the City at 9450 CR 512 within the St. Sebastian Buffer Preserve State Park. Amenities include a swimming pool, waterpark, 4 baseball fields, 4 soccer fields, playground, and restrooms.
   g. **Roseland Ballfield (Helen Hanson Park).** This 1.93 acre site is north of the City limits at 8020 129th Court. Amenities include a baseball field, playground, halfcourt basketball court, and restrooms.
   h. **Roseland Community Center and Park.** This 0.72 acre site is located along the Sebastian River north of the City limits at 12925 83rd Avenue. Amenities include a community building, river access boardwalk, pavilion, playground, and BBQ grill.
   i. **Seagrape Trail Beach Access.** This 0.76 acre site is located along the Atlantic Ocean on the east side of North A1A and north of Marbrisa Drive. Amenities include boardwalk beach access and paved parking.

j. **Treasure Shores Beach Park.** This 20.8 acre site is located along the Atlantic Ocean at 11300 North A1A. Amenities include beach access, a playground, walking trails, restrooms with showers, and parking.
k. **Turtle Trail beach Access.** This 1.16 acre site is located along the Atlantic Ocean on the east side of North A1A and north of River Club Drive. Amenities include boardwalk beach access and paved parking.
l. **Wabasso Beach Park.** This 1.32 acre site is located along the Atlantic Ocean at 1820 Wabasso Beach Road. Amenities include beach access with lifeguards, restrooms with showers, and paved parking.
m. **Wabasso Causeway Park.** This 0.46 acre site is located on the Indian River Lagoon southeast of the City limits at 3105 Wabasso Bridge Road. Amenities include a boat launch, canoe launch, picnic tables, pavilions, restrooms, and paved parking.
n. **West Wabasso Park.** This 10 acre site is adjacent to the south side of the City at 8900 64th Avenue. Amenities include 1 baseball field, 2 basketball courts, a tennis court, playground, 2 pavilions, and restrooms.
o. **Indian River County Conservation Areas.** The County maintains a number of conservation areas in the northern portion of Indian River County within or adjacent to Sebastian:
p. **Ansin Riverfront Conservation Area and Canoe Launch.** This 123 acre site northeast of the intersection of CR 512 and CR 510 is partially in an unincorporated pocket along the west side of the City and partially in the City. The site contains a walking train and mature live oak habitat. Also, at 9800 Canoe Launch Cove, are a canoe launch, 2 pavilions, and parking. The site augments the protection of the St. Sebastian River and provides a pedestrian connection and greenway between CR 512, the Trans-Florida Central Railroad trail grade (Fellsmere Rail Trail), and the 22,000 acre St. Sebastian River Preserve State Park.
q. **North Sebastian Conservation Area.** This 407 acre site is in the northern portion of the City, with general access from Friendship Park at 1225 Main Street and equestrian access from further west on Main Street. The conservation area contains numerous habitats: xeric oak scrub, sand and pine scrub, sand pine forest, scrubby flatwoods, mesic pine flatwoods, wet flatwoods (osprey nesting area), freshwater marsh, upland hardwood forest, wetland forested mix, shrub, brushland, and freshwater ponds and lakes. The area is a key mitigation tract for the Florida Scrub-Jay Habitat Conservation Plan, and is accessible to the public through over 5 miles of hiking, off-road bicycling, and horseback trails; fishing; a boardwalk; kayak launch; and horse trailer parking and corrals.
r. **Sebastian Scrub Conservation Area.** This 9.94 acre site is located at 1258 Schumann Drive within the City limits and near the Englar Drive Stormwater Park. It provides oak scrub and scrubby flatwoods habitat for the Florida Scrub-Jay.
s. **Sebastian Harbor Preserve.** This 163 acre site is located on Englar Drive across the street from the Englar Stormwater Park and (in combination with the abutting Sebastian Scrub Conservation Area) forms part of a large contiguous area of habitat preservation.
t. **Wabasso Scrub Conservation Area.** This 111 acre site along CR 510 west of 58th Avenue adjacent to the south side of the City primarily consists of sand pine / scrub oak habitat. It is an important component of the Florida Scrub-Jay Habitat Conservation Plan and is also being utilized for gopher tortoise relocations.

In addition, there are other conservation areas maintained by the County in the vicinity of Sebastian that are not listed because they are not open to the public.

8. State Parks
    a. **Pelican Island and Indian River Spoil Islands.** The 4,760 acre Pelican Island wildlife sanctuary is the nation's first designated wildlife sanctuary. Wildlife enthusiasts frequent this area in boats to observe a wide variety of water fowl and marine life. In addition, the various spoil islands within the Intracoastal Waterway offer a number of recreational opportunities, including camping, fishing, swimming, water skiing, and shellfishing. A total of 19 spoil islands are located within the waterway spanning from the Brevard County line to the Wabasso Causeway. These islands range in size from 0.5 to 4 acres and are undeveloped.
    b. **Sebastian Inlet State Park.** This 1,000 acre site spans Indian River and Brevard counties, stretching over 3 miles of the barrier island east of Sebastian. The main entrance is at 9700 South State Road A1A in Melbourne Beach. Amenities include beach access, boat rental, canoe and kayak rental, boat launch, improved campsites, pavilions, picnic areas, a playground, and restrooms. Activities include fishing, hiking, biking, and wildlife watching. A unique feature of the park is the treasure museum commemorating the sunken Spanish treasure off shore.
    c. **St. Sebastian River Preserve State Park.** This 22,000 acre site is located in both Indian River and Brevard counties and is adjacent to the City across the Sebastian River. The main entrance is at 1000 Buffer Preserve Drive in Fellsmere. The park protects a longleaf pine forest and native plants and animals. Amenities include horseback and hiking trails, primitive campsites, and picnic areas. Activities include canoeing, boating, fishing, and wildlife watching.
9. Private Recreation. Private recreation areas and facilities provided within Sebastian reduce the need for the City to provide such facilities. A wide assortment of recreation opportunities are made available to the residents of Sebastian through private recreation resources both within and outside the City. Active recreation opportunities include outdoor sports and athletics such as golf, fishing, and boating. Indoor activities include gymnastics, weight training, aerobics, karate, and yoga. Since a significant portion of the City's population has access to these private recreation offerings, the City's obligation to provide land area and facilities is reduced and was taken into consideration in the recreation supply and demand analysis in the next section.

Table 6-3: Neighborhood Parks

ID	Name	Active/ Passive	Size in Acres	Basketball Courts	BBQ Grills	Benches	Bicycle/Walking Trail (paved) miles	Bicycle/walking Trail (unpaved) miles	Equipped Play Area (playground)	Open Play Field	Dock	Pavilion	Picnic Tables (covered)	Picnic Tables (uncovered)	Racquetball courts	Shuffleboard courts	Tennis Courts	Volleyball Courts	Restrooms (male and female)	Trash Receptacles	Dog Waste Pick-up Stations	Bicycle Racks	Parking (regular) (paved)	Parking (regular) (unpaved)	Parking (handicap) (paved)
1	Blossom Street 940 Cody Avenue	Active	2.68			5			1				2							1	1			8	
2	Bryant Court 117 Bryant Court	Active	3.55			2		.07	1	1			2							1				4	
3	Cheltenham Lake, Cheltenham Street & Cownie Lane	Passive	2.51			2														2	1				
4	Easy Street 458 Easy Street	Active	6.94		1	13	.21		1	1			2	2						4	2			4	1
5	Filbert Street 170 Filbert Street	Active	9.08			2			1	1		1	1	1						2	1			10	
6	Garden Club 1028 Barber Street	Passive	8.32			12	.09					1								1				3	
7	George Street 1270 George Street	Active	2.27			3			1	1				2						2	1			6	
8	Historical Schumann Drive	Passive	2.49							1															
9	Periwinkle 444 Periwinkle Drive	Passive	4.42			3								2						2	1			6	
	Total		**42.26**		**1**	**42**	**.30**	**.07**	**5**	**5**		**2**	**7**	**7**						**15**	**7**			**41**	**1**

Inventory as of May 2020

Table 6-4: Community Parks

ID	Name	Active/ Passive	Size in Acres	Baseball /Softball Fields	Basketball Courts	BBQ Grills	Benches	Bicycle/Walking Trail (paved) (miles)	Bicycle/walking Trail (unpaved) miles	Canoe/Kayak Launch	Dock Day Slips	Equipped Play Area (playground)	Fishing Pier	Multi-Purpose Athletic Fields	Open Play Field	Pavilion	Picnic Tables (covered)	Picnic Tables (uncovered)	Racquetball courts	Shuffleboard courts	Swimming Pools	Tennis Courts	Pickleball Courts	Volleyball Courts	Dog Park	Restrooms (male and female)	Trash Receptacles	Dog Waste Pick-up Stations	Bicycle Racks	Parking (regular) (paved)	Parking (regular) (unpaved)	Parking (handicap) (paved)
1	Barber Street Sports Complex 1101 and 1121 Barber Street	Active	22.54	4	2		1					2		3		1	3							1		3	13		1	122	128	18
2	Bark Park 245 Keen Terrace	Active	7.43				8	0.2							1	2	5	2							1	1	5	5		17		2
3	Friendship Park 1225 Main Street	Active	18.14	1	1		8	.35	0.2			1		1		1	7			4		4		1		1	5			34		4
4	Hardee Park 530 Barber Street	Active	19.72				10		0.6			1			1			2								1	3	2		13		1
5	Riverview (includes Twin Piers) 600 US Highway 1	Active	12.21				11	.27		1	26	2	3		1	3	11	1						2		1	16	6		67	130	9
6	Schumann Drive 1096 Schumann Drive	Active	4.08		2		9					1			1	2	4	1				6	2			1	3			38		2
8	Pickleball Complex 160 Airport Drive East	Active	1.3				4									1	2						8			1	2		1	22		1
	Total		85.42	5	5		51	.82	0.8	1	26	7	3	4	4	10	35	6		4		10	10	4	1	9	47	13	2	313	258	37

Inventory as of May 2020

Table 6-5: Special Facilities

ID	Name	Active/ Passive	Size in Acres	BBQ Grills	Benches	Bicycle/Walking Trail (paved) (miles)	Bicycle/Walking Trail (unpaved) (miles)	Boat Ramp	Commercial Boat Slips	Community Building	Dock	Equipped Play Area (playground)	Fishing Pier	Golf Course (18 holes)	Walking Trail (paved) miles	Historical Marker	Picnic Tables (covered)	Picnic Tables (uncovered)	Skateboard Ramps	Splash Pad	Restroom (male and female)	Trash Receptacles	Dog Waste Pick-up Stations	Bicycle Racks	Bicycle Repair Station	Parking (regular) (paved)	Parking (regular) (unpaved)	Parking (handicap) (paved)	Parking (boat trailer) (paved)	Parking (boat trailer) (handicap) (paved)
1	Airport Observation 100 East Airport Drive	Passive	0.15														1									38		2		
2	Riverfront Walkway	Active	1.6 mi.		20	1.6									1.6	2	4					4		1	1					
3	Community Center 1805 Central Avenue	Active	1.07		2					1		1						1						1		36		2		
4	Fisherman's Landing Working Waterfront 1540 N. Indian River Drive	Active	2.19		4				11		1		1								1	1					60	3	10	
5	North County Greenway	Active	--			3.1																								
6	Golf Course 100 Brush Foot Drive	Active	154											1							3	?				116	18	6		
7	Main Street Boat Ramp 1302 US Highway 1	Active	3.19		5			1			2		1				2				1	7	1			33		3	27	1
8	Sebastian Yacht Club 820 Indian River Drive	Active	0.72		4			1		1	2		1				3				1	5				14		7	38	2
9	Sebastian Historical Museum at Friendship Park	Passive	Note 2							1						1					1					178		9		
10	Senior & Art Center at Friendship Park	Passive	Note 2							2											1									
11	Skate Park at Barber Street Park	Active	Note 2		2														3		1	1				1		2		
12	Splash Pad at Riverview Park	Active	Note 2		7												5			1	1	3				26		2		
13	Veterans Memorial at Riverview Park	Active	Note 2		5											1														
	Total		**161.47**		**49**	**4.7**		**2**	**11**	**5**	**5**	**1**	**3**	**1**	**1.6**	**4**	**15**	**1**	**3**	**1**	**10**	**21**	**1**	**2**	**1**	**442**	**78**	**36**	**75**	**3**

1. ***Inventory as of May 11, 2020***
2. ***Acreage included with host park***
3. ***Trailer Parking for Sebastian Yacht Club is at Riverview Park***
4. ***Senior & Art Center, Sebastian Historical Museum, and City Hall shared parking***
5. ***Fisherman's Landing Working Waterfront includes fish market, fish cleaning and weighing area, and public observation benches***

Table 6-6: Nature Reserve Areas

ID	Name	Active/ Passive	Size in Acres	BBQ	Benches	Boat Ramp	Canoe/Kayak Launch	Dock	Hiking Trail (miles)	Open Play Field	Picnic Tables (uncovered)	Trash Receptacles	Dog Waste Pick-up Station	Bicycle Rack	Parking (regular) (paved)	Parking (regular) (unpaved)	Parking (handicap) (paved)
1	Englar Stormwater Englar Drive	Passive	178.9		10				4.7			2	2			14	
2	Kildare Kildare Drive & Bailey Drive	Passive	37.2			1		1	1.0	1		1				10	
3	Stonecrop Sunport Road	Passive	28.14				1		0			1					
	Total		**244.24**		**10**	**1**	**1**	**1**	**5.7**	**1**		**4**	**2**			**24**	

Inventory as of May 2020

Table 6-7: Unimproved Future Park or Nature Reserve Sites

ID	Name	Location	Parcel Number	Size In Acres
10	100 Main Street	Main Street	31380100002000800000.0	1.03
2	Adams Street	Adams Street/Acorn Terrace/Barber Street	31382500001000100001.0	3.81
3	Carnival Terrace	Carnival Terrace/Caravan Terrace/ Periwinkle Drive	31382500001282000000.1, and .2	2.05
5	Concha Drive	Concha Drive/Horizon Terrace/Ocean Cove Street	31382500001347000000.1	2.93
6	Empress Avenue	Empress Avenue	31391900001001700001.0	1.72
7	Kildare Drive	113 Kildare Drive/High Drive	31391800003001600001.0	1.6
8	Manly Avenue	Manly Avenue/Donna Lane	31391800001000100002.0	0.68
9	Melrose Lane	Melrose Lane/Crown Street/Celtic Ave.	31381300002193000000.0	1.9
10	Newhall Terrace	Newhall Terrace/Rosebush Terrace	31382400001267000000.1	2.24
11	Tracy Drive	Northwest of Keystone Drive &Bristol Street at 134, 136, 138, 140, 142 & 144 Tracy Street	31391900001000900001.0 and 31391900001570000009.0, 10.0, 11.0, 12.0, 13.0 and 14.0	35.33
12	Tuxedo Terrace	Tuxedo Terrace/Surrey Terrace	31382400001211000000.1	2.49
13	US 1 Green Area	1401 US Highway 1	31390600003002000001.0	0.06
14	Wimbrow Drive	Wimbrow Drive	31390700001000000000.3	4.62
			TOTAL	60.46

Inventory as of October 6, 2017

RECREATION ANALYSIS

A. Summary of Inventory

The recreation and open space inventory indicates that the City of Sebastian contains 584.3 acres dedicated for public recreation, which includes 126.38 acres of developed park land, 244.24 acres of nature preserve, 52.36 acres of unimproved future park sites, and 161.32 acres for the public golf course and other special facilities. Based on the April 1, 2017 estimated resident population of 24,192 for Sebastian, this total parks acreage represents 24.15 acres per 1,000 residents. The population estimate is provided by the Bureau of Economic and Business Research (BEBR) at the University of Florida, which is the official population estimate recognized by the State.

B. Demand Methodology

Current and future demands for recreation space were determined by applying recreational space standards to population estimates and projections for the City of Sebastian. Standards for developed park area acreage and service area are established by policy as a Level of Service standard and are shown in **Table 6-8**. Standards for types of amenities were determined by utilizing the existing statewide provided average Level of Service provided by the Florida Department of Environmental Protection in their publication Outdoor Recreation in Florida – 2013 (the Statewide Comprehensive Recreation Plan). Also utilized was an average of the Regional, Population, and Jurisdiction Type benchmarks from the 2017 NRPA (National Recreation and Parks Association) Agency Performance Review as well as standards established by Indian River County.

C. Current Recreation Demand

1. Acreage Demand. For each park classification, a minimum amount of area is required to satisfy space requirements needed to support those facilities that are demanded by residents living within that service area.

Table 6-8: Recreation Standards for Size and Location

Classification	Location	Acres/1,000 Residents	Size	Service Area	Existing LOS	Surplus/(Deficit)
Neighborhood	Neighborhood area	2.0	1.0 to 5.0 acres	0.5 mile radius	3.04 ac.	1.04 ac./1,000
Community	Group of neighborhoods	2.0	5.0 to 25.0 acres	0.5 mile to 3 mile radius	2.19 ac.	0.19 ac./1,000

Notes: Based on Policy 6-1.1.1; Existing LOS as of October 6, 2017 based on April 1, 2017 population of 24,192 per BEBR and inventory Tables 6-3 and 6-4.

Park acreage standards were compared to Sebastian's April 1, 2017 population to estimate current demand for park area. **Table 6-8** identifies existing demand for the Neighborhood and Community park classifications and demonstrates that the City has no existing deficiencies.

Facility Demand. Recreational facility demands shown in **Table 6-9** represent the minimum level of service to be provided within the City to meet the resident population's basic facility needs. Other facilities not included in the minimum facilities list may be provided at the City's discretion and facilities may be provided before the population threshold is reached (the existing golf course for example) if the City determines it is in the best interest of the residents to do so.

Table 6-9: Recreation Standards for Facilities

Facility	Standard	Demand	Existing	Surplus/ (Deficit)
Baseball/Softball Fields	1 field per 6,000 residents	4	5	1
Basketball Courts	1 court per 5,000 residents	4	4	
Boat Ramps	1 ramp per 12,500 residents	1	3	2
Equipped Play Areas (playground)	1 area per 10,000 residents	3	13	10
Football Fields	1 field per 20,000 residents	1	2	1
Golf Course	18 holes per 50,000 residents	–	1	1
Recreation Center & Gym	1 center per 25,000 residents	–	0	
Soccer Fields	1 field per 10,000 residents	2	1	(1)
Swimming Pools	1 pool per 25,000 residents	–	0	
Tennis Courts	1 court per 5,000 residents	4	10	6
Volleyball Courts	1 court per 8,500 residents	2	3	1
Bicycle Trail (paved)	1 mile per 31,250 residents	–	0	
Bicycle Trail (unpaved)	1 mile per 10,750 residents	2.3 miles	0	(2.3)
Hiking Trail	1 mile per 6,000 residents	4.0 miles	unknown	unknown
Pickleball	1 court per 5,000 residents			

Notes: Demand based on April 1, 2017 population of 24,192 per BEBR; Existing as of October 6, 2017.

Recreation facility standards were compared to Sebastian's April 1, 2016 population to estimate current demand for recreational facilities. **Table 6-9** identifies existing demand for those facilities included in the list and shows that the City has existing deficiencies for soccer fields (1 field). Strong consideration should be given to how to address these deficiencies and /or whether other County facilities open to the general public meet the need.

Regarding unpaved bicycle trails and hiking trails, the City's unpaved trails have all been categorized as hiking trails though they can also be used by suitable off-road bicycles.

D. Future Recreation Demand

Tables 6-11 and **6-12** identify future park land and amenity demands based on the rates established above and the City's projected population in five and ten years as shown in **Table 6-10**.

Table 6-10: Projected Population

	April 1, 2017	2020	2021	2025	2026	2030
Indian River County	148,962	156,600	158,960	168,400	170,380	178,300
City of Sebastian	24,192	25,381	25,762	27,285	27,607	28,895

Notes: Current (April 1, 2017) population per BEBR; Indian River County projected population figures for 2020, 2025, and 2030 are BEBR "medium," other years are extrapolated; City of Sebastian projected population figures are based on utilizing the same growth percentage as Indian River County projections by BEBR.

1. Future Park Area Demand. The demand for park land in the future is based upon two factors: the future population and the adopted Level of Service. Through **Policy 6-1.1.1**, the City has adopted a Level of Service of 2 acres per 1,000 population for neighborhood parks and 2 acres per 1,000 population for community parks. The demand is determined by dividing the future population by 1,000 and then multiplying it by 2 acres for each classification. Beginning in 2023, the City will begin to experience a deficit in the Community Park classification while still exhibiting a surplus on an overall basis.

Table 6-11: Projected Park Acreage Demand

Year	Classification	Population	Adopted LOS (Acres/1,000 Population	Demand Acres	Existing Acres	Surplus/ (Deficit)
2017	Neighborhood Community Total	24,192	2.0 2.0 4.0	48.38 48.38 96.76	73.49 52.89 126.38	25.11 4.51 29.62
2021	Neighborhood Community Total	25,762	2.0 2.0 4.0	51.52 51.52 103.04	73.49 52.89 126.38	21.97 1.37 23.34
2026	Neighborhood Community Total	27,607	2.0 2.0 4.0	55.21 55.21 110.42	73.49 52.89 126.38	18.28 (2.32) 15.96

Notes: Adopted Level of Service based on Policy 6-1.1.1. Existing acres based on inventory in Tables 6-3 and 6-4 as of October 6, 2017.

2. Future Park Facility Demand. The demand for park facilities in the future is based upon the same two factors as the future land demand: the future population and the adopted Level of Service. Through **Policy 6-1.1.1**, the City has adopted the Level of Service rates shown below in **Table 6-12**. The demand is determined by dividing the future population by the various rates, with a result less than 1 meaning that no such facility is yet required and all other results being rounded down to the nearest whole number.

Currently, the City is deficient in the provision of soccer field facilities and this is projected to worsen with the addition of basketball courts, recreation center/gym, and swimming pool facilities to the deficiency list during the 10-year planning period.

Table 6-12: Projected Park Facility Demand

Facility	Adopted LOS Residents/ Facility	Demand			Existing	Surplus/(Deficit)		
		2017 (24,192)	2021 (25,762)	2026 (27,607)		2017	2021	2026
Baseball/Softball Fields	6,000	4	4	5	5	1	1	0
Basketball Courts	5,000	4	5	5	4	0	(1)	(1)
Boat Ramps	12,500	1	2	2	3	2	1	1
Equipped Play Areas (Playground)	10,000	3	3	3	13	10	10	10
Football Fields	20,000	1	1	1	2	1	1	1
Golf Course (18 holes)	50,000	-	-	-	1	1	1	1
Recreation Center & Gym	25,000	-	1	1	0	0	(1)	(1)
Soccer Fields	10,000	2	2	2	1	(1)	(1)	(1)
Swimming Pools	25,000	-	1	1	0	0	(1)	(1)
Tennis Courts	5,000	4	5	5	10	6	5	5
Volleyball Courts	8,500	2	3	3	3	1	0	0
Bicycle Trail (paved) (mile)	31,250	-	-	-	0	0	?	?
Bicycle Trail (unpaved) (mile)	10,750	2.3 miles	2.3 miles	2.5 miles	0	(2.3)	(2.3)	(2.5)
Hiking Trail (mile)	6,000	4.0 miles	4.2 miles	4.6 miles	unknown	unknown	unknown	unknown

Notes: Adopted Level of Service based on Policy 6-1.1.1; Existing facilities based on inventory in Tables 6-3 and 6-4 as of October 6, 2017.

E. Extrajurisdictional Recreation Demand

Parks provided by the City of Sebastian can be used by City residents as well as by residents of other municipalities and unincorporated Indian River County. In a similar manner, parks and open space provided by Indian River County can be used by City residents. Other municipalities are not anticipated to be a significant factor because those near Sebastian are smaller in population and not particularly close geographically. In considering the effects of population growth in unincorporated Indian River County on the City's parks, it is noteworthy that the population of the City and the County as a whole are growing at the same rate. In addition, both the City and the County have established the same Level of Service of 2.0 acres per 1,000 population for neighborhood parks and 2.0 acres per 1,000 population for community parks. The County has an overall Level of Service for parks of 6.61 acres per 1,000 population, which is greater than the City's overall standard of 4.0 acres per 1,000 population. The County's Level of Service for various park amenities approximates the City's, with most standards the same or more stringent than the City's. Therefore, the impacts of population growth in the County are not anticipated to be disproportionate or a significant detriment to the City's park system.

RECREATION PLAN

This section describes several alternative ways to provide recreation space and facilities to meet the current and future demands identified above and how to meet the desires of Sebastian's population in the future.

A. Park Area Supply

The future supply of park land is based upon the existing improved park acreage and the current supply of unimproved park land. The deficit identified in **Table 6-11** above could be addressed by reclassifying an existing Neighborhood Park (with appropriate changes to the amenities) into a Community Park. This would need to be coupled with ensuring that the Neighborhood Park category is also kept in compliance with the Level of Service standard. There may also be operational or programmatic needs (field space, parking, etc.) that may trigger the need to expand one or more of the existing Community parks which would also address the projected deficit. In addition, as shown in **Table 6-7**, there are 52.36 acres of unimproved vacant park land distributed across 7 sites in the City that could be used to meet the deficit if appropriately sized and located. The unimproved park land could also be used as nature reserves, open space, or for as-yet undetermined needs and should be retained.

Most neighborhoods are within close proximity to parks within Sebastian. Access for all ages is improved when residents can reach recreation opportunities by walking or biking rather than driving, therefore good geographic distribution of parks is an important consideration for future supply. To maintain this important relationship between residents and recreation, parks may need to be added to serve locational needs that are in excess of the numerical demand calculated above.

Critical to ensuring that the park acreage Level of Service is met is ensuring that the recreation demand created by new development is fully met through the use of the recreation land dedication and fee-in-lieu provisions in the LDC. The dedication requirement should be set the same as the established Level of Service so that new development does not exacerbate any existing or pending shortfalls. Appropriate use of the fee-in-lieu provisions will ensure that impacts are addressed in the most efficient and fairest manner to serve the whole community since a series of small land dedications would be less beneficial than consolidated park sites of appropriate size that could be adequately designed and provided with useful amenities.

B. Park Facility Supply

The future supply of park facilities is based upon the existing improved park sites and the City's ability to add amenities to existing park sites and/or develop new park sites with new amenities. The deficits identified in **Table 6-12** above could be addressed through either of those means by utilizing existing City recreation impact fee funds and fee-in-lieu funds from new residential development. There may also be as-yet unidentified facilities that the community may desire or current recreation activities that fall out of favor and whose facilities can be converted to other uses. The best matching of resident desires and facilities provided is an ongoing process, and the City's Parks and Recreation Advisory Committee and City staff can play a useful role in this effort.

C. Quality

The service that recreational facilities provide should be measured not only by the quantity available but also by the quality of the facility as well. Facilities that are in disrepair should be repaired as soon as possible since they discourage participation and reduce the level of service provided by the City. Deteriorated facilities also promote unwanted activities by sending a message that the area is not monitored. Recreational facilities that

are underdeveloped also limit use by the community. Amenities which provide for a more fulfilling and enjoyable park visit (restrooms, picnic tables, lights, etc.) should be provided to the extent desired by the community even though there is no established numerical standard.

D. Open Space

The City has a robust inventory of open spaces and natural areas, which provide a remarkable balance and boundary to the suburban development of the City. These natural areas should be celebrated and preserved, including enhancing public use to reinforce public appreciation and support.

E. Special Groups

The provision of recreational facilities should consider the needs of special groups such as the elderly, individuals with disabilities or special needs, and children. These groups require special planning in the provision and design of parks and recreation facilities.

1. Individuals with Disabilities. Parks and recreational facilities should be designed to accommodate the needs of those residents with disabilities and/or special needs. Parking facilities at parks should include ADA compliant parking spaces and active recreation facilities such as football and baseball fields should contain accessible routes utilizing ramps as necessary to enable passive participation or spectating at events. In addition, accessible routes should be provided to all types of amenities within a park to the extent feasible. Special consideration should be given to improving access, including restroom design, whenever work is done to renovate or expand a park since this benefits all users of the park.

2. Seniors. The recreational interests of seniors may vary from those of more active age groups. Ensuring an adequate mix of active and passive recreation opportunities is an important way to satisfy the needs of all age groups in the City.

3. Children. Young children lack the size and strength to actively participate in certain recreational activities, but can do so where special facilities are provided. For example, shallow wading pools located immediately adjacent to swimming pools allow them to safely enjoy water activities. Playgrounds should also include equipment designed for various youth age groups when space allows, and accessibility should be provided and improved whenever possible.

F. School Sites

The use of school recreation sites for public recreation represents an efficient use of these facilities and, ultimately, efficient use of public tax expenditures. After the school day and any school-sponsored afterschool activities, and when school is not in session, these facilities are left unused when not made available to the public. The creation and maintenance of a joint-use agreement between the City and the Indian River County School Board would be a means to enhance recreation opportunities and meet the demands identified in **Tables 6-11** and **6-12** above.

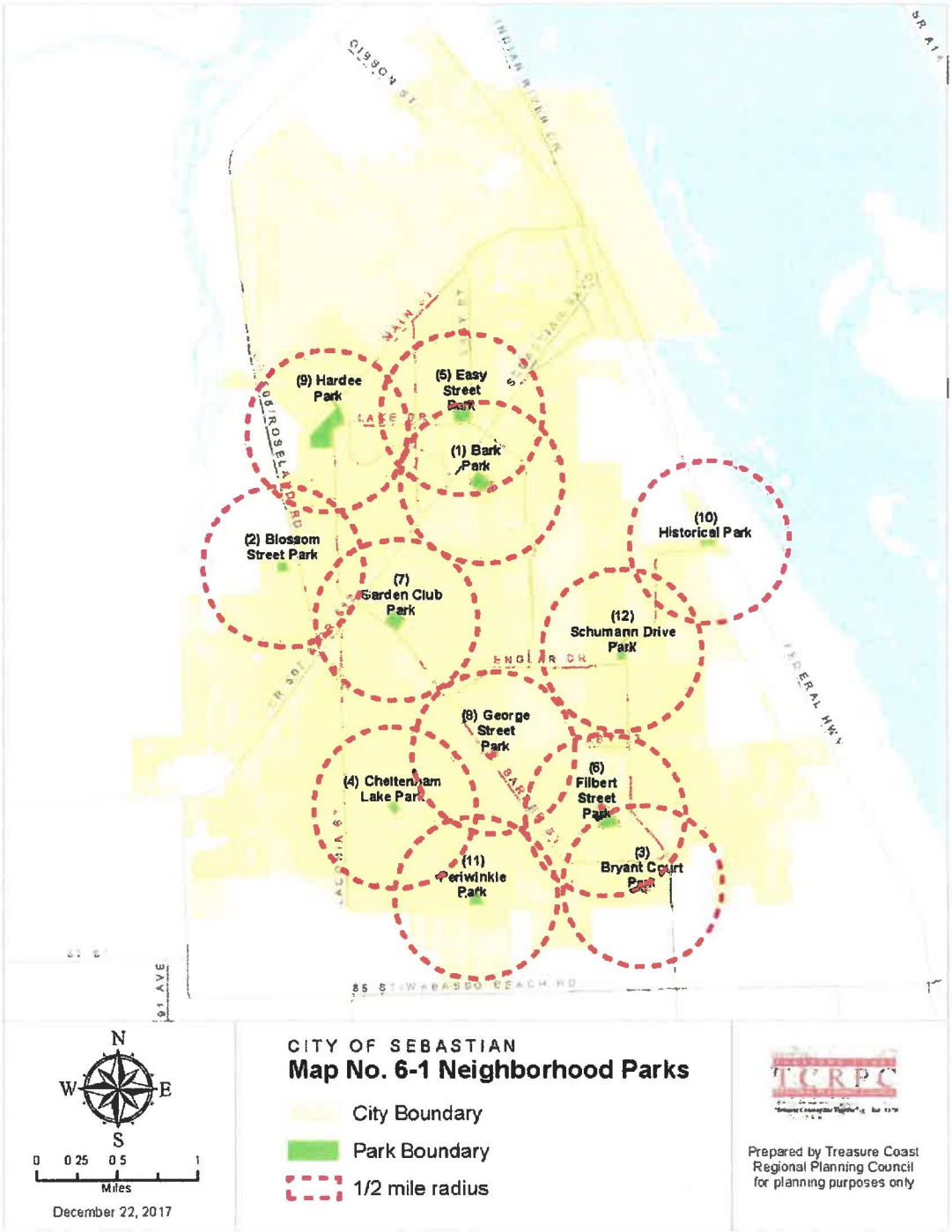
G. Coordination with Indian River County

A portion of the park and open space area within and surrounding the City is owned and maintained by Indian River County. Therefore, the City should coordinate future recreation plans with the County, especially specialized facilities or those that serve a larger than neighborhood scale population.

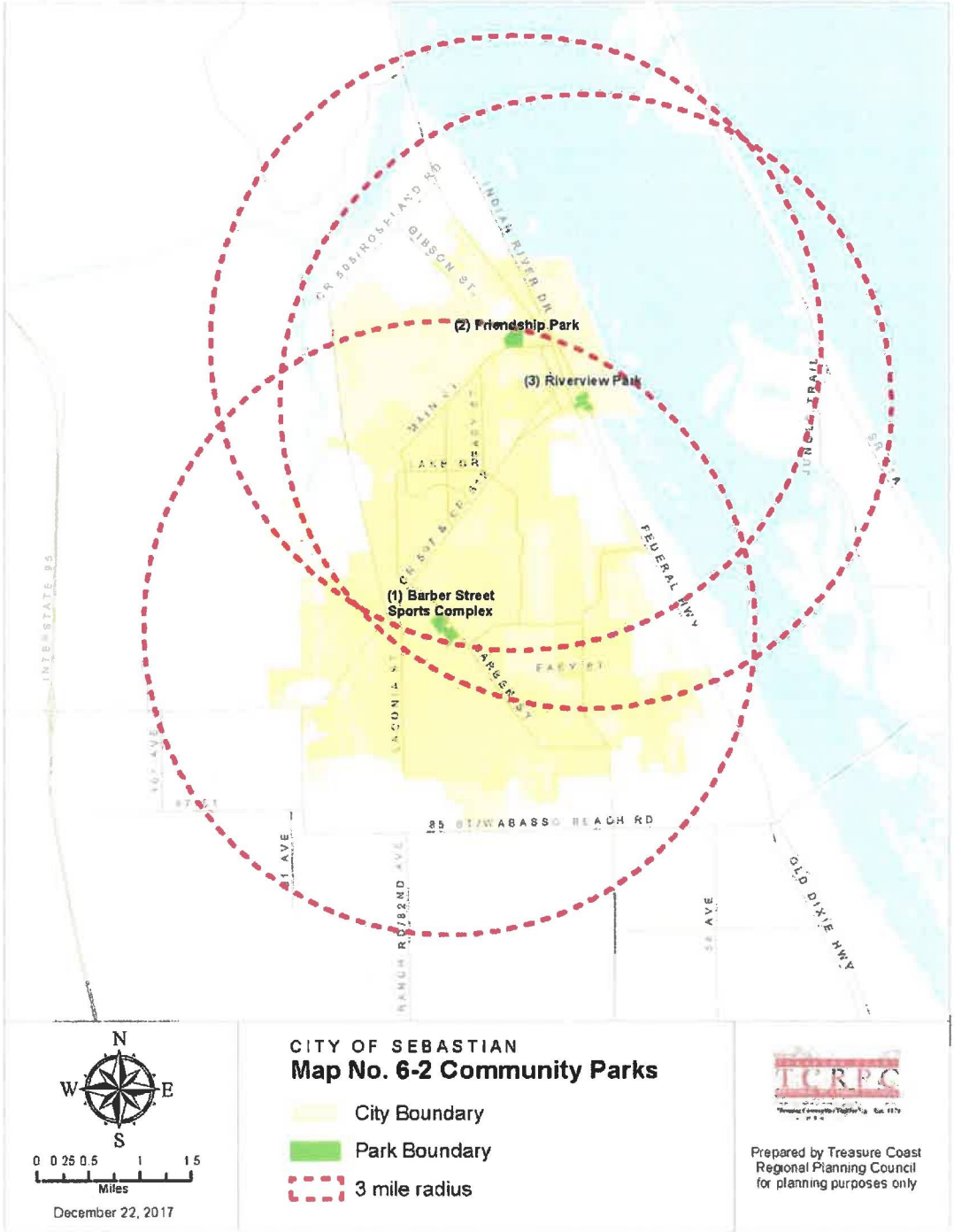
H. Private Recreation

Some existing developments provide private on-site recreation for their residents. While this does help to reduce the demand on public parks, it is important to recognize that the amenities are not always comparable and the provision of recreation in the public realm where all residents can come together is key to a sense of community identity and pride. The private on-site recreation provided in residential developments is also not typically of the same scale as public recreation (private neighborhood playgrounds vs. large community public ballfields for example). Accordingly, new developments which provide their own on-site recreation may be granted partial but not total credit towards the recreation land dedication requirements through careful application of the LDC.

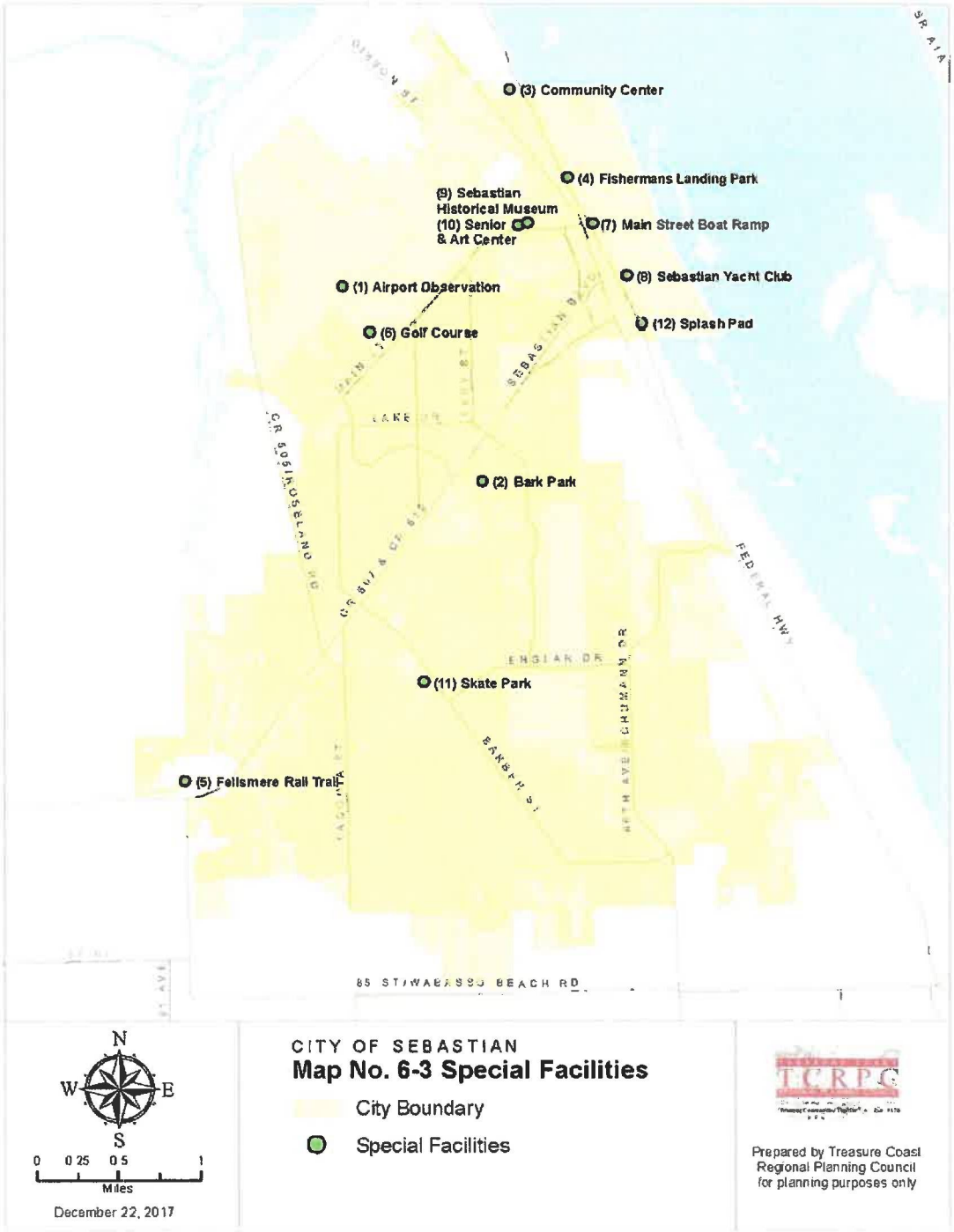
Map 6-1: Neighborhood Parks



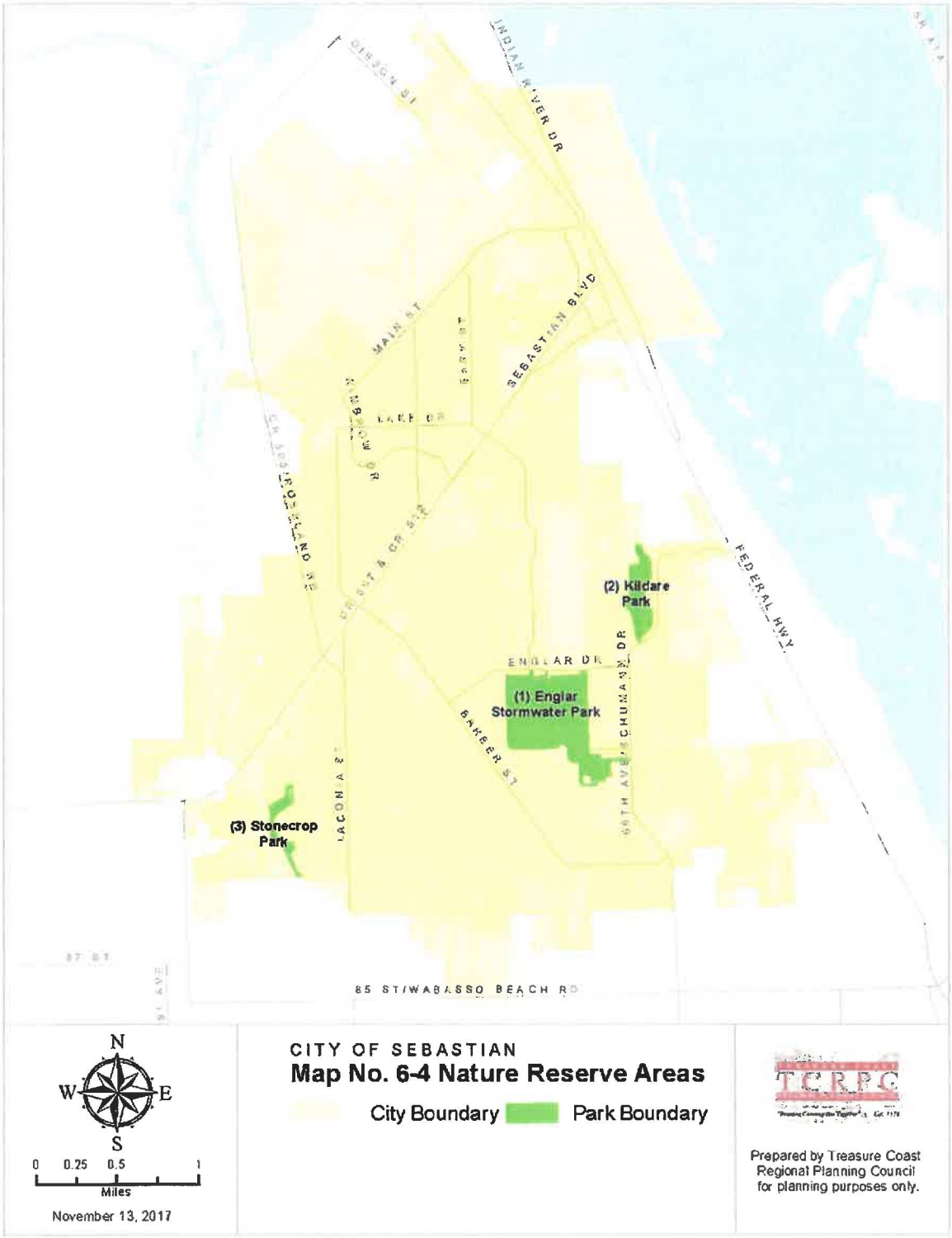
Map 6-2: Community Parks



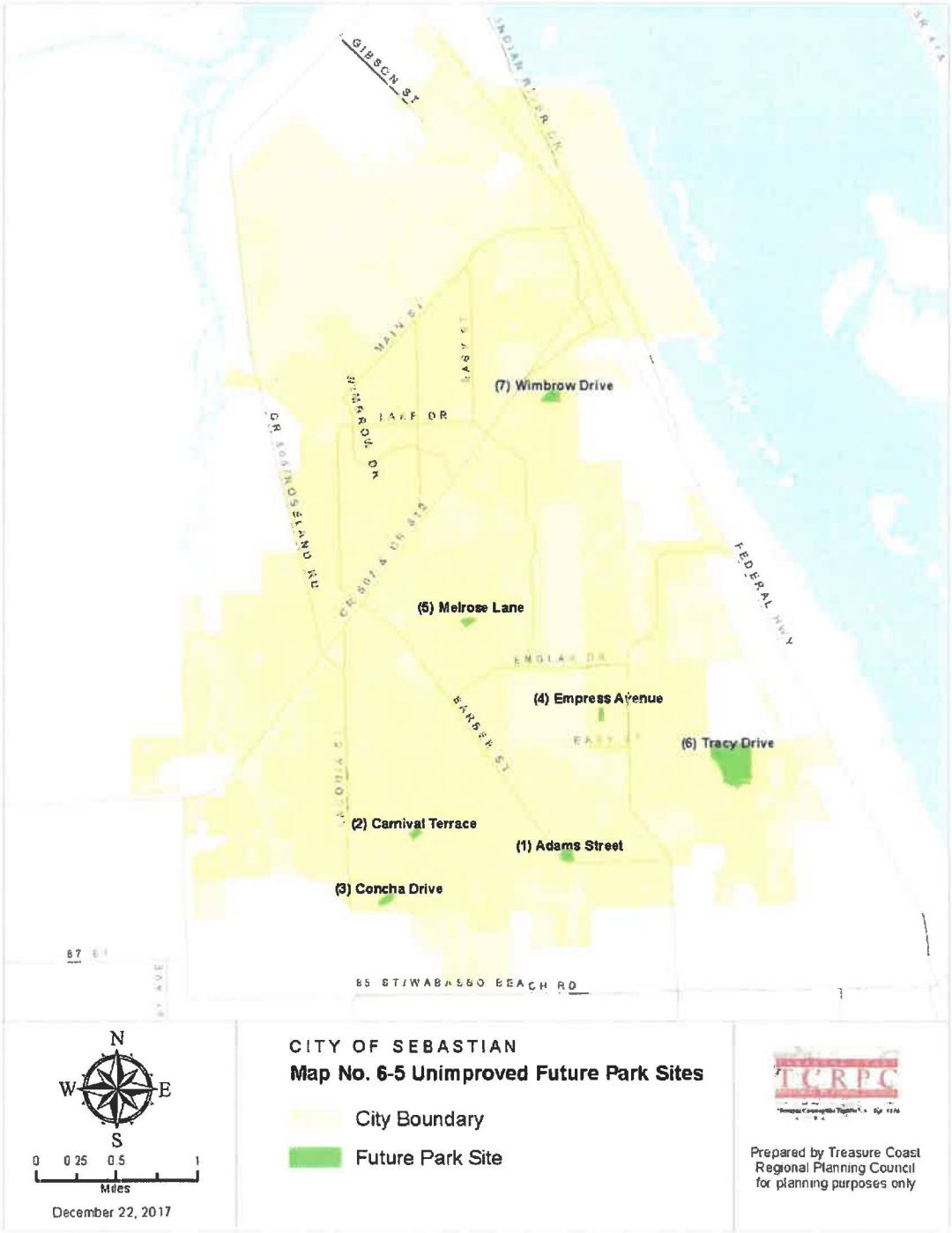
Map 6-3: Special Facilities



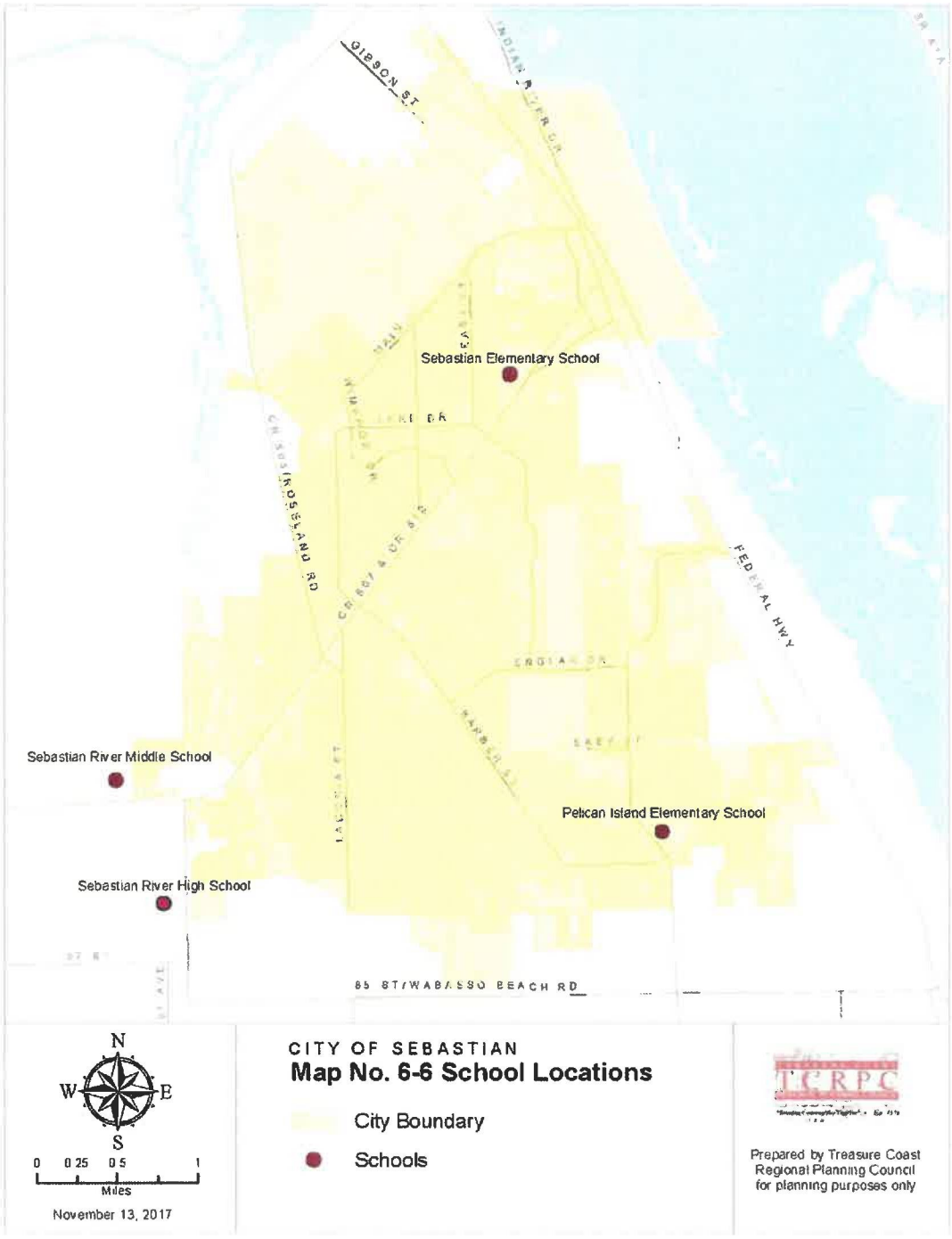
Map 6-4: Nature Reserve Areas



Map 6-5: Unimproved Future Park Sites



Map 6-6: School Locations



CITY OF SEBASTIAN

HOME OF PELICAN ISLAND

PARKS & RECREATION ADVISORY COMMITTEE
AGENDA TRANSMITTAL FORM

Board Meeting Date: July 27th, 2020

Agenda Item Title: Parks & Properties Integrated Pest Management Plan

Recommendation: Committee review, discussion and provide a recommendation to City Council on the provided Parks & Properties Integrated Pest Management Plan.

Background: The Parks & Properties Integrated Pest Management Plan Sub-Committee was developed in February, 2020 to assist staff in the development of the Plan. The sub-committee was comprised of the Leisure Services Director, IPM Coordinator, Natural Resources Board members and Scientific Advisors. The Sub-Committee met over that past few months and developed the IPM Plan that is presented you today for comment and review in order to make a recommendation on the plan to City Council.

If Agenda Item Requires Expenditure of Funds:
Total Cost: N/A

Attachments:

Proposed 2040 Comprehensive Plan Element of Parks, Recreation & Open Space

Integrated Pest Management Plan

For City Parks and Properties

August 2020

CITY OF SEBASTIAN
HOME OF PELICAN ISLAND

THIS DRAFT FOR PRESENTATION TO THE PARKS & RECREATION BOARD ON 7/27/20

ACKNOWLEDGEMENTS

This Integrated Pest Management Plan is the collaborative product of hard work, in-depth discussion, thoughtful review, and peer-reviewed scientific research conducted over five (5) months, by the following charter members of the
IPM Sub-Committee:

Natural Resources Board Members
Kathy Brothers
Brian O'Neill
Thomas Carrano
Jessica Lovell

Scientific Advisors
Dr. Graham Cox, Pelican Island Audubon Society
Christine Kelly-Begazo, University of Florida- IFAS Indian River County Extension Office
Sharon Tyson, Florida State Parks
Ruth Callaghan, CEAC (Certified Environmental Analytical Chemist)

City Staff
Brian Benton, Leisure Services Director
Kimberly Haigler, IPM Coordinator

The IPM Sub-Committee hereby approves this IPM Plan, in its entirety, on the 20th day of July, 2020.

The Parks and Recreation Board hereby approves this IPM Plan, in its entirety, on the 27th day of July, 2020.

The Natural Resources Board hereby approves this IPM Plan, in its entirety, on the 4th day of August, 2020.

The aforementioned collectively present this IPM Plan and accompanying Resolution (R-20-12) for City Council approval on the 27th day of August, 2020.

The City of Sebastian's IPM Plan is a Sustainable Sebastian Initiative.
For more information about Sustainable Sebastian visit:
https://www.sebastiannrb.com/

TABLE OF CONTENTS

IX. APPENDIX

INCLUDED FIGURES

I. INTRODUCTION

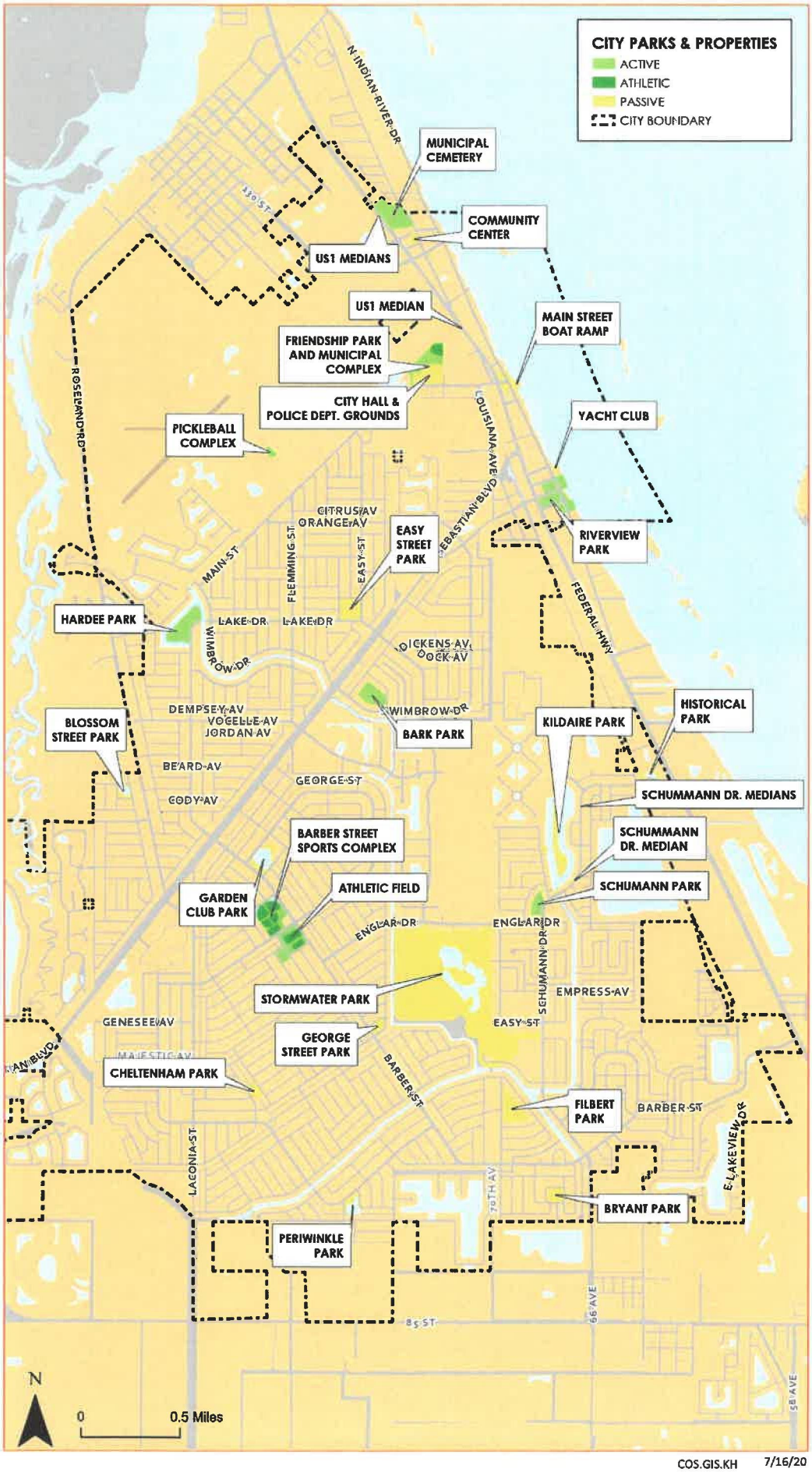
Scope

The City of Sebastian's Leisure Services Department is the steward of over 300 acres of land at more than 25 locations, including community parks, city grounds, street medians, pathways, and sports facilities. Large park areas comprise 280 acres of the properties. Within the City's parks there are: 10 tennis courts, 11 playgrounds, 8 pickle ball courts, 4 basketball courts, 3 football/soccer fields, 5 baseball/softball fields, 3 volleyball courts, a dog park, a splash pad, and a skate park. This plan will not cover any of the ponds, canals, and ditches within these properties. These features are managed collectively by the City's Stormwater Department and will be addressed with a separate IPM Plan. The park lands offer a large array of recreation and enrichment opportunities for people of all ages.

The City's Municipal Cemetery is managed by the Public Facilities Department. The 11 acre property consists primarily of sodded groundcover and is subject to frequent foot traffic, beyond its roads and paths. Therefore, for the purposes of controlling pests on the property, the cemetery will be included into the Integrated Pest Management (IPM) Plan as a part of the City parks and properties *(Figure 1)*.

The Leisure Services and Public Facilities Departments are charged with maintaining these diverse landscapes in a safe, attractive, healthy, and useful condition. These properties represent a major component of the City's capital assets and the City recognizes its responsibility to its employees, park users, and the general public, and seeks to employ the highest professional standards in the performance of its duties. To best manage pests on City properties, City staff and contractors will continue utilizing the principles of Integrated Pest Management (IPM) through the implementation of an IPM Plan.

The Sun Rises Over the Indian River at Riverview Park.



COS.GIS.KH 7/16/20

Figure 1: *Map of City's Parks and Properties*

IPM Sub-Committee

In February of 2020, the IPM Sub-Committee was formed to assist City staff in the development of an Integrated Pest Management Plan for the City of Sebastian's parks and properties. The sub-committee is to be comprised of the Leisure Services Director, IPM Coordinator, three Natural Resource Board Members, and two local scientific consultants.

The role of the IPM Sub-Committee is to assist in the development of a cohesive IPM Plan, advise on pest management issues, and evaluate the City's progress towards the goals of the IPM Plan. The Sub-Committee will review and approve the annual IPM report before it is presented to City Council. As part of the annual review, Sub-Committee Members will evaluate the current techniques and products to ensure they are based on the best available technologies and scientific information available. Recommendations will be made regarding changes to the annual reporting process and the IPM Plan document.

In the development of the initial IPM Plan, the IPM Sub-Committee will meet weekly. Following adoption of the final IPM Plan by City Council, the committee will meet annually, unless more frequent meetings are needed, as determined by staff. All IPM Sub-Committee meetings will be held in compliance with Florida's Sunshine Laws, with public notice, posted agenda, and minutes taken by a recording secretary.

IPM Coordinator

In order to provide for the planning and oversight of the IPM program, the position of IPM Coordinator is established. The appointed IPM Coordinator shall be a member of City staff who is in a position related to environmental or planning, but not from the Leisure Services Department. They will lead the creation and implementation of the IPM Plan, which will apply to the City's pest management activities on all of its parks and properties. Their responsibilities will also include the following:

- Serve as liaison to IPM Sub-Committee
- Monitor that City staff are adhering to the IPM Plan Standard Operating Procedures
- Maintenance of accurate records on IPM implementation and use
- Keep records of staff training in Green Business Best Management Practices and staff pesticide applicator certification
- Assure the inclusion of City IPM policies and practices in any applicable third party contracts or purchase orders for pest management
- Implement outreach efforts and maintain City's IPM Website.

The IPM Coordinator will prepare an annual report of the City's IPM activities, which will be reviewed each March, by the IPM Sub-Committee and Leisure Services Director in an effort to assess the effectiveness of pest control methods, feasibility of new methods and technologies, and decide whether revision of the IPM Plan is required.

IPM Plan

For the purposes of this plan, a pest may be any plant (weed), vertebrate (bird, rodent, or other mammal), invertebrate (insect, tick, mite, or snail), **nematode**, or **pathogen** (bacteria, virus, or fungus), which may cause disease, inflict damage, or out-compete the more desirable species for an area. In addition, a pest may be aesthetically undesired, or threaten to impact human/animal health. Any substance, or combination of substances which is intended to prevent, destroy, repel, or mitigate pest species is called a **pesticide**.

The City adopts the following IPM definition as established by the City's IPM Sub-Committee:

> "To promote the most **sustainable** pest management methods, based on planning and prevention; which aim to minimize risks to human and environmental health through the limited use of chemicals, while also remaining economically feasible."

Goals

- Protect environmental resources by reducing the amount of pollutants entering surface and ground water and minimizing effects on native plants, animals and habitats
- Ensure effective, economic pest management on City property, while minimizing health risks to the public, City staff, and the environment
- Promote the transparency of the City's pest management activities
- Increase public awareness of IPM methods and benefits

IPM Program

IPM Policy. The IPM plan, as well as future modifications or amendments will be reviewed and voted on initially and annually by the IPM Sub-Committee, Natural Resources Board, Parks &Recreation Board, and then presented to City Council for final approval. The plan will then be incorporated as City policy through the adoption of Resolution R-20-12 by City Council *(Appendix A)*.

IPM Program Coordination. The Leisure Services Director and the IPM Coordinator are responsible for coordinating, tracking, and reporting the implementation of the City's IPM Program.

Tracking Pesticide Use. City Staff and Contractors conducting pest management activities within City parks and properties are required to record thorough field data. The IPM Coordinator is responsible for maintaining accurate records of pesticide use and non-chemical methods utilized that are accessible for reference. All records will be retained for 1 year and stored on the City's Laser fiche system indefinitely.

Staff Training. All City employees who, within the scope of their duties, apply or use pesticides will be trained on the City's IPM Policies as well as proper chemical storage and use of personal protective equipment (PPE). A certification course on Green Business Best Management Practices will be provided through partnership with the University of Florida

Indian River County Extension Office as needed. The training sessions are coordinated by the Human Resources Director, who will track employees' attendance and submit to IPM Coordinator to ensure all City field staff hold an active certification.

Licensed Applicators. At all times a minimum of 2 City staff members must be state certified pesticide applicators. The Human Resources Director and IPM Coordinator will keep a copy of all staff certifications on file. All pesticide applications will be in compliance with state regulations regarding applicator licensing.

Information Resources for Staff. The IPM coordinator will act as a resource for City staff to help identify new pests and pest related concerns, and to assist in determining the best course of action consistent with the established IPM SOPs. The IPM Coordinator will also seek out and provide access to expert resources when needed.

Public Outreach. Education and outreach efforts will include distribution of information, either created internally, or obtained through partnership with local and state government agencies. The IPM Coordinator will coordinate and keep records of the following:

- A City webpage where the public may obtain information on IPM practices for their property, view the City's IPM Plan, annual IPM reports, IPM Sub-Committee minutes, and pest management treatment records.
- The City's efforts to promote the reduction of urban pesticide use through social media, the City's website, print and television media.
- The City's outreach to pest control operators (PCO's) and landscapers.
- Distribution of IPM information and resources at public outreach and community events.
- IPM information distributed to residents through the "New Homeowner Folders" during the final planning and zoning inspection.
- Updates and status reports following the annual report and as requested by City officials.

Contract Provisions. The Procurement Coordinator will review contract provisions and/or amendment(s) to agreements that provide pest management services within city maintained parks, properties and facilities covered under this IPM Plan. All such contractors shall be required to review and sign the "contractor agreement" *(Appendix B)*. Contract work will be monitored by IPM Coordinator to ensure that City IPM policies and practices are adhered to by all contractors performing pest management work.

Regulatory Reporting. The IPM Coordinator will handle reporting to regulatory agencies, which credit the adoption of an IPM Plan as a Best Management Practice (BMP).

- Incorporate the IPM Plan into the Florida Department of Environmental Protections (FDEP)'s National Pollutant Discharge and Elimination System (NPDES) **Phase II, MS4 Permit** Cycle 4, Year 2 Annual Report (September, 2022) and the Cycle 5 NOI

(September, 2024) as a new BMP for Element 6: Pollution Prevention/ Good Housekeeping.

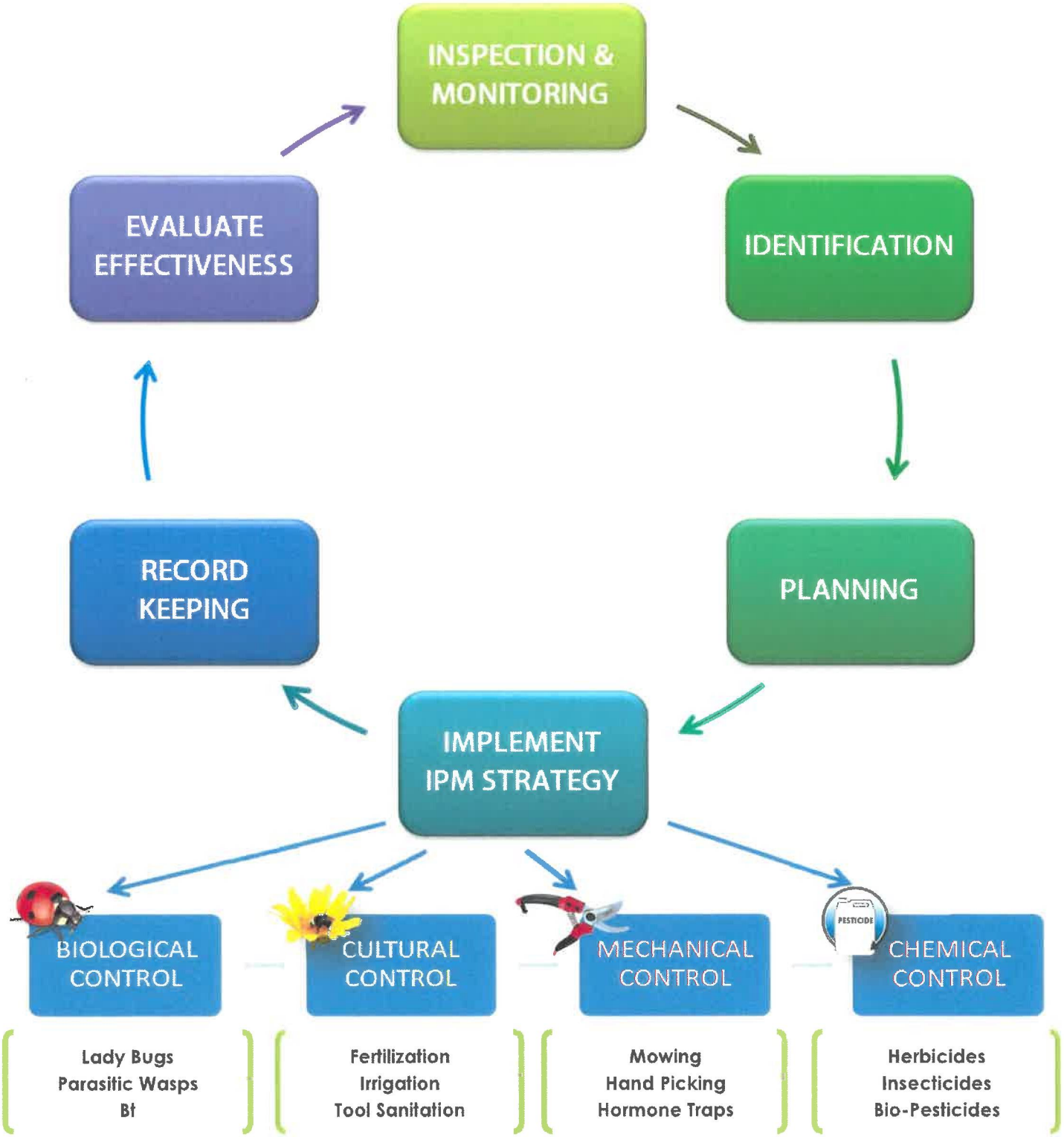
- Add as new project and update through the statewide Basin Management Action Plan (BMAP) annual report on water quality projects.
- Add as new activity and provide update to the Indian River Lagoon Council for the Indian River Lagoon Comprehensive Conservation and Management Plan (CCMP) annual report on lagoon-related accomplishments.

Community IPM Cycle

This established cycle *(Figure 2)* will serve as the guideline for IPM Plan development and is based on planning and prevention, with the use of chemicals as the last resort for pest control.

1. **Inspection and Monitoring:** Staff routinely scouts the landscapes and buildings to locate pests. Pest populations are monitored by visual checks and traps.
2. **Identification:** Pests must be identified to the exact species. Life history attributes are to be known for each species. This step is key to effective treatment.
3. **Planning:** The focus is on prevention- what it takes to keep pests out. Determine what action is needed and whether a threshold has been crossed. Proper techniques and timing are for required management.
4. **Implement Strategy:** All pest management strategies are classified as biological, cultural, mechanical, or chemical. All methods are combined to maintain pests at acceptable thresholds.
    - Biological Control: enhances natural enemy populations by creating habitat or adding populations
    - Cultural Control: Disrupts the pest's environment by removing pest attractants or utilizing pest resistant variety of desired species
    - Mechanical: Creates physical barrier to pest entry
    - Chemical Control: the last tool in the IPM toolbox, the goal is evaluate costs and benefits to choose the least-toxic and most feasible option available that will do the job
5. **Record Keeping:** Accurate record keeping is essential to a successful IPM program. Data must be kept on control methods implemented, chemical usage by staff, and purchase orders. Determine if control methods were effective by knowing what has changed through trap counts and observation.
6. **Evaluate Effectiveness:** Document if the treatments met expectations. Establish if all actions have been in compliance with the City's IPM Standard Operating Procedures (SOPs). Assess what was learned and determine whether the plan needs revised.

Figure 2: *Diagram of the Community IPM Cycle*



Standard Operating Procedures

When selecting and implementing a pest management strategy, from this plan, the following will be considered:

Site Factors. Use and function of the landscape.

- Considering the use and function of the landscape, parks are divided into three functional categories *(Figure 3)* in which the action threshold and methods are decided:
  - Passive: neighborhood parks which can more likely be maintained with a natural approach. Some of these parks have playgrounds, which will need to be assessed regularly.
  - Active: do not contain Bermuda turf, and receive the most activity on a daily basis. They need to be treated proactively, due to the number of park patrons on a daily basis and the nature of the activities that take place.
  - Athletic: turf grass must be maintained to a higher standard to ensure the playability and safety of the participants. Proactive treatments are necessary in order to provide the standard of care that is required.
- Erosion and runoff potential of site
- Proximity to surface, surficial, and groundwater resources

Figure 3: *Parks and Properties Classification Table*

Athletic Parks	Active Parks	Passive Parks	
Barber Street Complex	Riverview Park	Easy Street	Kildaire Park
Friendship Park Field	Schumann Park	Filbert Park	Historical Park
	Hardee Park	Bryant Park	George Street Park
	Friendship Park	Periwinkle Park	Blossom Park
	Bark Park	Cheltenham Park	Garden Club Park
	Pickleball Complex	Yacht Club	Main St. Boat Ramp
	Barber St. Common Areas	Community Center	Stormwater Park
	Cemetery	Medians	City Hall/ PD Grounds

Health and Safety Concerns. Potential effects on City staff and park visitors.

- Toxicological properties and potential health effects of materials or methods
- Equipment operation safety issues
- Staff safety and injury concerns

Environmental Considerations. Protection of native plants, animals and **pollinators**.

- Consider toxicity or potential harm caused by the method to non-target organisms and habitat.

- Potential for **bioaccumulation** of materials within soils and groundwater
- Know if there is potential for negative effects from any pest control method or lack thereof on any federally or state **protected species** that may be in the area
- Be aware of any nesting birds in the area and potential affects the method may cause
- Understand the effects the method may have on pollinators
- The effects of reduced control of invasive plants or pests to native biodiversity

Costs. Both short and long term costs, as they relate to:

- Costs of the material or method
- Application and labor costs
- Effectiveness and duration of effects on pest populations
- Overall feasibility

Product Characteristics. Specific product features

- Possible residual effect and decomposition products
- Volatility and flammability
- Product formulation, recommended dilution and package size
- **Leachability** and **solubility**
- Equipment cleaning consideration before and after use
- Potential synergistic effects of pesticide combinations

Other Factors. Additional factors relevant to the selection

- Special equipment or storage required for method
- Method of delivery
- Chemical application must adhere to the standards of the City's Fertilizer Ordinance Ch.50 Sec.50-5 *(Appendix C)*
- How all criteria may be affected by weather conditions
- Previous pesticide applications on site and interval between treatments
- Chemical application set-backs from slopes along waterways
- Possibility of pest resistance

Morning View at the Stormwater Park

II. ATHLETIC PARKS

Overview

At approximately 25 acres, athletic parks are the smallest size-wise of the City's park classifications. However, these parks arguably hold the most importance for its visitors and the community. The City's athletic parks host hundreds of sporting events each year. Athletic facilities play a major role in the physical, mental, and social well-being of all age groups. Youth are provided the opportunities to improve their confidence, self-esteem, and mental alertness. Adults are given a chance to become more physically active and socialize. Our athletic facilities promote a sense of community and prove safe spaces for our park patrons. Friendship Park and the Barber Street Sports Complex are the only parks classified as "athletic parks."

On athletic fields, **Bermuda Turf** is the dominant groundcover and it must be maintained to a higher standard than other parks and public areas to ensure the playability and safety of the participants. Proactive pest treatments are necessary in order to provide the standard of care that is required. Therefore, the tolerance threshold for pest activity, before action is taken is considered low.

Key Pests

Bermuda Turf is associated with its own unique assortment of animal and plant pests. These include, but are not limited to:

- **Insects:** Fire Ants, Sod Webworms, Mole Crickets, Japanese Beetle Grubs, Cut Worms
- **Vertebrates:** Mice, Moles
- **Weeds:** Broadleaf Weeds, Signal Grass, Goose Grass, Crab Grass, Dollar Weed, Pennywort, Torpedo Grass, Sedges

Non-Chemical Methods

Maintaining the vigor and health of a groundcover is the focus to preventing damage from insects, weeds, and disease. Understanding the biological needs and growth of Bermuda Turf groundcover is essential to reducing the use of chemical pest control methods. In order to prevent pests, the following cultural and mechanical methods will be conducted routinely as part of standard proactive park maintenance procedures within the City's athletic parks:

- **Maintain healthy soils.** Florida soils are very sandy and well-drained. Amending with organic material and microorganisms can increase water-holding capacity and reduce the need for fertilizers. Seasonal testing of pH and nutrient levels are integral to making the best decisions regarding soil management.
- **Irrigate uniformly and efficiently.** Maintain efficient **irrigation** equipment and schedule irrigation in correlation with weather conditions and temporal requirements of the groundcover. Water should be uniformly distributed. Conduct regular water audits to

ensure systems are not leaking and the pressure, alignment, and distribution of the heads are correct.

- **Fertilize properly.** Annual testing of the soil should be conducted to ensure that the proper nutrients are being added. The addition of micro-nutrients at the appropriate time of the year will enhance the root system. Fertilization activities must be in compliance with City Ordinance Ch.50 Sec.50-5 *(Appendix C)*
- **Aerate regularly.** Compacted soils can inhibit water, air, and nutrient infiltration. Compacted soil also is more susceptible to weed invasion. Aeration of ground covered area receiving the most traffic creates pores in the root zone for air, water, and nutrient uptake that facilitate root growth. Often **aeration** is combined with a compost top dressing for maximum results.
- **Mow at correct height.** Mowing at the incorrect height for the groundcover species can thin out and starve the grass, or encourage the build-up of thatch. Bermuda Turf is to be mowed at 1" height. Mowing is conducted often enough so that no more than 1/3 of the leaf height is cut.
- **Always mow with sharp blades.** Dull mower blades cause uneven cutting and weaken the grass blades. The City owns its own blade sharpener and all mowing blades are sharpened as needed.
- **Tool Sanitation.** Pests can easily spread among sites by hitchhiking on un-sanitized lawn equipment. Cleaning the mower and all landscape tools between areas minimizes pest transport. In addition, separate mowers are used for Bermuda Turf than is used on the St. Augustine common areas.
- **Verticutting.** Thatch buildup can impede air and water infiltration, much like compaction. **Verticutting** allows the grass to absorb nutrients and moisture more efficiently by ensuring that all the moisture is absorbed by the fresh, young blades of grass instead of the thatch.
- **Over-Seeding.** The appearance and/or removal of pests as well as extensive drought conditions often leave open patches of disturbed soil behind, which are favored habitat for many weeds. Broadcasting Rye Grass seeds over Bermuda Turf will fill in these areas and prevent weed infiltration, while enhancing the greenness and overall aesthetics of turf areas.
- **Mulching.** To prevent weeds and promote water retention, **mulch** has been amended to areas surrounding some of the trees and shrubs bordering athletic parks. The mulched areas will be amended annually, as needed to maintain its effectiveness.
- **Infield Dragger.** A wide row of metal spikes, attached to a tractor is routinely dragged along the baselines and infield of baseball and softball fields. This levels the ground for running and prevents infiltration of groundcover and weeds.

III. ACTIVE PARKS

Overview

Active Parks are parks that do not contain Bermuda turf, and receive the most activity on a daily basis. Active parks feature open grassed areas for play, paths for walking and playgrounds. Predominantly, the groundcover in these parks is **St. Augustine**, and occasionally **Bahia grass**. Depending on the pest, active parks also need to be treated proactively, due to the number of park patrons they receive on a daily basis and the nature of the activities that take place.

The City's active parks include: Riverview Park Complex, Schumann Park, Hardee Park, Friendship Park, Bark Park, the Pickleball Complex, Barber Street Park common areas, and the cemetery property. Groundcover in these parks does not have to be maintained to as high a standard as on athletic fields, as playability is not a factor. However safety must be maintained throughout the park, therefore, the tolerance threshold for pest activity, before action is taken is considered moderate.

Key Pests

The common park areas of active parks have fewer pests that would require treatment and for most of them the tolerance threshold is quite high. These include, but are not limited to:

- **Insects:** Fire Ants, Mole Crickets
- **Vertebrates:** Mice, Moles
- **Weeds:** Broadleaf Weeds, Signal Grass, Dollar Weed,

Non-Chemical Methods

Similar to the Athletic parks, maintaining healthy groundcover is key to preventing damage from insects, weeds, and disease. Understanding the biological needs and growth of St. Augustine groundcover is essential to reducing the use of chemical pest control methods. However, optimum health is not required, as pest tolerance thresholds are much higher. Therefore, in order to prevent pests, the following cultural and mechanical methods will be conducted as needed, as part of the selective maintenance of the City's active parks:

- **Maintain healthy soils.** Florida soils are very sandy and well-drained. Amending with organic material and microorganisms can increase water-holding capacity and reduce the need for fertilizers. Seasonal testing of pH and nutrient levels are integral to making the best decisions regarding soil management.
- **Irrigate uniformly and efficiently.** Maintain efficient **irrigation** equipment and schedule irrigation in correlation with weather conditions and temporal requirements of the groundcover. Water should be uniformly distributed. Conduct regular water audits to ensure systems are not leaking and the pressure, alignment, and distribution of the heads are correct.

- **Fertilize properly.** Annual testing of the soil should be conducted to ensure that the proper nutrients are being added. The addition of micro-nutrients at the appropriate time of the year will enhance the root system. Fertilization activities must be in compliance with City Ordinance Ch.50 Sec.50-5 *(Appendix C)*
- **Mow at correct height.** Mowing at the incorrect height for the groundcover species can thin out and starve the grass, or encourage the build-up of thatch. St. Augustine is to be mowed at 3-5" height, depending on the season. Mowing is conducted often enough so that no more than 1/3 of the leaf height is cut.
- **Always mow with sharp blades.** Dull mower blades cause uneven cutting and weaken the grass blades. The City owns its own blade sharpener and all mowing blades are sharpened as needed.
- **Tool Sanitation.** Pests can easily spread among sites by hitchhiking on un-sanitized lawn equipment. Cleaning the mower and all landscape tools between areas minimizes pest transport. In addition, separate mowers are used for Bermuda Turf than is used on St. Augustine.
- **Over-Seeding.** The appearance and/or removal of pests as well as extensive drought conditions often leave open patches of disturbed soil behind, which are favored habitat for many weeds. Broadcasting Rye Grass seeds over sparse groundcover areas in Riverview Park will fill in these areas and prevent weed infiltration, while enhancing the greenness and overall aesthetics of grassed areas.
- **Mulching.** To prevent weeds and reduce water requirements, **mulch** has been amended to areas surrounding some of the trees and shrubs bordering athletic parks. The mulched areas will be amended annually, as needed to maintain its effectiveness.

A girl and her dog enjoy the Bark Park

IV. PASSIVE PARKS

Overview

Passive Parks do not contain Bermuda turf, and receive least activity on a daily basis. Passive parks do not feature larger open grassed areas for play. Traffic is primarily on pathways and playgrounds. Predominantly, the groundcover in these parks is **St. Augustine**, and occasionally **Bahia grass**. Depending on the pest, passive parks may not require proactive treatments.

The City's passive parks include: Easy Street Park, Historical Park, Kildaire Park, Filbert Park, Bryant Park, George St. Park, Periwinkle Park, Blossom Street Park, Cheltenham Lake Park, Main Street Boat Ramp, Garden Club Park, Yacht Club, Community Center, Stormwater Park, and 5 miles of road medians (Schummann Drive, US1) and 512 intersections. Groundcover in these parks does not have to be maintained to as high a standard as on athletic fields or active parks, as playability is also not a factor. Safety of turf is not a concern beyond the immediate trail areas and playgrounds. Therefore, the tolerance threshold for pest activity, before action is required is considered high.

Key Pests

The common park areas of passive parks have fewer pests that would require treatment and for most of them the tolerance threshold is very high. These include, but are not limited to:

- **Insects:** Fire Ants,
- **Vertebrates:** Mice, Moles

Non-Chemical Methods

Similar to the athletic and active parks, maintaining healthy groundcover is the key to preventing damage from insects, weeds, and disease. Understanding the biological needs and growth of St. Augustine and Bahia groundcover is essential to reducing the use of chemical pest control methods. However, optimum health is not required, as pest tolerance thresholds are much higher. Therefore, in order to prevent pests, the following cultural and mechanical methods will be conducted occasionally, as part of the reactive maintenance of the City's passive parks:

- **Maintain healthy soils.** Florida soils are very sandy and well-drained. Amending with organic material and microorganisms can increase water-holding capacity and reduce the need for fertilizers. Seasonal testing of pH and nutrient levels are integral to making the best decisions regarding soil management.
- **Irrigate uniformly and efficiently.** Maintain efficient **irrigation** equipment and schedule irrigation in correlation with weather conditions and temporal requirements of the groundcover. Water should be uniformly distributed. Conduct regular water audits to ensure systems are not leaking and the pressure, alignment, and distribution of the heads are correct.
- **Fertilize properly.** Annual testing of the soil should be conducted to ensure that the proper nutrients are being added. The addition of micro-nutrients at the appropriate

time of the year will enhance the root system. Fertilization activities must be in compliance with City Ordinance Ch.50 Sec.50-5 *(Appendix C)*

- **Mow at correct height.** Mowing at the incorrect height for the groundcover species can thin out and starve the grass, or encourage the build-up of thatch. St. Augustine is to be mowed at 3-5" height, depending on the season. Mowing is conducted often enough so that no more than 1/3 of the leaf height is cut.
- **Always mow with sharp blades.** Dull mower blades cause uneven cutting and weaken the grass blades. The City owns its own blade sharpener and all mowing blades are sharpened as needed.
- **Tool Sanitation.** Pests can easily spread among sites by hitchhiking on un-sanitized lawn equipment. Cleaning the mower and all landscape tools between areas minimizes pest transport. In addition, separate mowers are used for Bermuda Turf than is used on St. Augustine.
- **Mulching.** To prevent weeds and reduce water requirements, **mulch** has been amended to areas surrounding some of the trees and shrubs bordering athletic parks. The mulched areas will be amended annually, as needed to maintain its effectiveness.

Gopher Tortoise munches on grass at Filbert Street Park

White Ibis Enjoy Easy Street Park

V. FURTHER NON-CHEMICAL RECOMMENDATIONS

Future Considerations

In addition to the cultural and mechanical pest control methods currently being implemented within the City's parks and properties, observations of the areas prompted the following recommendations for future consideration *(Figure 4)*:

- **Updated Chemical Application Equipment.** In order to adhere to the label requirements for pesticide and fertilizer application equipment must be carefully calibrated and maintained. Over time and with continual use, chemicals can erode parts of the equipment. Nozzles can deteriorate and triggers can become loose. This can result in a drastic, unintended increase in application rates. Updated motorized equipment cleans more efficiently, calibrates and hold calibration more accurately, and deteriorated parts can be easily replaced.
- **Warning Track.** Replacing a wide strip of the turf that is closest to the back fence of the baseball/softball fields with rocks or other material will further decrease the amount of turf grass that needs to be maintained. Also of importance, the change in terrain serves as a "warning" for fielders trying to make a deep catch that they are running out of room, without having to take their eye off of the ball. For maintenance, it is simply dragged regularly, just like the baselines, to prevent turf grass or weed infiltration.
- **Concrete Platforms.** Weeds are a continual problem underneath sports bleachers, park benches, and trash cans. These areas cannot be mowed and it is difficult or even impossible to use a weed eater around. Chemical control becomes the only feasible option. Installing a concrete platform under these features will pay off through the reduction of staff hours and chemical use, as well as increase the parks' aesthetics.
- **Trees.** Trees enhance the shade and comfort for spectators, provide wildlife habitat, and shade groundcover, reducing water requirements. While no trees should be placed on or in proximity to athletic fields, still there are many spaces for the addition of trees within the general park areas. Trees will also enhance the safety of playgrounds as they shade the equipment from the Florida sun. The addition of trees will also enhance the aesthetic of the parks overall.
- **Extended Mulching.** Currently, the mulched areas in these parks are minimal. Enlarging the mulched areas, by grouping trees into large landscaped islands will reduce the amount groundcover that needs maintained.
- **Habitat for Beneficial Species.** Many Bermuda Turf pests have natural predators, which can be attracted to the athletic field by installing landscape beds of native flowering annuals and perennials along the edges of the general park areas. The addition of martin nests and owl or bat boxes around the perimeter of these parks will help to control moles, voles, and other rodents.

Figure 4: *Table of Recommended Non-Chemical Control Methods*

	BIOLOGICAL, CULTURAL, AND MECHANICAL CONTROLS				
	Control Method	**IPM Control Strategy**	**Pests Treated**	**Description**	**How to Implement**
BIOLOGICAL	**Brazilian Red-eyed Fly "Ormia depleta"**	Biological	Mole Crickets	Established locally in Central and Southern Florida	Releases were done by UF/IFAS
	Insect Parasitic Nematode "Steinernema Scapterisci"	Biological	Mole Crickets	Presumably established, no longer available for purchase	Nematode is no longer produced commercially since 2010.
	Larra Wasp Parasitoid	Biological	Mole Crickets	Widely established in Florida	Introduce the wasps prefered plantings of shrubby false buttonweed, partridge pea, & white-flowered Pentas
CULTURAL	**Always Mow with Sharp Blades**	Cultural	Many Insect and Weed Pests Affected	Dull mower blades cause uneven cutting and weaken the grass blades allowing distressed areas to be infiltrated by pests.	Ensure that staff sharpens all mower blades on a consistent schedule and when necessary. The City has the tools and trained staff to accomplish this.
	Aerate Regularly	Cultural	Many Insect and Weed Pests	Aerating is a BMP that will promote healthy turf, reduce soil compaction, encourage deeper rooting, increase water infiltration, reduce thatch buildup and assist with the elimination of weeds.	Staff is converting a tractor to be used on turf and we have confirmed that we can rent aerating equipment.
	Clean Food Areas After Events	Cultural	Insect Pests	Following special events and athletic events in our City parks we are often left with lots of food, oily and greasy areas.	Ensure that City staff, athletic organizations, special event committees and rental groups take the time to clean all park areas in which food and oil or grease have been placed. These items often attract pests and we will ask that all these areas are throroughly cleaned following activities. City staff will also continue to pressure clean these areas on an as needed basis.
	Florida Native Plantings	Cultural	Insect and Weed Pests	Florida native plantings will attract natural predators, reduce the need for irrigation, and reduce maintenance in some areas.	As the budget allows or in working with local non-profit groups begin to introduce plantings of florida natives to our parks.
	Increase Tree Plantings	Cultural	Weed and Insect Pests	Adding trees to general areas in active and passive parks will enhance the shade and comfort for park visitors, provide wildlife habitat and shade groundcover, reducing water requirements.	As the budget allows staff can identify parks and areas to plant florida native trees to promote shade and comfort.
	Irrigate Uniformly and Efficiently	Cultural	Insect and Weed Pests	Maintain efficient irrigation equipment and schedule irrigation in correlation to weather conditions.	Conduct regular water audits to ensure systems are not leaking and the pressure alignment, and distribution is correct for the park.
	Maintain Updated Chemical and Fertilizer Application Equipment	Cultural	Insect and Weed Pests	Maintaining updated chemical and fertilizer application equipment is necessary to adhere to the label requirements for applications to ensure equipment is calibrated. Updated motorized equipment cleans more efficiently, calibrates and hold calibration more accurately and deteriorated parts can be easily replaced.	Staff will stay up-to-date on the equipment and ensure that equipment is replaced as necessary to ensure the correct calibrations are applied per the label. Staff will also maintain servicing all parts necessary as recommended from the manufacturer.

Figure 4: *Table of Recommended Non-Chemical Control Methods, continued*

	BIOLOGICAL, CULTURAL, AND MECHANICAL CONTROLS				
	Control Method	**IPM Control Strategy**	**Pests Treated**	**Description**	**How to Implement**
CULTURAL	**Mow at Correct Height**	Cultural	Insect and Weed Pests	Mowing at the correct height will ensure that we promote healthy grass and reduce the build-up of thatch.	Ensure that staff is mowing the varioius grasses at the correct heights dependent on the seasons and conditions.
	Over Seeding	Cultural	Insect and Weed Pests	Broadcasting rye grass seeds over turf will fill in open patches and prevent weed infiltration, while enhancing the greenness and aesthetics of the turf.	As budgeting allows staff plans to overseed healthy bermuda turf during the dormant months and also Riverview Park to help prevent weed infiltration.
	Take Soil Samples and Fertilize Properly	Cultural	Insect and Weed Pests	This is a Best Management Practice to take soil samples to ensure any fertilization provides necessary nutrients and we do not provide excess nutrients	Soil samples should be consistently done each year at the same time to identify any deficiencies or excesses in the soil. The addition of micro-nutrients at the appropriate time of the year will enhance the root system and help promote healthy turf.
	Tool Sanitation	Cultural	Insect and Weed Pests	Pests can easily spread among sites on unsanitized lawn equipment. Cleaning mowers and equipment between areas minimizes pest transport.	Staff is to use a specific mower on Bermuda grass and the zero turn mowers on all other grasses. As often as possible staff is to wash and clean equipment, especially when leaving areas with pest problems.
MECHANICAL	**Develop Concrete or Milling Platforms**	Mechanical	Weeds	Bleachers, benches and trash cans create areas which are hard to mow and weed eat. Installing a surface underneath these items would reduce staff hours, chemical use and increase the park aesthetics.	As the budget allows and in areas identified by staff we can work to implement surfaces under these items.
	Develop Warning Tracks	Mechanical	Weeds	Warning tracks serve a safety factor for baseball/softball participants. For the IPM it serves a purpose to reduce the infiltration of weeds along fence lines and reduce the amount of turf grass that has to be maintained.	Develop plans and as the budget allows begin to implement warning tracks along fence lines.
	Infield Grooming	Mechanical	Weeds	The grooming of infield clay is not only a safety process but it also assist with preventing the infiltration of groundcover and weeds.	Groom the baseball and softball infields on a daily basis and as often as possible.
	Manual Weed Eradication	Mechanical	Weeds	Where safe and applicable manual weed eradication will involve staff manually pulling weeds.	Areas deemed safe and applicable can have manual weed eradication.
	Mulching	Mechanical	Weeds	To prevent weeds and promote water retainment. Mulch around trees and shrubs also helps eliminate damage from equipment. Enlarging mulching areas by grouping trees into large landscape areas will also reduce the amount of groundcover that needs to be maintained.	As budgeting allows staff should mulch around plants, shrubs, buildings and trees annually. Also look at areas to group trees into larger landscape areas.
	Steam or Hot Water Machine	Mechanical	Weeds and Fire Ants	Steam and Hot Water Machines to assist with weeds and fire ants.	Sub-Committee and staff have began research and will continue to explore this possibility and the costs associated with these methods.
	Verticutting	Mechanical	Insect and Weed Pests	Thatch buildup can impede air and water infiltration Verticutting will also cultivate the soil and permit the blades to stand up to groom the grass to be healthier.	Staff is converting a tractor to be used on turf and we have confirmed that we can rent equipment to verticut our athletic fields.

VI. PESTICIDE USE METHODOLOGY

Chemical Controls should only be utilized when biological, mechanical, and cultural control methods are unavailable, impractical, ineffective, or fail to reduce pest populations below tolerance thresholds. The approved products are most effective and pose the least risk, when used as part of an IPM program, following proper and frequent biological, mechanical, and cultural pest control methods.

Planning Pesticide Application

Inspection and Monitoring. Before chemical control methods are utilized, the certified applicator will properly identify the pest and record data on population estimates, weather, and location. All inspection and application data will be recorded in the field by the certified applicator on the "Chemical Control Log" Form *(Appendix D)*.

Concentrations & Application Rates. Proper pesticide application entails applying the minimum amount of product to provide effective control. For this reason, the pesticide manufacturers spend millions of dollars to determine the rate, and therefore the amount, that the pesticide should be applied. These products rarely arrive from the manufacturer ready to use for commercial applications. It is up to the applicator to dilute or mix the product with water, oil and/or surfactant, according to the directions on the product label. The exact concentration of the active ingredient in the pesticide mixture is critical to its effectiveness. Too little product in the mixture may result in reduced efficacy, while too much may result in injury to the treated surface, illegal residues, impacts to the surrounding environment, or unnecessary expense. While the instructions for mixing the product involve simple calculations, it is important that all measurements be made accurately, carefully, and with the most precise measuring equipment available.

Directions for mixing and applying pesticides come in two general scenarios: rate per volume of water (pesticide concentration) or rate per area of land (lb. or qt. per acre). Mixing directions will vary. Pesticides that are mixed by concentration generally have specific directions for application. Some insecticide application directions may state to apply until spray runs off the target plant. Some herbicide application directions may state to apply only enough spray material to wet the leaves uniformly. Proper calibration of equipment and knowing how fast it is moving is crucial to controlling how much pesticide is being applied. The applicator must read the label to know how much product to apply. THE LABEL IS THE LAW.

Discouraged Procedures. Routinely scheduled pesticide applications and the broadcasting application method should be avoided whenever possible, unless such applications may be reasonably expected to result in an overall reduction in pesticide use when compared with all other practicable alternatives.

Buffer Zones. All Stormwater features (lakes, ponds, ditches, canals) within or bordering the City's parks and properties will not be treated under this IPM Plan, as they will be addressed in a separate IPM Plan for stormwater assets. However, as park landscapes are treated with pesticides near these areas a **buffer zone** must be observed in order to protect the shoreline integrity and water quality. Therefore, no application of pesticides may occur within a minimum of 10 feet from these features.

Safety Data Sheets. A binder of product labels and **safety data sheets (SDS)** for all approved pesticides will be provided to City staff and third party contractors whom apply, or may come in direct contact with the pesticides. In addition, this data will be available on the City's IPM website.

Treatment Notification

The City and contractors shall provide the public and its staff with notification of pesticide applications through the use of the Pesticide Notification Sign *(Appendix F)*. Completed signs should be posted at all major public and employee points of entry to the treated area pursuant to state and/or federal law, the City's IPM Plan, and according to product label instructions. Notice is to be posted at least 24 hours in advance of application and remain in place for 24 hours following the application, unless the manufacturer's product label specifies a longer posting period. Signs shall be of standardized design, printed in color, laminated, and contain the name of the pesticide product, target pest, date and time applied, required re-entry interval and the name and contact number for the Leisure Services Director.

Conditional Exemptions. The Leisure Services Director and IPM Coordinator and may grant authorization to apply a pesticide in regular park and property areas without providing a 24 hour notification. Authorization requires that there is a compelling need to use the pesticide, such as immediate threat to public health, safety, City property, or substantial economic detriment. These signs shall be posted as soon as possible prior to application, and remain posted following the application for 24 hours. All documentation of this exemption must be retained and included in the annual report. Signage shall not be required in right-of-way locations that the general public does not use for recreation, or pedestrian purposes, such as median strips.

Approved Pesticides

A comprehensive list of approved pesticides for use within the City's parks and properties has been compiled by the IPM Sub-Committee. These chemicals have either been previously utilized by City Staff, recommended through the University of Florida Institute of Food and Agricultural Sciences (IFAS) extension office publications, or discovered through extensive staff and committee member research. The "Approved Pesticide Spreadsheet" includes pertinent chemical attributes such as: active ingredients and their percentages, EPA Registration #, targeted pest, a cost rating per 1000 ft², and the observed staff efficacy of the product

(Figure5). Selection of pesticides for use should be based upon a combination of a low Environmental Impact Quotient (EIQ), low cost, and maximum efficacy.

Bio Pesticides. In the IPM Sub-Committee's quest to provide pest management options that are not only effective, but also have the least possible risk to human and environmental health, bio pesticide options were reviewed extensively. Bio pesticides, also called "natural" or "organic" pesticides, are non-synthetic and contain only naturally occurring substances. These products break down rapidly in sunlight or water, which means that they do not persist long in the environment and therefore pose the least risk to non-target organisms. Also, bio pesticides are typically fast-acting and can kill immediately on contact or cause the pest to instantly cease essential biological processes, such as feeding. For these reasons, bio pesticide options are generally preferred alternatives to the synthetic chemical pesticides.

However, there are also potential risks associated with the application of natural products that the IPM Sub-Committee must consider when selecting pesticides for the "Approved Pesticide Table". It is important to note that all pesticides, whether natural or synthetic, carry inherent risks and require safety precautions. The ability to break down fast can also mean that multiple applications are required to match the efficacy of the synthetic chemical option. Multiple applications can drastically increase the cost and the risks of the product. Because bio pesticides are made of natural substances, they often are exempt from the Environmental Protection Agency (EPA) review process. Therefore, there is little to no data on the long-term risks or efficacy. Of those that are registered by the EPA, many are not registered for sale in Florida, due to the lack of data. The City may not legally use a pesticide that is not state registered in this manner. Bio pesticides that are registered may not be mass produced for commercial use and therefore may be priced too high for use over large areas, or simply not readily available. The lack of EPA review and state registration also means that they are produced by a variety of different sources, which often results in inconsistent potency and efficacy among producers and even within different batches from the same producer. For these reasons, while there are many natural pesticide options listed on the "Approved Pesticide Table", it is not feasible to only approve bio pesticide options.

Environmental Impact Quotient (EIQ). To best create a comparison among chemical methods, the Environmental Impact Quotient (EIQ) Method will be applied. Developed by Cornell University, the EIQ is a numerical model for pesticide selection. The formula takes into account factors such as: toxicity to humans, leachability to groundwater, runoff potential, soil persistence, and the effects on non-target terrestrial and aquatic species. *(Appendix E)* The risk of each chemical is the product of its overall toxicity and the potential for exposure. Cornell has a published table of commonly used chemicals and their calculated scores. (Kovatch, et.al, 1992)

Field Use EIQ. However, since the risk of a chemical's use increases with the amount that is applied, it is necessary to take into account the rate of application. In order to accomplish this, the EIQ is multiplied by the % of the active ingredient and the rate of application to

create the Field Use EIQ Rating. The field use EIQ s for all chemicals applied over a period of time can then be summed to create a field number that can then be compared to assess the reduction in environmental impacts among years or seasons. The Field Use EIQ can also be utilized to compare when multiple applications of a low EIQ chemical, such as a bio pesticide, are required versus when single applications are required of a higher EIQ chemical *(Appendix F)*. (Kovatch, et.al, 1992)

New or Restricted Pesticides

In the development of a thorough and reasonable IPM Plan, It is not advisable to prohibit the use of any IPM Method, which is legally approved and included in the UF IFAS local recommendations for pest management. Unforeseeable conditions may arise in which City staff is limited in what will be effective at reducing pest populations. In addition, the IPM Sub-Committee also recognizes that new pesticides are constantly being developed and approved, which may prove to be more environmentally and economically sustainable than current approved pesticides.

On the "Approved Pesticide List" *(Figure 5)*, specific pesticides are labeled as "restricted use." Use of these pesticides is to be avoided. These are only to be utilized to restore high and very high pest populations back down to a moderate tolerance threshold at which it can then be managed by preferred methods. Before purchase of a restricted pesticide or any new pesticide that is not included on this spreadsheet, a "Pesticide Exemption Form" (Appendix F) must be completed by applicator and submitted to the Leisure Services Director, IPM Coordinator, and City Manager for signed approval. This form is to be submitted 4 days prior to proposed application date. The form requires thorough justification for use of the chemical. However, should a new pesticide containing the same % active ingredient(s) be discovered which is preferred, an exemption form must be completed and submitted to the IPM Coordinator, but approval will not be required.

"Old Guys" Softball league plays at Barber Street Park

Figure 5: Approved Pesticide Table (IPM.APT.V1)

Cost: $= less than $1.00 $$= $1.00-$1.99 $$$= 2.00-$2.99 $$$$= $3.00 to $3.99 $$$$$= More than $4.00

* "RESTRICTED" pesticide use requires submission of a "Pesticide Use Exemption Form" indicating that all other methods have been exhausted before purchase of this product for the specified area, and shall be approved and signed by: Leisure Services Director, IPM Coordinator, and City Manger.

TRADE NAME	ACTION	EPA REG. #	ACTIVE INGREDIENT(S)	LABELED HAZARD LEVEL	EIQ	APPLICATION RATE LBS PER ACRE	**FIELD USE EIQ	TARGET PESTS	PERMITTED USE	COST (only includes cost of product)	COST RATING/ 1,000 ft² (only includes cost of product)	CITY STAFF OBSERVED EFFICACY
Advion Fire Ant Bait (Granular)	Insecticide	100-1481	Indoxacarb .045%	Caution	31.19	1.5 LBS	0	Fire Ants	All Parks	$341.60/ 25 LBS	$	HIGH
Avenger (Liquid)	Herbicide	92967-1	d-Limonene 70%	Caution	N/A		N/A	Non-Selective	All Parks	$105.00/ GAL	N/A	N/A
Conserve SC (Liquid)	Insecticide	62719-291	Spinosad 11.6%	N/A	14.38	0.68 LBS	1.1	Sod Webworms	All Parks	$147.03/ 32 OZ	$$	N/A
Dimension 2EW Pre Emergent (Liquid)	Herbicide	62719-542	Dithiopyr 24%	Warning	15.73	2 LBS	7.6	Broadleaf Weeds	RESTRICTED*	$116.75/ 64 OZ	$$	MODERATE
Dr. Kirchner Natural Weed Killer (Liquid)	Herbicide	Exempt	Sodium Chloride 4.00%	Caution	N/A	No data, stated to spray each weed to the point of wetness	N/A	Non-Selective	All Parks	$99.99/ 5 GAL	N/A	LOW
Eco Might WOW (Liquid)	Herbicide	Exempt	Peppermint Oil 4.5% Potassium Sorbate 3.5% Sodium Chloride 3.5%	Caution	N/A	27.23 LBS	N/A	Non-Selective	All Parks	$2.59555/ GAL	$$$$	HIGH
Entrust SC (Liquid)	Insecticide	62719-621	Spinosad 22.5%	N/A	14.38	.05-.10 OUNCES PER ANT HILL	N/A	Fire Ants	All Parks	$469.95/ QT	$$$$$	N/A
Lesco Crosscheck 0.069% Plus Fertilizer (0-0-7 Mini Fertilizer) (Granular)	Insecticide & Mini Fertilizer	70506-123-10404	Bifenthrin .069 %	Caution	44.35	261.36 LBS	6.5	Fire Ants, Fleas, Ticks, Mole Crickets, Sod Webworms	Athletic, Riverview Park (Special Events), all Playgrounds	$20.47/ 50 LBS	$$	HIGH
Lesco Crosscheck Plus (Liquid)	Insecticide	279-3206-10404	Bifenthrin 7.9%	Caution	44.35	2.72 LBS	7.3	Fire Ants, Fleas, Ticks, Mole Crickets, Sod Webworms, Termites	Athletic, Riverview Park (Special Events), all Playgrounds	$59.70/ GAL	$	HIGH
Mansion (Liquid)	Herbicide	228-373	Metsulfuron Methyl 60%	Caution	16.67	0.06 LBS	0.9	Broadleaf Weeds	Athletic	$37.77/ 2 OZ	$	HIGH
Monterey Bt (Liquid)	Insecticide	70051-106-54705	Bacillus Thuringiensis 98.35%	Caution	N/A		N/A	Bagworm, Webworm, Armyworm, Hornworm	All Parks	$72.99/ GAL	$$$	N/A
Orange Guard (Liquid)	Insecticide	61887-1	d-Limonene 5.8%	Caution	N/A	1 LB OR 4 LBS PER ANT HILL	N/A	Ants, Roaches, Fleas	All Parks	$29.95/ GAL	$$$$	VERY LOW
Q4 Plus (Liquid)	Herbicide	2217-930	Quinclorac 8.43% Sulfentrazone .69% 2,4-D 11.81% Dicamba 1.48%	Caution	85.46	6.81 LBS	34	Signal Grass and Torpedo Grass	RESTRICTED*	$301.44/ 2.5 GAL	$$	MODERATE
Revolver Post Emergent (Liquid)	Herbicide	432-1266	Foramsulfuron 2.34%	Caution	15.33	1.63 LBS	0.6	Goose Grass	Athletic	$595.000/ 87 OZ	$$$	HIGH
Round Up Pro Concentrate (Liquid)	Herbicide	524-529	Glyphosate 50.2%	Caution	15.33	3.2 LBS	24.6	Non-Selective	RESTRICTED*	$699.95/ 30 GAL	$	HIGH
Speedzone Southern Post Emergent (Liquid)	Herbicide	2217-835	2,4-D 10.49% Mecoprop-p 2.66% Dicamba .67% Carfentrazone .54%	Caution	77.17	5 LBS	11.4	Broadleaf Weeds, specifically Florida Pusley	Athletic & Surrounding Common Areas	$168.38/ 2.5 GAL	$$	HIGH
TopChoice (Granular)	Insecticide	432-1217	Fipronil .0143%	Caution	88.25	87 LBS	1.1	Fire Ants, Fleas, Ticks, Mole Crickets	Athletic	$139/ 50 LBS	$$$$	HIGH
Tribune (Liquid)	Herbicide	100-1390	Diquat 37.3%	Caution	39.2	1.5 LBS	21.9	Non-Selective	RESTRICTED*	$240.04/ 2.5 GAL	$	MODERATE

**The Field Use EIQ is calculated based on the maximum label recommended application rate

VII. DATA MANAGEMENT

Accurate records are essential for the success of an IPM program. They provide staff with historical, site-specific knowledge of pest activity and pesticide application. With this information, it can be predicted when certain pest problems are likely to occur. Effective record-keeping can also call attention to patterns of pest outbreaks and associations among pest populations, as well as provide valuable data for assessment of the IPM Program.

Data Recording & Collection

Field Data. All Non-Chemical pest control activities conducted within athletic parks will be recorded on the "Monthly IPM Log" *(Appendix H)*. Because chemicals are applied very rarely to passive and active parks, daily records of non-chemical methods are not necessary. Before chemical control methods are utilized, the licensed applicator will properly identify the pest and record data on population estimates and efficacy of application. The date, time and location of pest will be recorded as well as the location and extent of turf damage or abnormalities. This data will be recorded on the Chemical Control Log Form *(Appendix D)* each time that pesticides are applied. These sheets will be completed manually in the field by the certified applicator and submitted to the IPM Coordinator monthly so that the data may be digitally compiled and stored.

Purchase Orders. All purchase orders for chemicals or IPM related equipment and materials will be submitted annually to the IPM Coordinator.

Contractors. All contractors who manage pests on City owned, leased, or managed property shall be required to adhere to the guidelines established in the City's IPM Plan. Contractors must sign the "IPM Plan Contractor Agreement" *(Appendix B)* and maintain complete records of all chemical and non-chemical pest control activities. When applicable, a "Pesticide Exemption Form" must be submitted. "Pesticide Notification Signage" must also be posted per the IPM plan requirements. A summary of these activities must be submitted to the IPM Coordinator monthly, or upon completion of the job. These records must include treatment sheets and "Chemical Control Log" forms for all pesticide applications.

Program Transparency

All records and information regarding the IPM Program will be made available to employees and the public through the City's IPM Program Website and upon request, in accordance with the State's Sunshine Laws.

Annual Report & Evaluation

The IPM Coordinator will maintain all records relevant to the IPM Program, in order to prepare an annual report of the City's IPM activities. The annual report will be reviewed, each March, by the IPM Sub-Committee and City staff in an effort to assess the effectiveness of pest control

methods, feasibility of new methods and technologies, and to decide whether revision of the IPM Plan is required. The annual report will include the following elements:

- A summary of all field inspection data and chemical application record sheets
- All non-chemical pest control methods implemented
- Summarized data presented in tables and graphs to depict trends in usage and Field use EIQ
- A discussion of all restricted chemical wavier forms submitted
- Purchase Orders for all Pesticides
- Pest management challenges reported by staff
- Determine if the results have met expectations, or if the IPM plan requires modification
- Summary of all public outreach activities conducted and their outcome
- Any proposed modifications to Approved Pesticide List
- Suggestions for amendments to the IPM Plan and policy
- Summary of all staff training activities

Children Grab for Easter Eggs at Riverview Park

Flowers in bloom outside City Hall

VII. FUTURE RECOMMENDATIONS

The IPM Sub-Committee acknowledges that this plan does not encompass every aspect of integrated pest management, nor could it address every possible scenario that may arise as this plan is incorporated into City policy. For this reason, the sub-committee members are in consensus that they shall reconvene six (6) months following adoption of this plan in order to closely review the data collected and address any inconsistencies, or amendments needed.

For future consideration the Sub-Committee Members make the following recommendations:

- A numeric quantification of pest populations is not being required, as this task may become tedious for applicator staff. Instead, it was decided to provide a more subjective scale ranging from "very low" to "very high". Should future review of data indicate the need, then a more quantitative approach may be needed.
- Records of non-chemical pest management activities through completion of the "Monthly IPM Log" are only being required from staff conducting work on the City's athletic parks. These activities occur constantly in all City properties, but recording each activity on parks and spaces in which chemicals are very rarely applied, did not seem necessary. Should future review indicate that there is a regular need for chemicals in these areas, and then this requirement may need to be broadened to include more of the City staff.
- The collection of data for purposes of monitoring impact to native plants, animals, and pollinators from the conduct of pest management activities is not being required. The field EIQ formula assumes that native plants, animals, and pollinators are all present and measures potential risks to them by using the score assigned to the chemical and incorporating the area covered and frequency of application. Should future review of data that are being collected indicate excessive or regular use of chemicals, a more quantitative approach may be needed.
- At the time that this IPM plan was drafted, there was no available data to assign an Environmental Impact Quotient (EIQ) for bio pesticides, as they are not subject to EPA review. There is a universal need and it is anticipated that future research will assign EIQs to these products. It is therefore recommended that the IPM Coordinator check peer-reviewed research regularly, so that these numbers may be incorporated into the "Approved Pesticides Table" and aid in pesticide application decisions and evaluation.

Appendix A: R-20-12

RESOLUTION NO.R-20-12

A RESOLUTION OF THE CITY OF SEBASTIAN, INDIAN RIVER COUNTY, FLORIDA, SUPPORTING THE "INTEGRATED PEST MANAGEMENT (IPM) PLAN FOR CITY PARKS AND PROPERTIES" TO BE IMPLEMENTED INTO CITY POLICY; PROVIDING FOR SCRIVENER'S ERRORS; PROVIDING FOR EFFECTIVE DATE.

WHEREAS, City Council believes that a commitment to the environment is integral to a thriving and livable community; are in support of the "Sustainable Sebastian" Initiative (R-19-30), and are committed to keeping sustainability in mind while supporting the ecological, economic, and social needs of our community, and

WHEREAS, the IPM Sub-Committee was created in February, 2020 by request of the City Council, to assist City staff in the development of an Integrated Pest Management Plan for the City's parks and properties, and

WHEREAS, a *pest* may be any plant, vertebrate, invertebrate, or pathogen, which may cause disease, inflict damage, or out-compete the more desirable species for an area, be aesthetically undesired, or threaten to impact human/animal health, and

WHEREAS, to adopt an *integrated pest management* policy is to promote the most sustainable pest management methods, based on planning and prevention; which aim to minimize risks to human and environmental health through the limited use of chemicals, by first promoting biological, physical, mechanical, and cultural pest control methods, while also remaining economically feasible.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SEBASTIAN, INDIAN RIVER COUNTY, FLORIDA, as follows:

SECTION 1. SUPPORT FOR THE *"IPM PLAN FOR CITY PARKS AND PROPERTIES"*.

The City Council hereby is in support of the "IPM Plan for City Parks and Properties", which shall be implemented into City policy and annually reviewed, by the Leisure Services Director, IPM Coordinator, IPM Sub-Committee, and City Council to ensure that the four following goals are being achieved to the maximum extent practicable:

- Protect environmental resources by reducing the amount of pollutants entering surface and ground water and minimizing effects on native plants, animals and habitats
- Ensure effective, economic pest management on City property, while minimizing health risks to the public, City staff, and the environment
- Promote the transparency of the City's pest management activities
- Increase public awareness of IPM methods and benefits

SECTION 2. CONFLICT. All resolutions or parts of resolutions in conflict herewith are hereby repealed.

SECTION 3. SCRIVENER'S ERRORS. Sections of this resolution may be renumbered or re-lettered and corrections of typographical errors which do not affect the intent may be authorized by the City Manager, or the City Manager's designee, without need of further action of the City Council by filing a corrected copy of same with the City Clerk.

SECTION 4. EFFECTIVE DATE. This resolution shall take effect immediately upon its adoption.

The foregoing Resolution was moved for adoption by Councilmember _____. The motion was seconded by Councilmember _____ and, upon being put into a vote, the vote was as follows:

Mayor Ed Dodd	_____
Vice Mayor Charles Mauti	_____
Councilmember Jim Hill	_____
Councilmember Pamela Paris	_____
Councilmember Damien Gilliams	_____

The Mayor thereupon declared this Resolution duly passed and adopted this ___ day of _____, 2020.

CITY OF SEBASTIAN, FLORIDA

By: _____
Ed Dodd, Mayor

ATTEST:

_____
Jeanette Williams, MMC
City Clerk

Approved as to Form and Content for
Reliance by the City of Sebastian Only:

_____
Manny Anon, Jr., City Attorney

Appendix B: Contractor Agreement

CITY OF SEBASTIAN
HOME OF PELICAN ISLAND

Administrative Services Department
Procurement Division
1225 Main Street
Sebastian, FL 32958
(772) 388-8232

IPM PLAN CONTRACTOR AGREEMENT

The Contractor, _____, hereby agrees to all of the
(Company Name)
following:

- Review and follow the City's IPM Plan completely
- Inform and train employees of the IPM Plan's policies and procedures.
- Use only pesticides listed in the "Approved Pesticide Table", and apply in accordance with rates/methods on the associating label.
- Complete the "Chemical Control Log" form completely with every pesticide application.
- Should there be a need to apply a pesticide classified as "restricted" on the "Approved Pesticide Table" or a pesticide not named on the table, a "Pesticide Exemption Form" must be completed and submitted to the Leisure Services Director at least four (4) days before proposed application date.
- Notify the Leisure Services Director at least three (3) business days before pesticide application. Provide the location, date and anticipated chemicals being used.
- Post the completed "Pesticide Notification Signage", in accordance with the IPM Plan requirements
- Report monthly to the IPM Coordinator with all treatment sheets and completed "Chemical Control Logs"

I am a legal agent of the above named company and am fully authorized to sign and bind the above listed Company to this IPM Plan Contractor.

Print Name: _____ Title: _____

Signature: _____ Date: _____

Appendix C: City Fertilizer Ordinance

City of Sebastian

Code of Ordinances

CH.50 Sec. 50-5. - Florida-friendly fertilizer use on urban landscapes.

(a) *Findings.* As a result of impairment to the City of Sebastian's surface waters caused by excessive nutrients, or, as a result of increasing levels of nitrogen in the surface and/or ground water within the aquifers or springs within the boundaries of the City of Sebastian, the city council has determined that the use of fertilizers on lands within the City of Sebastian creates a contributing risk that adversely effects surface and/or ground water.

(b) *Purpose and intent.* This section regulates the proper use of fertilizers by any applicator; requires proper training of commercial and institutional fertilizer applicators; establishes training and licensing requirements; establishes a prohibition application period; specifies allowable fertilizer application rates and methods, fertilizer-free zones, low maintenance zones, and exemptions. The ordinance requires the use of Best Management Practices which provide specific management guidelines to minimize negative secondary and cumulative environmental effects associated with the misuse of fertilizers. These secondary and cumulative effects have been observed in and on the City of Sebastian's natural and constructed stormwater conveyances, rivers, creeks, canals, springs, lakes, estuaries and other water bodies. Collectively, these water bodies are an asset critical to the environmental, recreational, cultural and economic well-being of the City of Sebastian's residents and the health of the public. Overgrowth of algae and vegetation hinder the effectiveness of flood attenuation provided by natural and constructed stormwater conveyances. Regulation of nutrients, including both phosphorus and nitrogen contained in fertilizer, will help improve and maintain water and habitat quality.

(c) *Definitions.* For this chapter, the following terms shall have the meanings set forth in this section unless the context clearly indicates otherwise.

"*Administrator*" means the city manager, or any other city official designated by the city manager.

"*Application*" or "*apply*" means the actual physical deposit of fertilizer to turf or landscape plants.

"*Applicator*" means any person who applies fertilizer on turf and/or landscape plants in the City of Sebastian.

"*Board*" or "*governing board*" means City Council of the City of Sebastian.

"*Best Management Practices*" means turf and landscape practices or combinations of practices based on research, field-testing, and expert review, determined to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality, conserving water supplies and protecting natural resources.

"*Commercial fertilizer applicator*" , except as provided in F.S. § 482.1562(9), means any person who applies fertilizer for payment or other consideration to property not owned by the person or firm applying the fertilizer or the employer of the applicator.

"*Fertilize*", "*fertilizing*", or "*fertilization*" means the act of applying fertilizer to turf, specialized turf, or landscape plants.

"*Guaranteed analysis*" means the percentage of plant nutrients or measures of neutralizing capability claimed to be present in a fertilizer.

"*Institutional applicator*" means any person, other than a private, non-commercial or a commercial applicator (unless such definitions also apply under the circumstances), that applies fertilizer for the purpose of maintaining turf and/or landscape plants. Institutional applicators shall include, but shall not

be limited to, owners, managers or employees of public lands, schools, parks, religious institutions, utilities, industrial or business sites and any residential properties maintained in condominium and/or common ownership.

"Landscape plant" means any native or exotic tree, shrub or groundcover (excluding turf).

"Low maintenance zone" means an area a minimum of ten feet wide adjacent to water courses which is planted and managed in order to minimize the need for fertilization, watering, mowing, etc.

"Person" means any natural person, business, corporation, limited liability company, partnership, limited partnership, association, club, organization, an/or any group of people acting as an organized entity.

"Prohibited application period" means June 1 through September 30 or the time period during which a flood watch or warning, or a tropical storm water or warning, or a hurricane watch or warning is in effect for any portion of the City of Sebastian, issued by the National Weather Service, or if heavy rainfall is likely.

"Sebastian Approved Management Practices Training Program" means a training program approved per F.S. § 403.9338, or any more stringent requirements set forth in this Chapter that includes the most current version of the Florida Department of Environmental Protection's "Florida-Friendly Best Management Practices for Protection of water Resources by the Green Industries, 2008" as revised and approved by the administrator.

"Saturated soil" means a soil in which the voids are filled with water. Saturation does not require flow. For the purpose of this section, soils shall be considered saturated if standing water is present or the pressure of a person standing on the soil causes the release of free water.

"Slow release", *"controlled release"*, *"timed release"*, *"slowly available"* or *"water insoluble nitrogen"* means nitrogen in a form which delays its availability for plant uptake and use after application, or which extends its availability to the plant longer than a reference rapid or quick release product.

"Turf", *"sod"*, or *"lawn"* means a piece of grass-covered soil held together by the roots of the grass.

"Urban landscape" means pervious areas on residential, commercial, industrial, institutional, highway right-of-way, or other nonagricultural lands that are planted with turf or horticultural plants. For the purposes of this section, agriculture has the same meaning as in F.S. § 570.02.

(d) *Applicability.* This section shall be applicable to and shall regulate all applicators of fertilizer and areas of application of fertilizer within the City of Sebastian unless such applicator is specifically exempted by the terms of this section from the regulatory provision of this section. This section shall be prospective only, and shall not impair any existing contracts.

(e) *Timing of fertilizer application.* No applicator shall apply fertilizers containing nitrogen and/or phosphorus to turf and/or landscape plants during the prohibited application period, or to saturated soils.

(f) *Fertilizer free zones.* Fertilizer shall not be applied within ten feet of any pond, stream, watercourse, lake, canal, or wetland as defined by the Florida Department of Environmental Protection (Chapter 62-340, Florida Administrative Code) or from the top of a seawall. If more stringent City of Sebastian Code regulations apply, this provision does not relieve the requirement to adhere to the more stringent regulations. Newly planted turf and/or landscape plants may be fertilized in this zone only for a 60-day period beginning 30 days after planting if need to allow the plants to become well established. Caution shall be used to prevent direct deposition of nutrients into the water.

(g) *Low maintenance zones.* A voluntary ten-foot low maintenance zone is strongly recommended, but not mandated, from any pond, stream, water course, lake, wetland or from the top of a seawall. A swale/berm system is recommended for installation at the landward edge of this low maintenance zone to capture and filter runoff. If more stringent City of Sebastian Code regulations

apply, this provision does not relieve the requirement to adhere to the more stringent regulations. No mowed or cut vegetative material may be deposited or left remaining in this zone or deposited in the water. Care should be taken to prevent the over-spray of aquatic weed products in this zone.

(h) *Fertilizer content and application rates.*

(1) No fertilizer containing phosphorous shall be applied to turf or landscape plants in the City of Sebastian unless a soil or plant tissue deficiency is verified by a University of Florida, Institute of Food and Agriculture Sciences, approved testing methodology. In the case that a deficiency has been verified, the application of a fertilizer containing phosphorous shall be in accordance with the rates and directions for the Central Region of Florida as provided by Rule 5E-1.003(2), Florida Administrative Code. Deficiency verification shall be no more than two years old. However, recent application of compost, manure, or top soil shall warrant more recent testing to verify current deficiencies.

(2) The nitrogen content of fertilizer applied to turf or landscape plants within the City of Sebastian shall contain at least 50 percent slow release nitrogen per guaranteed analysis label.

(3) Fertilizers applied to an urban lawn or turf within the City of Sebastian shall be applied in accordance with requirements and directions set forth on the label or tag for packaged fertilizer products, or in the printed information accompanying the delivery of bulk fertilizer products, as provided by Rule 5E-1.003(2), Florida Administrative Code, Labeling Requirements For Urban Turf Fertilizers. All packaged and bulk fertilizer products sold in the City of Sebastian shall be sold in packages with labels or tags, or, if sold in bulk, be accompanied by printed information, which complies with the requirements of Rule 5E-1.003(2), Florida Administrative Code.

(4) Fertilizer containing nitrogen or phosphorus shall not be applied before seeding or sodding a site, and shall not be applied for the first 30 days after seeding or sodding, except when hydro-seeding for temporary or permanent erosion control in an emergency situation (wildfire, etc.), or in accordance with the Stormwater Pollution Prevention Plan for that site.

(i) *Application practices.*

(1) Spreader deflector shields are required when fertilizing via rotary (broadcast) spreaders. Deflectors must be positioned such that fertilizer granules are deflected away from all impervious surfaces, fertilizer-free zones and water bodies, include wetlands.

(2) Fertilizer shall not be applied, spilled or otherwise deposited on any impervious surfaces.

(3) Any fertilizer applied, spilled, or deposited, either intentionally or accidentally, on any impervious surface shall be immediately and completely removed to the greatest extent practicable.

(4) Fertilizer released on an impervious surface must be immediately contained and either legally applied to turf or any other legal site, or returned to the original or other appropriate container.

(5) In no case shall fertilizer be washed, swept, or blown off impervious surfaces into stormwater drains, ditches, conveyances, or water bodies.

(j) *Management of grass clipping and vegetative matter.* In no case shall grass clippings, vegetative material, and/or vegetative debris be washed, swept, or blown off into stormwater drains, ditches, conveyances, water bodies, wetlands, or sidewalks or roadways. Any material that is accidentally so deposited shall be immediately removed to the maximum extent practicable.

(k) *Exemptions.* The provisions set forth in the chapter shall not apply to:

(1) Bona fide farm operations as defined in the Florida Right to Farm Act, F.S. § 823.14;

(2) Other properties not subject to or covered under the Florida Right to Farm Act that have pastures used for grazing livestock;

(3) Any lands used for bona fide scientific research, including, but not limited to, research on the effects of fertilizer use on urban stormwater, water quality, agronomics, or horticulture.

(4) Golf courses when landscaping is performed within the provisions of the Florida Department of Environmental Protection document, "Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses", these provisions shall be followed when applying fertilizer to golf course practice and play areas;

(5) Athletic fields at public parks and school facilities that apply the concepts and principles embodied in the Florida Green BMPs, while maintaining the health and function of their specialized turf areas;

(6) Vegetable gardens owned by individual property owners or a community, and trees grown for their edible fruit.

(l) *Training.*

(1) All commercial and institutional applicators or fertilizer within the City of Sebastian, shall abide by and successfully complete the six-hour training program in the "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" offered by the Florida Department of Environmental Protection through the University of Florida Extension "Florida-Friendly Landscapes" program, or an approved equivalent.

(2) Private, non-commercial applicators are encouraged to follow the recommendations of the University of Florida IFAS Florida Yards and Neighborhoods program when applying fertilizers.

(m) *Licensing of commercial applicators.*

(1) Prior to January 1, 2014, all commercial applicators of fertilizer with the City of Sebastian, shall abide by and successfully complete training and continuing education requirements in the "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries", offered by the Florida Department of Environmental Protection through the University of Florida IFAS "Florida-Friendly Landscapes" program, or an approved equivalent program, prior to obtaining a City of Sebastian Local Business Tax Receipt for any category of occupation which may apply any fertilizer to turf and/or landscape plants.

(2) After December 31, 2013, all commercial applicators of fertilizer within the City of Sebastian, shall have and carry in their possession at all times when applying fertilizer, evidence of certification by the Florida Department of Agriculture and Consumer Services as a Commercial Fertilizer Applicator per 5E-14.117(18) F.A.C.

(3) All businesses applying fertilizer to turf and/or landscape plants (including but not limited to residential lawns, golf courses, commercial properties, and multi-family and condominium properties) must ensure that at least one employee has a "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" training certificate prior to the business owner obtaining a local business tax receipt. Owners for any category of occupation which may apply and fertilizer to turf and/or landscape plants shall provide proof of completion of the program to the City of Sebastian.

(n) *Enforcement.* The provisions of this section may be enforced pursuant to any method provided for by the Code or Ordinances or general law.

(Ord. No. O-12-06, § 1, 5-9-12; Ord. No. O-14-02, § 1, 3-26-14)

Appendix D: Chemical Control Log

CITY OF SEBASTIAN

CHEMICAL CONTROL LOG

LEISURE SERVICES DEPARTMENT

APPLICATOR NAME: **DATE OF APPLICATION:** **TIME:**

PRODUCT NAME	EPA REGISTRATION #	PARK	PEST(S) TARGETED	METHOD OF APPLICATION
		NAME: TYPE: Athletic Active Passive		
WEATHER CONDITIONS	**TEMPERATURE**	**WIND SPEED (MPH)**	**EFFECTIVENESS**	**PEST POPULATION EST.**
			Low Moderate High	Very Low Low Moderate High Very High
SIZE OF AREA TREATED	**PRODUCT CONCENTRATION**	**APPLICATION RATE**		
ADDITIONAL NOTES				

APPLICATOR NAME: **DATE OF APPLICATION:** **TIME:**

PRODUCT NAME	EPA REGISTRATION #	PARK	PEST(S) TARGETED	METHOD OF APPLICATION
		NAME: TYPE: Athletic Active Passive		
WEATHER CONDITIONS	**TEMPERATURE**	**WIND SPEED (MPH)**	**EFFECTIVENESS**	**PEST POPULATION EST.**
			Low Moderate High	Very Low Low Moderate High Very High
SIZE OF AREA TREATED	**PRODUCT CONCENTRATION**	**APPLICATION RATE**		
ADDITIONAL NOTES				

Appendix E: Pesticide Notification Sign

RESTORATION IN PROGRESS

CAUTION

As a part of Sebastian's work to restore and maintain healthy, active public areas, pests are being treated with approved pesticides by state-licensed applicators, in compliance with the City's Integrated Pest Management Policy.

Thank you for your cooperation.

TARGET PEST: _____

AREA TREATED: _____

PESTICIDE: _____

RE-ENTRY PERIOD: _____

APPLICATION DATE: _____

APPLICATION TIME: _____

For more information, contact the City's Leisure Services Director, Brian Benton at (772) 228-7057

SUSTAINABLE SEBASTIAN

To learn more about Sebastian's IPM Program and other Sustainable Sebastian Programs visit:
https://www.cityofsebastian.org/260/Natural-Resources-Board

IPM.PNS.V1

Appendix F: Environmental Impact Quotient Formula

Environmental Impact Quotient (EIQ) Formula:

$$EIQ=\{C[(DT*5)+(DT*P)]+$$

$$[(C*((S+P)/2)*SY)+(L)]+$$

$$[(F*R)+(D*((S+P)/2)*3)+(Z*P*3)+(B*P*5)]\}/3$$

- **DT = dermal toxicity** ability of a substance to cause local reaction and/or systemic poisoning in people or animals by contact with the skin
- **C = chronic toxicity** Harmful effects caused in repeated exposure situations
- **SY = systemicity** ability of the product to be translocated to other tissues which have not received the product directly
- **F = fish toxicity** risk to fish, the most sensitive aquatic vertebrate to toxicity
- **L = leaching potential** risk of moving through the soil profile, leaching, and gettinginto groundwater
- **R = surface loss potential** susceptible to loss through runoff and erosion during high-intensity rainfall events
- **D = bird toxicity** risk to birds, which are the vertebrates most sensitive to toxicity
- **S = soil half-life persistence**, or the "lasting-power" of a pesticide within the soil
- **Z = bee toxicity** risk to the essential pollinators
- **B = beneficial arthropod toxicity** risk to non-target organisms which are an important group of microorganisms that work to maintain ecosystem health
- **P = plant surface half-life**. Persistence, or the "lasting- power" of a pesticide on the surface of the leaves, stems, and fruit

Once an EIQ value has been established for the active ingredient of each pesticide, field use calculations can begin. To accurately compare pesticides and pest management strategies, the dose, the formulation or percent active ingredient of the product and the frequency of application of each pesticide needs to be determined. To account for different formulations of the same active ingredient and different use patterns, a simple equation called the EIQ Field Use Rating was developed. This rating is calculated by multiplying the EIQ value for the specific chemical obtained in the tables by the percent active ingredient in the formulation by the rate per acre used (usually in pints or pounds of formulated product).

EIQ FIELD USE RATING = EIQ x % ACTIVE INGREDIENT x RATE

Source: Kovach, J., Petzoldt, C., Degni, J., and Tette, J. 1992. A method to measure the environmental impact of pesticides. New York's Food and Life Sciences Bulletin 139:1–8

Appendix G: Pesticide Exemption Form

PESTICIDE EXEMPTION FORM

This form is to be submitted for approval in order to request exemption for use of a product that is:
1) Classified on the "Approved Pesticide Table" as "Restricted" OR
2) Not named on the "Approved Pesticide Table"
Form to be submitted to the Leisure Services Director for approval at least 4 days before application

Name: _____ Date: _____
Department/Contractor: _____

PESTICIDE

Date(s) of Proposed Use: _____
Product Name: _____
Active Ingredient(s): _____
Concentration: _____
Application Rate: _____
EPA Registration #: _____
Target Pest(s): _____

LOCATION

Site Name: _____
General Area Description: _____

JUSTIFICATION

Reason for Use: _____

Explanation of any Previous Control Methods: _____

Strategy to Prevent Future Exemptions: _____

APPROVAL

Leisure Srvcs. Dir. Approval: _____ Date: _____
IPM Coordinator Approval: _____ Date: _____
City Manager Approval: _____ Date: _____

APPROVED PESTICIDE APPLICATIONS ALSO REQUIRE COMPLETION OF THE "CHEMICAL CONTROL LOG" FORM

IPM.PEF.V1

Appendix H: Monthly IPM Log

MONTHLY IPM LOG

FOR ATHLETIC PARKS

MONTH:_____

CITY OF SEBASTIAN
HOME OF PELICAN ISLAND

DATE	LOCATION	AERATION	FERTILIZATION	CALIBRATE IRRIGATION	SHARPEN MOWER BLADES	MULCHED	VERTICUTTING	OVER-SEEDING	INFIELD DRAGGER	MANUAL WEED REMOVAL	SOIL TEST			COMMENTS

IPM.MIL.V1

CITY OF SEBASTIAN

LIESURE SERVICES DEPARTMENT

Appendix I: Glossary of Terms

IPM Glossary of Terms

Aeration	involves mechanically perforating the soil with small holes to allow air, water and nutrients to penetrate the grass roots. This helps the roots grow deeply and produce a stronger, more vigorous lawn. The main reason for aerating is to alleviate soil compaction
Bahiagrass	groundcover that is drought and heat tolerant, relatively durable, low-growing and low-maintenance turf.
Beneficial Species	preferred species which naturally feed on, out-compete or otherwise hinder the growth of pest populations. Ex. Ladybug, Air potato Beetle)
Bermuda Turf	preferred groundcover for athletic fields in the state. It is valued for its exceptional heat and drought tolerance and a capacity to withstand heavy use and recuperate quickly
Best Management Practice (BMP)	actions based on current science and technology that have been proven to be effective, with careful consideration given to protect public health, safety, wildlife and the environment
Bioaccumulation	gradual accumulation of substances, such as pesticides or other chemicals, in an organism; substance is absorbed at a rate faster than that at which the substance is lost by catabolism and excretion.
Biodiversity	naturally occurring variety of species that coexist in an area
Bio Pesticide	pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals. For example, canola oil and baking soda have pesticidal applications and are considered bio pesticides.
Broadcast Application	general distribution of the pesticide over the entire ground surface of an area. In comparison to "spot application" in which the pesticide is applied directly to the pest location
Buffer Zone	predetermined distance surrounding a body of water where fertilizer and pesticide applications are prohibited
Chemical	any substance consisting of matter. This includes any liquid, solid, or gas. A chemical is any pure substance (an element) or any mixture (a solution, compound, or gas). They can either occur naturally or can be created artificially

Contract	A legal binding written agreement, including but not limited to a contract, lease, permit, license or easement, between a person, firm, corporation, or other entity, including governmental and a City department; which grants a right to use, lease, or occupy property of the City for a specified purpose or purposes
Contractor	person, firm, or corporation or other entity, including governmental that enters into a contract with the City for services
EIQ	a formula created to provide pesticide applicators with data regarding the environmental and health impacts of their pesticide options so they can make better informed decisions regarding their pesticide selection
Endangered Species	protected species that is very likely to become extinct in the near future, either worldwide or in a particular political jurisdiction. Highest level of conservation status
Exotic Species	often referred to as alien, nonnative, nonindigenous, or introduced species, are those that occur in areas outside of their natural geographic range
Field Use EIQ Rating	rating calculated by multiplying the EIQ value for the specific chemical obtained in the tables by the percent active ingredient in the formulation by the rate per acre used; the rating allows comparisons of environmental impact between pesticides and different pest management programs can be made
Fertilizer	chemical or natural substance added to soil or land to increase its fertility
Fungicide	substance (pesticide) that is intended to be used for the prevention, control and/ or eradication of fungal pests
Herbicide	substance (pesticide) that is intended to be used for the prevention, control and/ or eradication of plant pests
Insecticide	substance (pesticide) that is intended to be used for the prevention, control and/ or eradication of insect pests
Invasive	exotic species that causes ecological or economic harm in a new environment where it is not native
Irrigation	artificial application of water across a land to assist in the health and durability of plant species
Key Pests	often encountered at an unacceptable population level, at least once a year. They are unique to each park classification, based on how the area is used

Leachability	ability of a pesticide to travel downward through the soil profile due during rain events or irrigation where it can contribute to groundwater contamination, this trait is a product of the chemical and soil characteristics
Mulch	material (such as decaying leaves, bark, or compost) spread around or over a plant to enrich soil and prevent weed growth
Native Species	any species that normally lives and thrives in a particular ecosystem has developed with the surrounding habitat; they are easily affected by introduction of exotic species species and are preferred due to the lack of resources required to maintain and for the protection of the area's biodiversity
Nematode	any of a phylum (Nematoda or Nemata) of elongated cylindrical worms parasitic (harmful) in animals or plants or free-living in soil or water
Over-Seeding	process of planting new grass seed to fill in areas of thinning turf. It's a great way to improve the density of your lawn and enhance its color
Pathogen	any disease-producing agent, especially a virus, bacterium, or other microorganism
Pest	any plant (weed), vertebrate (bird, rodent, or other mammal), invertebrate (insect, tick, mite, or snail), nematode, or pathogen (bacteria, virus, or fungus), which may cause disease, inflict damage, or out-compete the more desirable species for an area. In addition, a pest may be aesthetically undesired, or threaten to impact human/animal health
Pesticide	any substance or combination of substances which is intended to be used for preventing, destroying, repelling, or mitigating any pest; this includes herbicides, insecticides, bio pesticides, fungicides, etc.
Phase II MS4 Permit	FDEP permit issued to the City every 5 years, which contains all of the approved BMPs which the stormwater department must implement in order to protect water quality
Pollinators	anything that helps carry pollen from the male part of the flower (stamen) to the female part of the same or another flower (stigma), are viewed as "beneficial species"
Protected Species	any species that is protected from harm by activities such as land development and hunting through government legislation

Safety Data Sheets	data sheets that are federally required for all hazardous chemicals. Sheets must contain all of the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. Any entity creating, storing, distributing, or applying these chemicals must have these on-site and accessible to all staff.
Solubility	measure of the ability of a pesticide to dissolve in a solvent, which is usually water. Pesticides that are highly soluble in water dissolve easily. Such pesticides are more likely to move with water in surface runoff or to move through the soil in water
St. Augustine	a low, mat-forming groundcover that is commonly cultivated as a lawn grass, forms a dense turf when properly planted and maintained; grows tightly enough to permit average amounts of foot traffic, and also to compete well with weeds.
Sustainable (ecological)	quality of not being harmful to the environment or depleting natural resources, thereby supporting long-term ecological balance
Threatened Species	protected species that is vulnerable to endangerment in the near future, either worldwide or in a particular political jurisdiction. Moderate level of conservation status
Verticutting	also called vertical mowing, removes thatch buildup in the lawn so turf can breathe easy, better absorb nutrients, and soak in much-needed moisture. A verticutter machine has blades that cut down into the thatch without damaging the healthy grass. This breaks up that dead layer and brings it to the surface so it can easily be collected and removed

This document compiled, coordinated,
and written by Kimberly Haigler
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