

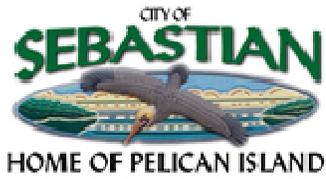


**INTEGRATED PEST MANAGEMENT
SUB-COMMITTEE
MEETING AGENDA
MONDAY, JUNE 28TH, 2021 – 2:00 P.M.
COUNCIL CHAMBERS
1225 MAIN STREET, SEBASTIAN, FL**

- I. CALL TO ORDER
- II. PLEDGE OF ALLEGIANCE
- III. ROLL CALL
- IV. APPROVAL OF MINUTES **-ACTION ITEM**
May 10th, 2021 Meeting
May 25th, 2021 Meeting
- V. ANNOUNCEMENTS
- VI. PUBLIC INPUT
- VII. NEW BUSINESS
Item A. Future Recommendations -ACTION ITEM
Item B. Appendix -ACTION ITEM
Item C. Glossary -ACTION ITEM
- VIII. OLD BUSINESS
Item A. Approved Pesticide Table -ACTION ITEM
- IX. SUB-COMMITTEE MEMBER MATTERS
- X. STAFF MATTERS
- XI. ITEMS FOR NEXT AGENDA
Item A. Complete version of IPM Plan for Final Approval
- XII. ADJOURNMENT

ANY PERSON WHO DECIDES TO APPEAL ANY DECISION MADE ON THE ABOVE MATTERS, 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 APPEAL IS TO BE HEARD. SAID APPEAL MUST BE FILED WITH THE CITY CLERK'S OFFICE WITHIN TEN DAYS OF THE DATE OF ACTION. (286.0105 F.S).

IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), ANYONE WHO NEEDS SPECIAL ACCOMMODATIONS FOR THIS MEETING SHOULD CONTACT THE CITY'S ADA COORDINATOR AT (407)-589-5330 AT LEAST 48 HOURS PRIOR TO THIS MEETING. TWO OR MORE ELECTED OFFICIALS MAY BE IN ATTENDANCE.



IPM SUB-COMMITTEE AGENDA TRANSMITTAL FORM

Board Meeting Date: June 28th, 2021

Agenda Item Title: IV. APPROVAL OF MINUTES –**ACTION ITEM**
May 10th, 2021 Meeting

Recommendation: Sub-Committee Member Approval

Background:

If Agenda Item Requires Expenditure of Funds:

Total Cost: n/a

Attachments: May 10th, 2021 Meeting Minutes

**INTEGRATED PEST MANAGEMENT SUB-COMMITTEE
MINUTES OF REGULAR MEETING
COUNCIL CHAMBERS
1225 MAIN STREET, SEBASTIAN, FL
MAY 10, 2021**

I. Call to Order -- The meeting was called to order by Mr. Benton at 2:46 p.m.

II. Pledge of Allegiance was recited by all.

III. Roll call

Present

Dr. Cox

Ms. Callaghan (Zoom)

Mr. Carrano

Mr. Stadelman

Absent

Ms. Munroe -- Excused

Also Present:

Brian Benton, Leisure Services Director

Kim Haigler, Environmental Planner

Joseph Perez, AV Technical Assistant

Janet Graham, Technical Writer (Zoom)

IV. Approval of Minutes -- April 12, 2021

Chairman Benton asked if everyone had a chance to review the Minutes as presented. All indicated they had. Mr. Benton called for a motion. A motion approving the April 12, 2021 Minutes as presented was made by Mr. Carrano, seconded by Ms. Haigler, and approved unanimously via voice vote.

V. Announcements

Ms. Haigler reviewed that this Sub-Committee had discussed the use of pathogens and non-toxic live bacteria. After discussion with the AVC contractor, it was determined that, for the amount of cattail that is being treated at Garden Club Lake, it would probably be the best candidate to use the non-toxic live bacteria called Biozyme. So they are going to be adding that to the water in monthly doses. It has a slow growth rate, but it also requires repeated treatments. They are specialized bacteria that produce the exoenzymes to help break down the organic materials. Since the cattails are a very tough plant to break down, it was considered a good candidate. City staff have also arranged

for water quality and sediment testing in three different locations in the lake, and that will be happening quarterly. So we will be able to report on that progress.

VI. Public Input

Seeing no one in chambers from the public wishing to speak and hearing no one on Zoom who wished to speak, Mr. Benton moved to the next item on the agenda.

VII. New Business

A. AVC Spraying Contract Summary

i. Site-based review of pests treated since December 2020

Ms. Haigler reviewed that it was discussed at the last meeting that the four-month summary of the chemicals used so far was reviewed. At that time, it was requested by Ms. Callaghan that it be also broken down by location and by the plants treated. Ms. Haigler displayed the charts on the projector for everyone to see. She reminded everyone that this is not a regular treatment program; it is a recovery program. So there was nothing much of significance shown. But, when you look at it over two years, you start to see a huge difference. We know exactly where the main problems are and what they are mainly treating and what locations were treated. She said that when she began collaborating all the data that were available just from the four months, they really showed nothing significant, as every location has been visited on a regular rotation twice just to monitor how aggressive the pest populations are, and it really does not make a good comparison until you look at it over the course of a year because different plants have different growing seasons, and we are really in a recovery sort of program. She said that in the coming months the annual report is definitely going to be broken down just the same way the two-year summary was done.

Dr. Cox stated he went onto the website looking for these charts, but he could not find them. Ms. Haigler said she has not updated them yet, but the version she just reviewed is on the site now.

Mr. Benton reiterated that when we have the full one-year treatment summary, it will look similar to this two-year treatment summary that is in front of the Sub-Committee presently, but it will just show the one year. Ms. Haigler agreed. She also stated that once there is a full year completed, it can be compared to a full year of the previous data.

Mr. Benton drew everyone's attention to the twin ditches on the two-year treatment

summary, it looks like it was treated 10 times. He did notice last week that there was a major duckweed issue at the twin ditches by the golf course. Ms. Haigler said the twin ditches situation is just like the Hardee Lake -- they are both choke points, and when it rains the water flows, and that is the point where the duckweed gathers. It can then be removed by the stormwater staff.

Mr. Benton called on anyone in chambers who wished to speak on this item as well as anyone on Zoom who wished to speak. There being no one, Mr. Benton moved to the next item on the agenda.

B. Pesticide Use Methodology

i. Planning Pesticide Application

Ms. Haigler stated that a lot of this information follows the same plan as the Parks and Properties IPM Plan. However, the plan is very unique when we deal with aquatic systems, so there are other things that must be considered. She reviewed the items which are different from Parks and Properties, especially when it comes to "Discouraged Procedure." She also explained the buffer zone and how it is different from the Parks and Properties plan. The buffer zone for stormwater is only going to be treated by the aquatics contractor.

ii. Pesticide Selection

Under this section, one of the main things to be addressed is herbicide resistance, which she reviewed. The environmental impact quotient (EIQ) is also going to be used, and she reviewed what these data are. Biopesticides are also addressed. They are not recommended for aquatic use. Regarding restrictions, there are no specific restricted herbicides. They will be listed by their caution labels. As to the approved pesticide list, she will review this in detail at the next meeting.

iii. Treatment Notification

Ms. Haigler explained that the signage will be the same for the most part as for the Parks and Properties Plan. It is somewhat different because it cannot be known a week prior to the slated application date exactly what will need to be applied. The contractor comes out and inspects, and City staff does not know more than 24 hours prior what they are going to be spraying. There is an online notification system that is being worked on, and that will be how City staff will give that notice 24 hours prior, not through the signage. The signage

will be mainly at the public points of entry, including the kayak launches and the areas with direct access to the water. The signage will not be put on residents' private property. Ms. Haigler called for questions/comments from the Sub-Committee members.

Mr. Stadelman asked if there are considerations for weather conditions. Ms. Haigler reviewed that is part of the labeled use: the product can only be used in certain wind conditions. The contractor is able to measure the wind and the temperature or the rain on site. That is all a part of the treatment sheets that are submitted. Mr. Stadelman also inquired as to whether the employee or the contractor who is doing the spraying has the authority to decide whether to spray that day or not. Ms. Haigler said yes.

Mr. Carrano also commented that rainfall is extremely important because that can flush the pesticides down the drain a lot quicker. He suggested that where the wording "such as high winds" appears, "rainfall" should also be mentioned. Ms. Haigler agreed. Mr. Carrano also suggested that the wording in this paragraph, "VII. PESTICIDE USE METHODOLOGY," be changed somewhat. Ms. Haigler stated she will review the language, and discussion regarding this can be had at the next meeting.

Ms. Callaghan inquired whether staff have an idea of when the City will be in the maintenance mode regarding using pesticides instead of having to play catchup. Mr. Benton explained that the maintenance mode will come into play in only the chemical area. In the mechanical removal, it will be spaced out such that the vegetation will not be as overgrown as it has been recently, and they will not have so much to catch up on. Ms. Callaghan suggested adding some text to the document such as a little more history in dealing with the moratorium, and that the City is playing catchup, and it may take a few years just to get to that maintenance goal. Mr. Benton added that in speaking to "JD," from AVC who handles a lot of the spraying here in Sebastian, we are a little slower getting to the maintenance level due to the non-use of glyphosate. Glyphosate is one of their main tools to use, specifically in the situation that the City is in with some of the pests that have been identified within Sebastian's system.

Dr. Cox commented that he sees this plan as being of educational value to the City. These problems will not be solved all at once, but this is a good prelude to actually implementing the plan for Sebastian's stormwater system. Mr. Benton added that this is going to help staff when we get into the Master Plan for the stormwater system in continuing to move forward and improving the system. Dr. Cox added that he has been trying to find out how Martin County is doing by not using glyphosate. So far, no one has gotten back to him on that subject. He also opined that sometime in the future there will be a global ban on the use of glyphosate.

Mr. Stadelman asked if the City will be developing protocols for if and when the City may have to use the glyphosate product as a final option. Ms. Haigler stated that this Board will get into the details of the Approved Pesticide Table at the next meeting. Mr. Benton stated that he believes City staff will, at sometime in the future, have to bring that subject to this Committee. Also, in speaking with "JD" regarding this matter, JD feels that the City is hindering his company to the point of being able to get us out of the reactionary period and being able to go to a maintenance period. That is the main goal -- to maintain the system.

Extended discussion was had among Sub-Committee members and staff regarding when spraying should be done and the difficulties attendant to that. Following the discussion, Mr. Benton opened the meeting for public input on Item B, Pesticide Use Methodology. Seeing no one in chambers and hearing no one on Zoom, Mr. Benton moved to the next item on the agenda.

VIII. Old Business

IX. Sub-Committee Member Matters

Mr. Stadelman spoke about giant Salvinia, which is the plant he was assigned to research. He stated that he noticed that there is a giant lake in Africa that is infested with this plant, and what they are using is a weevil, a type of bug that just eats that plant. He just wanted to mention this. Ms. Haigler stated there are a lot of weevils that are being tested, and it is a very long process before they can be released. If they already naturally existed in an area, it is not as long a process. Since they are not native to this area, it has to go through extensive testing before it can be released. Sometimes it passes all the testing, but we cannot raise that size population in our conditions. She added that at this point there is nothing biologically available for Salvinia.

Dr. Cox announced that FWC is holding a focus group for the development of their plan for Lake Okeechobee. He will get the date and forward it to Mr. Benton

X. Staff Matters -- None

XI. Items for Next Agenda — May 24, 2021

- A. Approved Pesticides**
- B. Approved Pesticide Table**
- C. Pesticide Use Methodology**

XII. Adjournment

There being no further business, Mr. Benton called for a motion to adjourn. A motion to adjourn was made by Mr. Carrano, seconded by Ms. Haigler, and approved unanimously via voice vote. Meeting was adjourned at 2:37 p.m.

By _____ Date: _____

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IPM SUB-COMMITTEE AGENDA TRANSMITTAL FORM

Board Meeting Date: June 28th, 2021

Agenda Item Title: IV. APPROVAL OF MINUTES –**ACTION ITEM**
May 25th, 2021 Meeting

Recommendation: Sub-Committee Member Approval

Background:

If Agenda Item Requires Expenditure of Funds:

Total Cost: n/a

Attachments: May 25th, 2021 Meeting Minutes

**INTEGRATED PEST MANAGEMENT SUB-COMMITTEE
MINUTES OF REGULAR MEETING
COUNCIL CHAMBERS
1225 MAIN STREET, SEBASTIAN, FL
MAY 25, 2021**

I. Call to Order -- The meeting was called to order by Mr. Benton at 2:00 p.m.

II. Pledge of Allegiance was recited by all.

III. Roll call

Present

Dr. Cox (Zoom)

Ms. Callaghan (Zoom)

Mr. Carrano

Mr. Stadelman

Ms. Munroe (Zoom) -- Late Arrival

Absent

Ms. Lovell -- Excused

Also Present:

Brian Benton, Leisure Services Director

Kim Haigler, Environmental Planner

Joseph Perez, AV Technical Assistant

Janet Graham, Technical Writer (Zoom)

IV. Approval of Minutes -- May 3, 2021

Chairman Benton asked if everyone had a chance to review the Minutes as presented. All indicated they had. Mr. Benton called for a motion. A motion approving the May 3, 2021 Minutes as presented was made by Mr. Stadelman, seconded by Mr. Carrano, and approved unanimously via voice vote.

V. Announcements

A. IFAS, Audubon, and Leisure Services Native Test Plot Project

Ms. Haigler described that the IFAS Extension Office via Nickie Munroe, who is the Director of the Master Gardeners program, is partnering with the City and the Audubon Society in implementing a project in the City's parks where 4' x 4' test plots are going to be planted with native plants for pest control. It will begin with insect surveys over the summer in different areas to create the base data. In the fall, 4' x 4' plots will be planted

in some of the parks and will be maintained through next year, and the program will then be reassessed. This is in line with the City's Parks and Properties IPM Plan. Mr. Stadelman asked if volunteers will be needed for that program, and Ms. Haigler said volunteers will be solicited for that program in the fall.

VI. Public Input

There being no one in Council chambers and no one present on Zoom, Mr. Benton moved to the next item on the agenda.

VII. New Business

A. Approved Pesticide Table

Ms. Haigler reviewed that this Sub-Committee has approved other versions of this table that were not complete. This version is now complete. It sets forth the cost and the cost rating, and the EIQ and the Field Use EIQ are also set forth. She explained that there are a couple of numbers that are really high. There is a conversion issue about many chemicals being put into acre feet, which is a measurement that includes depth. So it may be that the Field Use EIQ will not apply to these, so more research will be done on the copper and the Diquat. Also added was the "Label Signal Word." She explained that the signal word in these two products actually applies to the toxicity to humans, and it has to do with the handling of the products. There are different areas in which they can be toxic, such as when they are eaten or absorbed through the skin or gotten in the eyes. Whatever is the highest Signal Word that applies is the one that is applied to it. All of those methods can be eliminated by wearing a PPE. That is how the "Label Signal Word" works. That word does not apply to environmental toxicity or indirect contact with it. She called for questions/comments from the Sub-Committee members.

Ms. Callaghan stated her comment is not of huge importance, but she is a person who desires definitions for symbols, and she asked if it is worth defining what a single dollar sign symbol represents. She also pointed out that Diquat and Endothall have a single dollar symbol, and she questions the single dollar symbol next to something that looks more expensive than the two dollar symbols for the same quantity. Ms. Haigler explained that the amount that is actually used per acre is a lot less. Ms. Callaghan asked if there will be another version of this table presented regarding this subject. Ms. Haigler said she has reached out a few times to Cornell University for some additional input, but she has not gotten anyone to reply to her. She will explore this question with someone else who specializes in this kind of measurement. Ms. Callaghan commented that the use of WOW is not going to be in this table, and she suggested that that is correct. Ms. Haigler

recalled that at the last meeting when she went over the treatment sheets from AVC, the contracting company, they tested WOW in a few areas along the canal system, and there were poor results. So they do not recommend using it considering how much they would have to use, and they feel it is not safe for the water. So that product has been removed. Ms. Callaghan suggested that the WOW product might need to be added should it need to be defended in some way in the future, stating that it was considered at one time; however, because of the findings that were made, it has been excluded from consideration for chemical treatment. Ms. Haigler stated it could be included where there is talk about biopesticides.

Mr. Benton stated his opinion, which is that the WOW product should not be included in the plan because it is not an approved aquatic product. Also, he thinks Sebastian should not be involved in giving a company or product a bad name on something that the City has done a minimal test on. If they would want to make it an approved aquatic pesticide, they would do more in-depth testing. He recommends that at this point we leave that product out and do not state that it is something that does not fit with our plan. If the manufacturer does further testing of it or comes up with an alternative product, etc., the City can adjust the plan at that time.

Dr. Cox emphasized that WOW was never intended for use in aquatic environments. He agrees that it does not need to be included. He also stated he would like to have more information on what the dollar signs on the table represent. He would like to see somewhere in the text an explanation of that subject. He also asked what the units are in the WSSA resistance management group. Ms. Haigler stated that the chemicals that are in the same group have the same mode of action as to how they work. Chemicals with the same mode of action should not be used consecutively, the idea being that to decrease weed resistance chemicals with different modes of action be used. The same chemical is not used the same way every time, because aquatic plants tend to build a resistance. So next time something in a different group would be used.

Mr. Stadelman stated that as he researched the individual chemicals, he noted that a few of them had no published data for toxicity in humans. He is wondering if that is a concern. Ms. Haigler stated that, if it has a signal word, that means it has been tested. Mr. Stadelman said that when he researched it on the internet, it specifically stated that there was not a paper written on human study for several products. Ms. Haigler stated that the makers of the products do not have to do their own study on human toxicity; the active ingredient in the product is what is approved. That chemical has been tested when it was developed before it was approved. Any trade names developed under that do not necessarily have to do their own testing, because it has already been done for the active ingredient. Mr. Stadelman stated he would do some more research on this matter.

Mr. Benton asked if the “Label Signal Word” only includes the effects on humans, not the effects on environments. Ms. Haigler stated that is correct. She added that when you put in for the Field Use EIQ, it is broken down into just the environmental data, so she could put in another column after the EIQ that just says Environmental EIQ, because that number is provided. Mr. Benton asked for that to be done. He also had concerns regarding copper, Diquat, and peroxides. He asked if peroxides are an actual good use EIQ. Ms. Haigler stated it is awfully high. Highs should be 42, 45; low would be 6, 8. So it is an outlier. She feels that it has to do with the acre feet. She needs to find a surface application number for it.

Ms. Callaghan recommended to Mr. Stadelman when he is doing his research to look for the Integrated Risk Information System (IRIS). It is an EPA group that will provide listings by herbicides, pesticides, etc. It will list the human health risk assessments that have been done.

Mr. Benton said that this is going to come back again before the Sub-Committee regardless of whether that section was added or not. He asked what the Sub-Committee’s pleasure is on this first review of the pesticide table. A motion to approve the pesticides as it exists, minus the environmental issues that were discussed, was made by Mr. Stadelman and seconded by Mr. Carrano. An objection was raised by Ms. Callaghan by stating that we also have to comment that we are going to define the dollar symbol as well; otherwise she approves of the motion. Mr. Benton asked that, since there is so much information to be changed or added, Mr. Stadelman withdraw his motion. Mr. Stadelman withdrew his motion to approve Item A., Approved Pesticide Table. Mr. Benton reviewed that this item will be brought back at the next meeting, an Environmental EIQ will be added as well as a table that explains what the dollar signs signify. Those are the two main items that staff will come back with following their review of those items.

B. Data Management

Ms. Haigler reviewed this section and how the data is collected and reported. There is the Monthly IPM Log, which is done by the Stormwater Department. There will also be the Field Treatment Sheets, which is what AVC uses in the field. They are sent to her every month. That also will include any purchase orders for chemicals or IPM-related equipment and materials, and any contractors who operate, such as AVC. They will have a contractor agreement form to sign. The Program Transparency element is that all these records will be available on the City’s IPM website or upon request. The Annual Report and Evaluation summarizes everything that is going to be included, which she reviewed. She then called for comments/questions.

Mr. Stadelman asked regarding Data Management, if the weather is a part of this. Ms. Haigler stated that is on the treatment sheets, but there is not going to be a correlation between the weather and what they treat or where they treat. It is on the treatment document that they cannot spray when weather conditions prohibit spraying. Mr. Benton added that the data sheets from the contractor will show that information. The only thing that may be added is to record whether or not it rains within the next 48 hours or something of that nature.

Mr. Carrano asked if there are any post-treatment visual inspections being done. Mr. Benton added that there are stormwater staff who are out there taking pictures. They are doing this a week or two after the treatment has been done. Mr. Carrano added that this allows the staff to know how precise their spraying method is – if they are spraying plants that should not be sprayed or if it was too windy so as to create a lot of overspray and that the City is getting what it is paying for. He suggested wording to that effect be added to the document. Mr. Benton stated staff will make sure they are documenting all that information from problem areas. Ms. Haigler stated she would make “Quality Control” a sub-title and include the information that way. Ms. Callaghan also suggested some wording that should be included, such as identifying the areas where problems are appearing. Mr. Benton agreed.

Dr. Cox said page 24 is missing from his copy of the document. Mr. Benton stated that the pesticide chart will be page 24 when the document is finalized.

There being no further discussion, Mr. Benton called for the Sub-Committee’s position on this section of the document. A motion approving the Data Management Plan with the addition of a Quality Control section was made by Mr. Stadelman, seconded by Dr. Cox, and was passed unanimously via voice vote.

VIII. Old Business

A. Chemical Methodology

- i. Review recent edits made and vote for final approval

Ms. Haigler reviewed that the main part that was changed is the first paragraph. The whole introduction did not fit with what our procedures are for the City’s stormwater system. She has reworded the entire thing, and she read aloud the entire introduction paragraph. She then asked for comments from the Sub-Committee members.

Dr. Cox suggested inserting the word “reluctantly” somewhere in this introduction

paragraph that would seem to say that we really do not want to revert to pesticides, but we know we are going to have to at some point. Ms. Haigler stated that it already says minimal chemical controls are to be utilized. She suggested that that clarifies that our goal is not to douse everything with chemicals.

Mr. Stadelman commented that one of the goals of this Sub-Committee is to take the reluctance out of it, to have people use this as gospel, that they can rely on what we are doing, having gone through the process extensively for many months with input from several people, including people with experience in this field. He would hesitate to use the term “reluctance” in this area of the document. Ms. Haigler agrees.

Mr. Carrano stated that the document is very well written as is.

Ms. Callaghan commented on the sections of the document outside of the introductory paragraph. She commented relative to Dr. Cox’s comment earlier regarding a suggestion in the herbicide resistance section to add a statement that explains what a low number or a high number means in that table. She suggests adding a statement about what those numbers represent. Ms. Haigler read the sentence which states, “To prevent or mitigate herbicide resistance it is advised to rotate or combine herbicide mode of action, which will help reduce the selective pressure applied by any one product.” Dr. Cox stated it would help if an example were used. Mr. Benton suggested that what they mean is to add an example there using one of the products, and when there is resistance to that, using a different product. Mr. Carrano commented that Diquat and 2, 4-D seem to be combined quite often. Mr. Benton stated that staff will make those insertions and will bring this item back as well. Mr. Benton asked what the Sub-Committee wishes to do.

A motion to accept the Data Management section subject to the change of adding an example on the Herbicide Resistance WSSA group as proposed by the Sub-Committee was made by Mr. Carrano, seconded by Mr. Stadelman, and approved unanimously via voice vote.

IX. Sub-Committee Member Matters

Ms. Munroe said she is present as a listener. She is taking notes so if there is a time where Ms. Haigler may need Ms. Munroe to help her compile a few more lists or a few more examples of plants that have become resistant, she is here for educational support. Ms. Munroe addressed the term of “reluctantly.” She agrees that we do not want to put our finger on the scale, so to speak, of tools that people might be able to have in their toolbox. We have to remember that, although we have our preferences, there are some

people for whom some of these items will not be an option. We cannot influence them by using that particular term because it might be misinterpreted. We need to be careful when speaking with others so that we do not give them the impression that we may be slightly judgmental. Mr. Benton agreed and thanked Ms. Munroe for her assistance.

Ms. Stadelman thanked everyone for participating in this project. He wishes there were more members of the public present.

X. Staff Matters

Mr. Benton stated that Ms. Haigler, he, and other members of City staff had the kickoff meeting with Arcadis, who is the Stormwater Master Plan contractor. That process will be getting started and is going to be a lengthy process and a very involved, detailed process that staff will be heavily involved with, and at some point, public education and public input will be presented. This IPM will be included in that and will play an integral part as we continue to move forward with the Stormwater Master Plan in the City. It is much needed and will be a great asset for the City.

Mr. Benton stated he had the pleasure of going out to Lake Okeechobee yesterday. Federal and state legislators along with people from many of the federal agencies, state agencies, US Fish and Wildlife, FWC, Department of Interior, and Everglades Restoration groups were present. He got a chance to go out on an airboat to see portions of the lake, and the group came back and spoke about some of the watershed areas and what is being done there to improve water quality. One of the important things that he took from this event was that one of the legislators stated that they sat in the oval office, and it did not matter which side they were on, the one thing that they all agreed on was the Everglades and Lake Okeechobee. It was pointed out that it is going to take everyone from the top to the bottom of the state to fix this problem. It was a positive event, and lots of ideas for discussion were put forth. He was of the opinion that, as time passes, if they can get the appropriations monetarily from the government, we will see a lot of activity happening going forward.

XI. Items for Next Agenda -- Monday, June 14, 2021

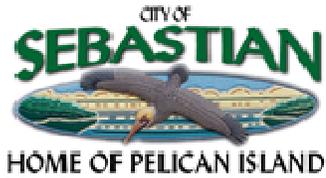
- A. **Future Recommendations**
- B. **Appendix and Glossary**
- C. **Approved Pesticide Table**

XII. Adjournment

There being no further business, Mr. Benton called for a motion to adjourn. A motion to adjourn was made by Mr. Stadelman, seconded by Mr. Carrano, and approved unanimously via voice vote. Meeting was adjourned at 2:53 p.m.

By _____ Date: _____

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IPM SUB-COMMITTEE AGENDA TRANSMITTAL FORM

Board Meeting Date: June 28th, 2021

Agenda Item Title: VII. NEW BUSINESS
Item A. Future Recommendations—**ACTION ITEM**

Recommendation: Sub-Committee Member Approval

Background:

If Agenda Item Requires Expenditure of Funds:

Total Cost: n/a

Attachments: Section IX of the IPM Plan

IX. 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:

- Cornell University's EIQ is designed for crop and turf grass applications; there are no other similar numerical pesticide evaluation methods designed specifically for aquatic use. The committee agrees that the EIQ is still useful and will provide a good numerical comparison of chemicals used over time. During future annual reviews of this plan, committee members will research for updates to the EIQ, or the creation of other numerical comparison methods which are better suited.
- 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 were no bio pesticides state-approved for use on aquatic plants. It is therefore recommended that the IPM Coordinator check the state website regularly, so that as soon as one is available, it may be approved for inclusion into the "Approved Pesticides Table."
- This plan addresses aquatic plants as the only "pest" of the stormwater conveyance system, however, the committee realizes this may not always be the case and upon future annual reviews, the need for control of insects or pathogens may need to be addressed.



IPM SUB-COMMITTEE AGENDA TRANSMITTAL FORM

Board Meeting Date: June 28th, 2021

Agenda Item Title: VII. NEW BUSINESS
Item B. Appendix–ACTION ITEM

Recommendation: Sub-Committee Member Approval

Background:

If Agenda Item Requires Expenditure of Funds:

Total Cost: n/a

Attachments: Items for inclusion into the Appendix:

- Page 21 Appendix A: R-21-XX
- Page 24 Appendix B: Contractor Agreement
- Page 25 Appendix C: City Fertilizer Ordinance
- Page 29 Appendix D: Field Treatment Sheets
- Page 31 Appendix E: Pesticide Notification Signage
- Page 32 Appendix F: Environmental Impact Quotient Formula
- Page 33 Appendix G: Pesticide Exemption Form
- Page 34 Appendix H: Monthly IPM Log
- Page 35 Appendix I: City Mowing Contract Technical Specifications and Maps
- Page 40 Appendix J: Sediment Control Ordinance
- Page 42 Appendix K: State Statute 369.22
- Page 45 Appendix L: City NPDES MS4 Permit

RESOLUTION NO.R-21-XX

A RESOLUTION OF THE CITY OF SEBASTIAN, INDIAN RIVER COUNTY, FLORIDA, SUPPORTING THE “INTEGRATED PEST MANAGEMENT (IPM) PLAN FOR THE CITY’S STORMWATER CONVEYANCE SYSTEM” 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, The “Florida Aquatic Plant Management Act” recognizes that the uncontrolled growth of aquatic plants in the waters of Florida poses a variety of environmental, health, safety, and economic problems and charges the owners of the waters with the implementation of a “maintenance control program” to decrease the spread of invasive aquatic plants, and

WHEREAS, the control of invasive and nuisance plants is required in order to maintain an effective stormwater conveyance system which provides for the movement, storage, and treatment of the City’s stormwater.

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, and by 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 THE CITY’S STORMWATER CONVEYANCE SYSTEM*”. The City Council hereby is in support of the “IPM Plan for the City’s Stormwater Conveyance System”, which shall be implemented into City policy and annually reviewed, by the Stormwater 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 within city-maintained waters and waterways, 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 Jim Hill	_____
Councilmember Bob McPartlan	_____
Councilmember Christopher Nunn	_____
Councilmember Frederick Jones	_____

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



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

STORMWATER IPM PLAN CONTRACTOR AGREEMENT

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

following:

- Review and follow the City’s IPM Plan for the stormwater conveyance system 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 “Field Treatment Sheets” completely with every pesticide application.
- Should there be a need to apply an approved pesticide with a higher percent active ingredient than listed on the table or a pesticide which is not named on the table, a “Pesticide Exemption Form” must be completed and submitted to the Stormwater Director at least four (4) days before proposed application date.
- Notify the Stormwater Director at least three (1) business day 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 detailed invoices

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: _____

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 watch 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)



AQUATIC VEGETATION CONTROL, INC.
 DAILY PROGRESS REPORT FOR ENVIRONMENTAL MANAGEMENT

Field Treatment Sheets

CUSTOMER	PROJECT NAME/JOB
City of Sebastian	Sebastian Canals

T&M
 Billable
 Y

DATE:

POSITION	START TIME	END TIME	EFFECTIVE HRS	LUNCH HRS	TRAVEL HRS	SURVEY HRS	PLAN/PREP HRS	TOTAL HRS
Applicator								
Crew Supervisor								
Crew Member								
Site Manager								
Project Manager								

RESOURCES		
SOURCE	NAME	HOURS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

EQUIPMENT		
EQUIP NO.	DESCRIPTION	HOURS

WEATHER INFORMATION		
WIND MEASUREMENTS		
TIME	VEL	DIR

I acknowledge that data presented is accurate. Signature:	Comments
	<input type="text"/>
I acknowledge that data presented has been verified. Manager:	<input type="text"/>
	<input type="text"/>

Status

On-going

Completed

Data Entered

Billing Type



AQUATIC VEGETATION CONTROL, INC.
DAILY PROGRESS REPORT FOR ENVIRONMENTAL MANAGEMENT

Field Treatment Sheets

CUSTOMER	PROJECT NAME/JOB
City of Sebastian	Sebastian Ponds

T&M
Billable
Y

DATE:

POSITION	START TIME	END TIME	EFFECTIVE HRS	LUNCH HRS	TRAVEL HRS	SURVEY HRS	PLAN/PREP HRS	TOTAL HRS
Applicator								
Crew Supervisor								
Crew Member								
Site Manager								
Project Manager								

RESOURCES		
SOURCE	NAME	HOURS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

EQUIPMENT		
EQUIP NO.	DESCRIPTION	HOURS

WEATHER INFORMATION		
WIND MEASUREMENTS		
TIME	VEL	DIR

I acknowledge that data presented is accurate. Signature:	Comments
I acknowledge that data presented has been verified. Manager:	<input type="text"/>
	<input type="text"/>

Status

On-going

Completed

Data Entered

Billing Type

RESTORATION IN PROGRESS **CAUTION**

As a part of Sebastian’s work to restore and maintain a healthy and functional stormwater conveyance system, 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 Citizen Request Line:
(772) 581-0111



To learn more about Sebastian’s IPM Program and other Sustainable Sebastian initiatives please visit the Natural Resources Board Website:



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 getting into 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).

$$EIQ \text{ FIELD USE RATING} = EIQ \times \% \text{ ACTIVE INGREDIENT} \times \text{RATE}$$

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

AQUATIC PESTICIDE EXEMPTION FORM

This form is to be submitted for approval in order to request exemption for use of a product that is:
1) Not classified on the "Approved Pesticide Table" OR
2) Contains a higher concentration active ingredient than listed on the table
Form to be submitted to the Stormwater 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

Stormwater Dir. Approval: _____ Date: _____
IPM Coordinator Approval: _____ Date: _____
City Manager Approval: _____ Date: _____

SWIPM.PEF.V2

EXHIBIT A TECHNICAL SPECIFICATIONS

A. Scope of Work

Furnish all supervision, labor, materials, supplies, equipment and tools necessary to perform mowing maintenance services at various locations throughout the City of Sebastian, on an as needed basis and as designated by the City of Sebastian. Services include but are not limited to power blade edging, trash pickup, fertilization of turf, fertilization of trees and plants, shrubbery trimming, tree trimming and dead limb removal; quarter round cleaning.

Contractor shall furnish all vehicles, trucks and equipment with company name and phone number on the sides of the vehicles or units or visible to the public.

Contractor shall make sure all area of work clean-up and debris is cleared after completing the mowing or cleaning.

B. Work Areas

Mowing shall be done in the City Right of Way areas for the unimproved lots on all collector and City unit roads as well as in Collier Creek respectively. The sites have been divided in two categories according to the frequency of service and site type. There are nine (9) **Collector Road Right of Way** areas, which shall be mowed approximately **twenty-four (24) times per year**. The Collector Roads are as follows:

1. Barber Street
2. Schumann Drive
3. Wimbrow Drive
4. Fleming Street
5. Main Street
6. Laconia Street
7. Easy Street
8. Englar Drive
9. Powerline Road

All **other Right of Way areas** along City Unit Roads excluding the Collector Roads shall be done approximately 9 times per year. Lots in alleyways are included in this group.

Also, mowing shall be done **four (4) times per year** of all the ditches listed on *Exhibit B - Ditches Mowing Map*.

The Contractor is responsible for the cutting of rear ditches within easement boundaries in such a manner that a clear line of sight is seen within the easement, both side to side and top to bottom.

The Contractor shall mow the grass/turf to a height, which shall not exceed four (4) inches.

The Contractor shall perform in conjunction with the mowing activity all the necessary edging and trimming of grass around all fixed obstacles and structures located along and within designated areas including but not limited to catch basins, posts, poles, trees, etc. Contractor shall leave area in a neat and uniform condition after mowing.

Other mowing services will be done as determined in the comments section listed on *Form C - Bid Price Form* and upon request by the City on an as needed basis.

The City of Sebastian reserves the right to add work sites over and above the ones shown on *Exhibit B – Ditches Mowing Map* supplied as a part of this Bid and/or deletes any of the designated work locations shown on the previously cited map.

C. Work Requirements

The Contractor is responsible for mowing the full extent of the designated length and width of each Right of Way area. Any Right of Way areas, which cannot be mowed the entire width due to the existing field conditions, shall be mowed from the roadway to two (2) feet behind the swale water flow line as a minimum or as otherwise directed by the City of Sebastian.

Prior to starting any mowing activity, the Contractor shall remove and dispose of any litter and debris such as palm fronds, tree-shrub limbs and cuttings, glass, paper, cans, tires, hub caps, boxes, wood, cable and any other materials encountered in the designated mowing areas using all means necessary.

The Contractor shall mow the grass/turf to a height, which shall not exceed four (4) inches. The Contractor shall perform in conjunction with the mowing activity all the necessary edging and trimming of grass around all fixed obstacles and structures located along and within designated areas including but not limited to sidewalks, curbs, gutters, posts, poles, trees, shrubs, fire hydrants, end walls, flower beds, buildings, etc. Contractor shall leave area in a neat and uniform condition after mowing. **Note: grassy areas between the road and the sidewalk are to be mowed by the Contractor whether the area is improved or unimproved as some homeowners tend not to mow this area.**

Curb and sidewalk edging shall be accomplished by mechanical methods only. No herbicide applications shall be done for edging purposes. The Contractor shall edge the back of curbs and gutters. Gutters shall be left in a neat condition and free of grass, weeds and related clippings, such that drainage is not impaired.

Work shall be performed in drainage swales. The Contractor shall maintain the existing slopes during the performance of the work. In areas with standing water and/or too wet to support mechanical mowing equipment, work shall be performed utilizing hand-trimming methods. These areas shall be left in a neat and uniform condition, and all cut debris shall be removed from the drainage swales immediately to prevent possible drainage obstructions.

The Contractor shall be responsible for the immediate clean-up of litter and cut debris thrown or dragged by his equipment onto adjacent property and roadways.

The Contractor shall be responsible for the proper disposal of all litter and debris removed by them from the designated mowing areas.

Stockpiling of debris on or along the designated work areas shall not be permitted. If the City deems that stockpiling is necessary it shall be done at specific locations approved by the City. Mowing operations shall be performed in such manner that it will not create excessive airborne dust and other particulates as determine by the City of Sebastian.

The Contractor shall exercise the necessary care during all work activities and avoid damages to any private and/or public structures and vegetation including but not limited to utilities, signs, poles, fences, concrete structures, culvert pipes, sprinkler heads, storm water swale line/slopes, trees, shrubs, planting beds, mulching rings, etc. Damages caused by the Contractor shall be reported immediately to the City. The Contractor shall be responsible for the repairs of damages caused by them to any private or public property.

The City and the Contractor will agree on the best way to accomplish repairs. The work to repair the damages may be performed by the Contractor or by others. Work shall be performed as soon as reasonably possible. Damages caused by the Contractor, subcontractor or supplier shall be reported by the Contractor immediately to the City of Sebastian. Vandalism or storm damage shall be reported to the City as soon as possible.

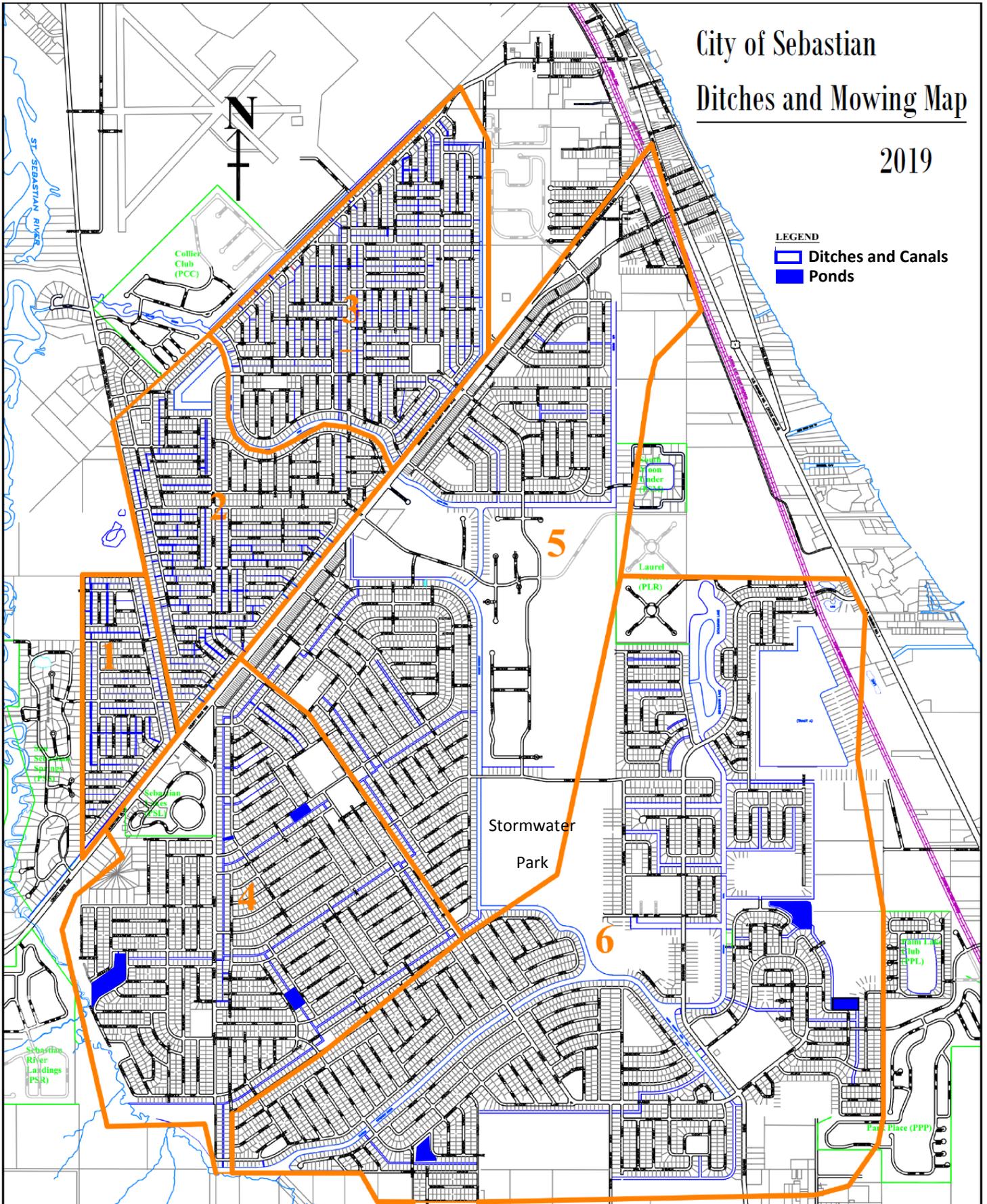
EXHIBIT B

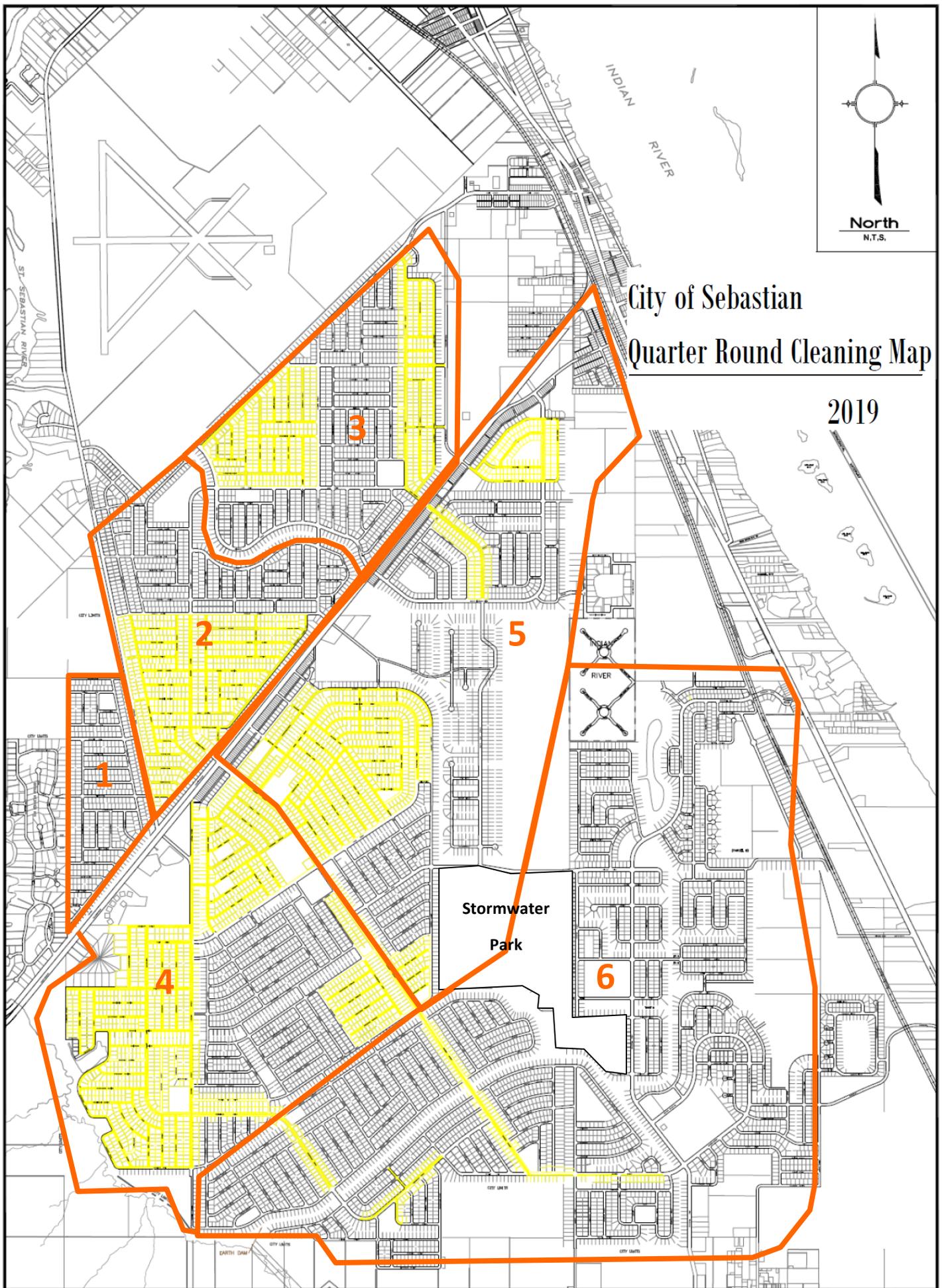
City of Sebastian Ditches and Mowing Map

2019

LEGEND

-  Ditches and Canals
-  Ponds





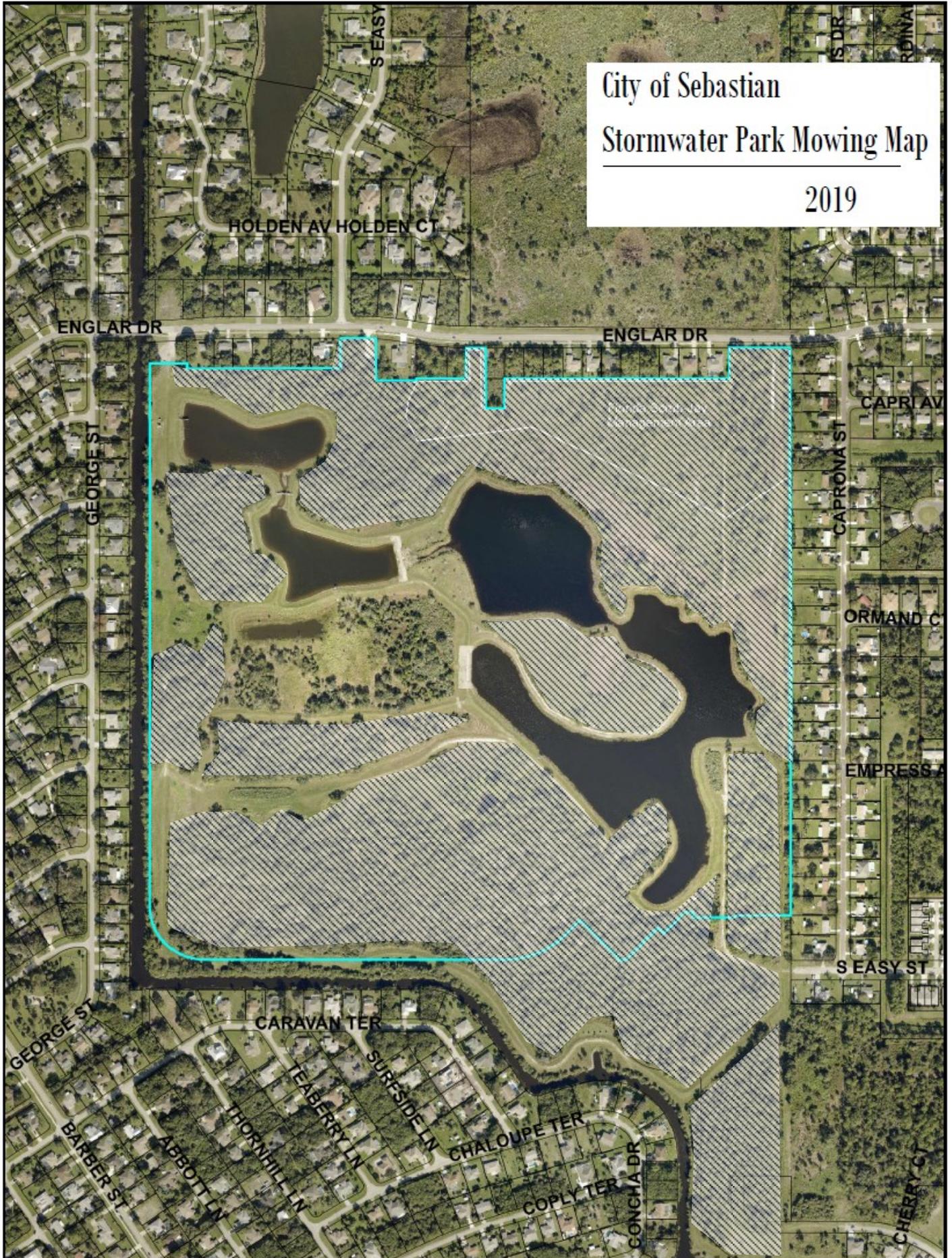
City of Sebastian
Quarter Round Cleaning Map

2019

Stormwater
Park

City of Sebastian
Stormwater Park Mowing Map

2019



City of Sebastian

Code of Ordinances

Article XI, Sec. 54-3-11.2. - Soil Erosion and Sedimentation Control.

(a) Required soil erosion and sedimentation control plan. In order to prevent both soil erosion and sedimentation, a soil erosion and sedimentation control plan shall be required as a part of an application for a subdivision construction permit, site plan review, plot plan review of a single-family residential lot and whenever a development will involve any clearing, removal of native or protected vegetation, grading, transporting, or other form of disturbing land by the movement of earth.

(b) Erosion control measures. All measures necessary to minimize soil erosion and to control sedimentation in the disturbed land area shall be implemented. The following protection shall be provided for all disturbed areas: minimize velocities of water runoff and wind erosion, maximize protection of disturbed areas from stormwater runoff, and prevent or retain sedimentation within the development site as early as possible following disturbances. A list of major problem areas for erosion and sedimentation control follows. For each one, the purpose(s) of requiring control is described. Soil erosion and sedimentation control measures for all such areas shall be provided with a view toward achieving the specific purpose listed below for which a control plan is required:

- (1) Erodable slopes: Prevent detachment and transportation of soil particles from slope.
- (2) Streams, streambeds, streambanks, bodies of water, lake shorelines: Prevent detachment and transportation of soil particles.
- (3) Drainageways: Prevent detachment and transportation of soil particles (which would otherwise deposit in streams, bodies of water, or wetlands); promote deposit or sediment loads (traversing these areas) before these reach bodies of water.
- (4) Land adjacent to streams, ponds, lakes, and wetlands: Prevent detachment and transportation of soil particles. The applicant shall not adversely impact aquatic vegetation within the sensitive transition zone located between the upland and the mean high water line (ordinary high water line for non-tidal waters). No such vegetation shall be disturbed without approval of the city. Any such approval shall be based on a demonstrated necessity that promotes the overall public health, safety and welfare. Furthermore, any such disturbance of aquatic vegetation shall be compensated by re-vegetation based on a plan approved by the city as stipulated herein. The applicant shall coordinate plans for riverfront development with the Florida Department of Environmental Protection as well as the U.S. Army Corps of Engineers where tidal waters might be impacted. Where deemed appropriate, the site plan shall include the planting of native indigenous aquatic plant vegetation to promote stability of the shoreline.
- (5) Enclosed drainage structure: Prevent sedimentation in structure, erosion at outfall of system and deposit of sediment loads within system or beyond it.
- (6) Large flat surface areas (unpaved): Prevent detachment of soil particles and their off-site transportation.

(7) Impervious surfaces: Prevent the detachment and transportation of soil (in response to an increase in the rate and/or volume of runoff of the site or its concentration caused by impervious surfaces).

(8) Borrow and stockpile areas: Divert runoff from face of slopes exposed in the excavation process; convey runoff in stabilized channels to stable disposal points; leave borrow areas and stockpiles in stable condition.

(c) Applicability. Appropriate measures shall be taken during land clearing and building operations to assure that exposed, destabilized or otherwise altered soil is expeditiously covered with an acceptable erosion control material. The provision shall be applicable to the act of subdividing and installation of related improvements as well as during the development review process including the period during which improvements may occur as well as the length of time soil may be exposed to the environment. The tree and native vegetation protection ordinance shall be applicable to all clearing and grading activities and shall include specifications for management principles guiding the removal or placement of vegetation and landscaping design. Regulations shall also require developers to take precautionary measures, where necessary, to avert destruction or damage to native vegetation.

DRAFT

State of Florida

State Statutes

Title XXVII Chapter 369.22. – Aquatic Plant Management.

(1) This section shall be known as the "Florida Aquatic Plant Management Act." (2) For the purpose of this section, the following words and phrases shall have the following meanings:

(a) "Commission" means the Fish and Wildlife Conservation Commission.

(b) "Aquatic plant" is any plant growing in, or closely associated with, the aquatic environment and includes "floating," "emersed," "submersed," and "ditch bank" species. (c) A "maintenance program" is a method for the management of aquatic plants in which control techniques are utilized in a coordinated manner as determined by the commission.

(d) An "eradication program" is a method for the management of aquatic plants in which control techniques are utilized in a coordinated manner in an attempt to kill all the aquatic plants on a permanent basis in a given geographical area.

(e) A "complaint spray program" is a method for the management of aquatic plants in which weeds are allowed to grow unhindered to a given level of undesirability, at which point eradication techniques are applied in an effort to restore the area in question to a relatively low level of infestation.

(f) "Waters" means rivers, streams, lakes, navigable waters and associated tributaries, canals, meandered lakes, enclosed water systems, and any other bodies of water. (g) "Districts" means the six water management districts created by law and named, respectively, the Northwest Florida Water Management District, the Suwannee River Water Management District, the St. Johns River Water Management District, the Southwest Florida Water Management District, the Central and Southern Florida Flood Control District, and the Ridge and Lower Gulf Coast Water Management District; and on July 1, 1975, shall mean the five water management districts created by chapter 73-190, Laws of Florida, and named, respectively, the Northwest Florida Water Management District, the Suwannee River Water Management District, the St. Johns River Water Management District, the Southwest Florida Water Management District, and the South Florida Water Management District.

(3) The Legislature recognizes that the uncontrolled growth of aquatic plants in the waters of Florida poses a variety of environmental, health, safety, and economic problems. The Legislature acknowledges the responsibility of the state to cope with the uncontrolled and seemingly never-ending growth of aquatic plants in the waters throughout Florida. It is, therefore, the intent of the Legislature that the state policy for the management of aquatic plants in waters of state responsibility be carried out under the general supervision and control of the commission. It is the intent of the Legislature that the management of aquatic plants be carried out primarily by means of maintenance programs, rather than eradication or complaint spray programs, for the purpose of achieving more effective management at a lower long-range cost. It is also the intent of the Legislature that the commission guide, review, approve, and coordinate all aquatic plant management programs within each of the water management districts as defined in paragraph (2)(g). It is the intent of the Legislature to account for the costs of aquatic plant management programs by watershed for comparison purposes.

(4)The commission shall supervise and direct all management programs for aquatic plants, as provided in this section, so as to protect human health, safety, and recreation and, to the greatest degree practicable, prevent injury to plant, fish, and animal life and to property.(5)When state funds are involved, or when waters of state responsibility are involved, it is the duty of the commission to guide, review, approve, and coordinate the activities of all public bodies, authorities, state agencies, units of local or county government, commissions, districts, and special districts engaged in operations to manage or eradicate aquatic plants. The commission may delegate all or part of such functions to any appropriate state agency, special district, unit of local or county government, commission, authority, or other public body. However, special attention shall be given to the keeping of accounting and cost data in order to prepare the annual fiscal report required in subsection (7).

(6)The commission may disburse funds to any district, special district, or other local authority for the purpose of operating a program for managing aquatic plants in the waters of state responsibility upon:

(a)Approval by the commission of the management techniques to be used by the district or authority; and

(b)Review and approval of the program of the district or authority by the commission.(7)The commission shall prepare an annual report on the status of the aquatic plant management program which shall be posted on the commission's Internet website.

(8)The commission shall have the authority to cooperate with the United States and to enter into such cooperative agreements or commitments as the commission may determine necessary to carry out the control or eradication of water hyacinths, alligator weed, and other noxious aquatic plant growths from the waters of the state and to enter into contracts with the United States obligating the state to indemnify and save harmless the United States from any and all claims and liability arising out of the initiation and prosecution of any project undertaken under this section. However, any claim or claims required to be paid under this section shall be paid from money appropriated to the aquatic plant management program.

(9)The commission may delegate various aquatic plant management functions to any appropriate state agency, special district, unit of local or county government, commission, authority, or other public body. The recipient of such delegation shall, in accepting commitments to engage in aquatic plant management activities, be subject to the rules of the commission. In addition, the recipient shall render technical and other assistance to the commission in order to carry out most effectively the purposes of s. 369.20.

(10)The commission is directed to use biological agents for the management of aquatic plants when determined to be appropriate by the commission.

(11)The commission shall adopt rules pursuant to ss. 120.536(1) and 120.54 to implement the provisions of this section conferring powers or duties upon it and perform any other acts necessary for the proper administration, enforcement, or interpretation of this section, including adopting rules and forms governing reports.

(12)No person or public agency shall control, eradicate, remove, or otherwise alter any aquatic plants in waters of the state unless a permit for such activity has been issued by the commission, or unless the activity or waters are expressly exempted by commission rule. The commission shall develop standards

by rule which shall address, at a minimum, chemical, biological, and mechanical control activities; an evaluation of the benefits of such activities to the public; specific criteria recognizing the differences between natural and artificially created waters; and the different amount and quality of littoral vegetation on various waters. Applications for a permit to engage in aquatic plant management activities, including applications to engage in management activities on sovereign submerged lands, shall be made to the commission. In reviewing such applications, the commission shall consider the criteria set forth in subsection (4) and, in accordance with applicable rules, shall take final agency action on permit applications for the use of aquatic plant activities on sovereign submerged lands.

(13)The commission has the power to enforce this section in the same manner and to the same extent as provided in ss. 379.501-379.504.

(14)Activities that are exempt from permitting pursuant to s. 403.813(1)(r) are granted a mixing zone for turbidity for a distance not to exceed 150 meters downstream in flowing streams or 150 meters in radius in other water bodies as measured from the cutter head, return flow discharge, or other points of generation of turbidity.

History.—ss. 1, 2, ch. 74-65; s. 4, ch. 80-129; s. 33, ch. 83-218; s. 16, ch. 84-254; s. 2, ch. 89-151; s. 188, ch. 94-356; s. 76, ch. 98-200; s. 92, ch. 99-245; s. 7, ch. 2008-150; s. 31, ch. 2009-86.

Note.—Former s. 372.932.

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
1a.	01	City Stormwater Website Information and links on: Clean Water Program/NPDES, Public Education, History & Restrictions, Comments & Complaints. Educational materials are available for download. Site is updated regularly. A "Contact Us" button prompts residents to email the City regarding their stormwater questions or concerns.	1. Document and report the number of visitors to pages with stormwater specific information.	1. Year 1- Year 5	MIS Department
			2. Document and report the number of material downloads.	2. Year 1- Year 5	
			3. Document and report communications received through the website.	3. Year 1- Year 5	City Clerk
			4.	4.	
1a.	02	City Natural Resources Board Website Information on: Florida Friendly Landscaping, Stormwater, Composting, Landscaping and Fertilizer Ordinance. Site is updated regularly and promoted through the City's Facebook page and on all outreach materials. A "Contact Us" button prompts residents to email the City regarding their environmental questions or concerns.	1. Document and Report the number of website visitors.	1. Year 1- Year 5	MIS Department
			2. Document and report communications received through the website.	2. Year 1- Year 5	City Clerk
			3.	3.	
			4.	4.	
1a.	03	Outreach Brochures and Flyers Developed to educate residents on locally relevant stormwater topics, which are determined through the documentation of citizen request line calls and emails. Materials are distributed throughout the City (Library, City Hall, Building Department, and Community Events.	1. Document and report the number of brochures distributed.	1. Year 1- Year 5	Environmental Technician
			2. Document and report the number of distribution points.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	
1a.	04	Community Presentations Guest speakers present at Board and Council Meetings on environmental and stormwater topics. Public Meetings are held monthly at City Hall and televised throughout the month on local government channel, and available for streaming through the City's Website. All meeting agendas are available on City's website one week prior.	1. Document and report number of presentations informing the public of the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater.	1. Year 1- Year 5	Environmental Technician
			2. Document and report number attendees at meetings featuring stormwater specific information.	2. Year 1- Year 5	
1a.	05	Community Events Educate the public through an onsite booth, with presentations and distribution of outreach materials on stormwater topics. There will be photo documentation of booth and presentations.	1. Document and report the number of events where stormwater information was presented and distributed.	1. Year 1- Year 5	Environmental Technician & Stormwater Department
			2. Document and report the number of materials distributed.	2. Year 1- Year 5	
			3. Document and report the number of stormwater presentations conducted at community events.	3. Year 1- Year 5	
			4.	4.	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D	
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department	
1a.	06	Local Government Channel 24 hour television channel, which is also streamed live on City's website. Live Streams and replays Council and Board Meetings. Displays public notices and stormwater outreach videos and PowerPoint slides. Promotes websites and Citizen Request Line.	Document and report SWMP relevant materials posted and duration posted.	1. Year 1- Year 5	MIS Department	
			1.	2.		
			2.	3.		
			3.	4.		
1a.	07	City Facebook Page Updates public on current stormwater projects, outreach information, and addresses frequently asked questions and concerns. Streams all public meetings live. Promotes City websites, educational programs, and Citizen Request Line.	Document and report "likes" and reposts on stormwater topics.	1. Year 1- Year 5	MIS Department	
			1.	2. Document and report number of page followers.		2. Year 1- Year 5
			2.	3.		3.
			3.	4.		4.
1a.	08	Community Oyster Garden Project Cost-share Grant Project designed to educate visitors and volunteers of all ages. Community groups can register for interactive site tours, which engage volunteers and participants of all ages in hands on water quality data collection, species identification and the role of the City's MS4 in maintaining a healthy lagoon.	Document and report all volunteer and participant sign-in sheets.	1. Year 1- Year 5	Environmental Technician	
			1.	Document and report the number of classes presented at site.		2. Year 1- Year 5
			2.	3.		3.
			3.	4.		4.
1a.	09	New Homeowner Folder Folder delivered at final inspection for all new residential development. Includes materials on stormwater, Florida Friendly Landscaping, water conservation, swale maintenance, IPM, and City Landscaping Ordinances.	Document and report the number of new homeowner folders distributed.	1. Year 1- Year 5	Environmental Technician	
			1.	2.		2.
			2.	3.		3.
			3.	4.		4.
1a.	10	Community Events Stormwater Booth manned by Stormwater Staff available to answer resident questions and to educate on current projects.	Document and report number of booth visitors.	1. Year 1- Year 5	Environmental Technician & Stormwater Department	
			1.	2.		2.
			2.	3.		3.
			3.	4.		4.

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

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SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
2a.	01	Public Input Resolution NO. R-15-09 requires that all appointed Boards and Committees include a section for solicitation of "Public Input" on meeting agendas. It will be documented when an agenda features items related to the City's SWMP. All agendas are posted one week prior to the meetings on the City's Website and Facebook Page.	1. Document and report number of public meetings held where the City's SWMP is discussed.	1. Year 1- Year 5	City Clerk
			2. Document and report number of attendees at public Board Meetings where the City's SWMP is discussed.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	
2a.	02	MS4 Cleanup Events City partners with local organizations to host two volunteer waterway clean-up events per year. Selection of clean-up sites will be focused on those areas with a direct impact on stormwater quality. Volunteer sign-in sheets will be used to track participants. The events are marketed through the City's Facebook page, website, television channel, community flyers, and the Chamber of Commerce's website, Facebook page, and newsletter.	1. Document and report number of events.	1. Year 1- Year 5	Environmental Technician
			2. Document and report number of volunteers.	2. Year 1- Year 5	
			3. Document and report weight of litter collected.	3. Year 1- Year 5	
			4. Document and report the names of clean-up events.	4. Year 1- Year 5	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

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| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
3a.	01	Storm Water System Map GIS Map of City's stormwater system indicates all outfalls, receiving surface water bodies, stormwater structures and retention areas. Any changes in conveyance channels, outfalls, or structural assets will be amended in the map.	1. Document and report any new outfalls.	1. Year 1- Year 5	Stormwater Department & Environmental Technician
			2.	2.	
			3.	3.	
			4.	4.	
3b.	01	Illicit Discharge Ordinance City Ordinance, Article VI: Urban Stormwater Quality Management and Discharge Control, prohibits non-stormwater discharges into the MS4 system and implements inspection, reporting, and enforcement procedures.	1. City will maintain the Ordinance and report any changes, or amendments, if applicable.	1. Year 1- Year 5	Stormwater Department
			2.	2.	
			3.	3.	
			4.	4.	
3c.	01	Illicit Discharge Detection and Inspection Staff performs daily inspections and review of potential illicit discharges, hazardous disposals, or illegal dumping. Potential illicit discharges are reported to the Police Department Code Enforcement Office for enforcement.	1. Document and report any "Notice of Violations" issued by Code Enforcement.	1. Year 1- Year 5	Police Department Code Enforcement Office
			2. Document and report the penalty and procedure required of each violator.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	
3d.	01	Illicit Discharge Education: Public City provides illicit discharge educational materials to residents. Materials are posted on City's Website and distributed through various community events, City Hall, and in new homeowners' packets.	1. Document all educational materials utilized and their distribution points.	1. Year 1- Year 5	Environmental Technician
			2. Document and report the number of materials distributed.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	
3d.	02	Illicit Discharge Education: Business City provides industry specific illicit discharge educational materials to businesses. Materials are posted on City's Website and distributed through community events, and at City Hall as they apply for new or renewal licensing.	1. Document and report all educational materials created, and distribution points.	1. Year 1- Year 5	Building Department
			2. Document and report the number of materials distributed.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

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| <input type="checkbox"/> 1. Public Education and Outreach | <input checked="" type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
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SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
3d.	03	Illicit Discharge Education: Employees City requires all new employees view a training video on the proper storage and disposal of waste and hazardous materials. All current staff members are required to attend annual refresher class, which also includes this video.	1. Document and report the number of new employees receiving this training.	1. Year 1- Year 5	Human Resources
			2. Document and report the number of existing employees receiving additional training.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

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SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
4a.	01	Surface Water Management Ordinance Article XII requires that any land development, which disturbs the soil, implement an erosion and sediment control plan. Such sites are subject to frequent inspections. Chapter 1, Article I and II provides for the general administration of violation and enforcement procedures for non-compliance to the Land Development Code.	Document and report any changes or amendments to 1. the ordinance, if applicable.	1. Year 1- Year 5	Planning and Zoning Department
			2.	2.	
			3.	3.	
			4.	4.	
4b.	01	Erosion and Sediment Control on Construction Sites Article XVIII Sec.54-4-18.4 requires that sites greater than an acre, submit a SWPPP as part of their site plans that meets all City Land Development Ordinances, as well as apply for an NOI with the FDEP. The SWPPP, or Erosion and Sediment Control Plan will be reviewed for BMPs as they relate to the proposed construction	Document and report any changes or amendments 1. to the ordinance, if applicable.	1. Year 1- Year 5	Planning and Zoning Department
			2. Document and report the number of NOIs received.	2. Year 1- Year 5	
			3. Document and report the number of active sites.	3. Year 1- Year 5	
			4.	4.	
4c.	01	Construction Site Waste Management The Surface Water Management Ordinance requires that all construction site operators control discarded materials and provide a sanitary waste facility. Waste management on each site is inspected as part of the scheduled "Erosion Control" inspections.	Document and report any changes or 1. amendments to the ordinance, if applicable.	1. Year 1- Year 5	Stormwater Department
			Document and report number of sites operating 2. under waste control requirement.	2. Year 1- Year 5	
			Document and report number of compliance issues 3. pertaining to waste controls.	3. Year 1- Year 5	
			4.	4.	
4d.	01	Site Plan Review Article XVII outlines the site plan review procedures. Site plans are thoroughly reviewed by a committee of staff to ensure no adverse effects on water quality or environmentally sensitive areas.	Document and report any changes or amendments 1. to the ordinance, if applicable.	1. Year 1- Year 5	Planning and Zoning Department
			Document and report number of site plans reviewed 2. for construction.	2. Year 1- Year 5	
			Document and report the number of site plans that 3. require special environmental permitting.	3. Year 1- Year 5	
			Document and report the number of site plans 4. approved for construction.	4. Year 1- Year 5	
4e.	01	Public Input The public may provide input on active/proposed construction activities at any time by website submissions, or calls to the Citizen Request Line, which is advertised on the stormwater website, all stormwater educational material, new homeowner packets, and the public television channel. All stormwater related communications are monitored and recorded on spreadsheet by stormwater administrative support staff.	Document and report all complaints on potential site 1. violations received through stormwater website or citizen request line.	1. Year 1- Year 5	Stormwater Department
			Document and report the number of emails received. 2.	2. Year 1- Year 5	
			Document and report the number of phone calls 3. received to the citizen request line.	3. Year 1- Year 5	
			Document and report the number of follow-up actions. 4.	4. Year 1- Year 5	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

- | | | |
|---|--|--|
| <input type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input checked="" type="checkbox"/> 2. Public Involvement/Participation | <input checked="" type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
4f.	01	Construction Site Inspections City staff will be scheduled through the Building Department to inspect all development sites following initial land clearing activities. Supplemental inspections will be conducted weekly and within 24 hours of a rain event of .5 inch, or greater. Failure of inspection will result in a re-inspection fee, which increases with each additional re-inspection.	1. Document and report number of erosion control inspections performed.	1. Year 1- Year 5	Building Department
			2. Document and report all erosion control re-inspections.	2. Year 1- Year 5	
			3. Document and report all re-inspection fees charged.	3. Year 1- Year 5	
			4.	4	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

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| <input type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input checked="" type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
5a.	01	Alternative Program City of Sebastian relies on the St. John's River Water Management District and Florida Department of Environmental Protection regulatory criteria by providing stormwater treatment for Environmental Resource Program.	1. Continue to maintain compliance with Florida Department of Environmental Protection and St. John's River Water Management District criteria.	1. Effective upon issuance of MS4 Permit	Florida Department of Environmental Protection & St. John's River Water Management District
			3.	3.	
			4.	4.	

**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

- | | | |
|--|---|--|
| <input type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input checked="" type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
6a.	01	Fleet Maintenance All waste oil, hydraulic fluids, antifreeze, and oil filters from the City's equipment/ fleet maintenance division are properly stored for recycling.	1. Document and report the number of gallons per year of waste oil and hydraulic fluid recycled each year.	1. Year 1- Year 5	Public Works Department
			2. Document and report the number of gallons per year of antifreeze recycled each year.	2. Year 1- Year 5	
			3. Document and report the number of oil filters disposed of each year.	3. Year 1- Year 5	
			4.	4	
6a.	02	Catch Basin and Baffle Box Maintenance The City regularly cleans debris from it catch basins and baffle boxes with a vacuum truck.	1. Document and report the number of baffle boxes cleaned each year and how often.	1. Year 1- Year 5	Stormwater Department
			2. Document and report the total amount of debris collected from baffle boxes each year.	2. Year 1- Year 5	
			3. Document and report the number of catch basins cleaned each year and how often.	3. Year 1- Year 5	
			4. Document and report the total amount of debris collected from catch basins each year.	4. Year 1- Year 5	
6a.	03	Culvert Pipe Maintenance Road crossing and driveway culvert pipes are regularly cleared of debris by various methods.	1. Document and report the total number of road crossing culvert pipes cleared each year.	1. Year 1- Year 5	Stormwater Department
			2. Document and report the total amount of debris collected from road crossing culverts each year.	2. Year 1- Year 5	
			3. Document and report the total number of driveway culvert pipes cleared each year.	3. Year 1- Year 5	
			4. Document and report the total amount of debris collected from driveway culverts each year.	4. Year 1- Year 5	
6a.	04	Pet Waste Collection The City provides pet waste collection stations at many of its parks and open spaces	1. Document and report the number disposable pet waste bags purchased each year.	1. Year 1- Year 5	Parks and Recreation Department
			2.	2.	
6a.	05	Basin Management Plan (BMAP) for Adopted TMDL In accordance with Section 403.067, F.S., the City of Sebastian must comply with the adopted provisions of the Central Indian River Lagoon BMAP that specify activities to be undertaken by the City of Sebastian. If a BMAP is in development and scheduled to be adopted within two years by DEP and watershed stakeholders, the City of Sebastian shall continue to participate in the BMAP process and comply with the adopted provisions of the BMAP that specify activities to be undertaken by the City during the permit cycle.	1. Continue to participate and implement the scheduled activities defined in the adopted BMAP.	1. Year 1- Year 5	Florida Department of Environmental Protection & Central Indian River Lagoon Stakeholders
			2.	2.	
			3.	3.	
			4.	4.	

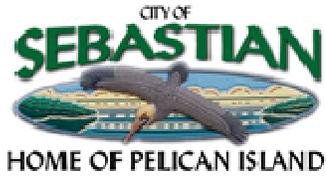
**APPENDIX A
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

SECTION A.I. MINIMUM CONTROL MEASURE (check only one)

- | | | |
|--|---|--|
| <input type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input checked="" type="checkbox"/> 6. Pollution Prevention/Good Housekeeping |

SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
6a.	06	Swales and Ditches Maintenance The City will inspect and maintain all city-maintained swales, ditches, and canals in order to remove debris and particle matter once per month and additionally as necessary.	1. Document and report the number of miles of swales, ditches, and canals maintained.	1. Year 1- Year 5	Stormwater Department
			2. Document and report the amount of debris collected.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	
6b.	01	Stormwater Pollution Prevention Training All City field staff members are required to attend the Green Industries BMP Course. Taught annually by the County's IFAS Extension Office, the class is designed as a water quality and water conservation program. It instructs how MS4 operator activities should be conducted to prevent runoff and leaching of chemicals and fertilizers into water bodies.	1. Document and report the number of new employees receiving training.	1. Year 1- Year 5	Human Resources Department
			2. Document and report the number of current employees receiving refresher courses.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	
6b.	02	Stormwater Inspectors Training Stormwater Department Staff are encouraged to attend stormwater inspector training class as it pertains to their duties. The Stormwater Department will pay any fees associated with classes and/or certifications.	1. Document and report the number of employees who attend classes.	1. Year 1- Year 5	Human Resources Department
			2. Document and report the number of employees who are currently certified.	2. Year 1- Year 5	
			3.	3.	
			4.	4.	



IPM SUB-COMMITTEE AGENDA TRANSMITTAL FORM

Board Meeting Date: June 28th, 2021

Agenda Item Title: VII. NEW BUSINESS
Item C. Glossary—ACTION ITEM

Recommendation: Sub-Committee Member Discussion

Background:

If Agenda Item Requires Expenditure of Funds:

Total Cost: n/a

Attachments: Glossary of terms from the IPM Plan

IPM Glossary of Terms

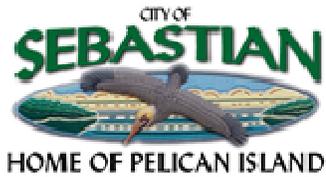
Aeration	involves mechanically perforating the soil with small holes to allow air, water and nutrients to penetrate the grass roots. This helps the roots grow deeply and produce a stronger, more vigorous lawn. The main reason for aerating is to alleviate soil compaction
Beneficial Species	preferred species which naturally feed on, out-compete or otherwise hinder the growth of pest populations. Ex. Ladybug, Air potato Beetle)
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
Canal	A man-made waterway/channel created for the collection and movement of stormwater
Catch Basin	a reservoir or well into which surface water may drain off into, designed to catch and retain sediments and other matter, keeping it from flowing through the connected pipes
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

Contractor	purpose or purposes person, firm, or corporation or other entity, including governmental that enters into a contract with the City for services
Conveyance System	The interconnected ponds, ditches, and canals that are designed to collect, store, and transport stormwater over a large area
Culvert	Underground pipe transporting stormwater between catch basins, swales, ditches, ponds, and canals
Dam	a barrier constructed to hold back water and raise its level, forming a reservoir
Detention Area	an area where stormwater is temporarily stored, or detained, and is eventually allowed to drain slowly when water levels recede in the receiving channel, often are dry ponds
Ditch	an open constructed channel with its top width less than 10 feet at design flow, may serve as detention or retention
Drop Inlets	collects stormwater from a parking lot, drain inlets collect water from roads and parking lots and convey it to an underground storm drain system
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
Emergent Vegetation	
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
Floating Vegetation	have leaves that float on the water surface. Their roots may be attached in the substrate or floating in the water column

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
Inlet	device located above the mean high water line that admits surface waters to the stormwater drainage system
Insecticide	substance (pesticide) that is intended to be used for the prevention, control and/ or eradication of insect pests
Invasive	Non-native 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
Littoral Zone	extends from the high water mark, which is rarely inundated, to shallow shoreline areas that are permanently submerged
Littoral Shelf	the area between the body of water and the banks surrounding it. When planted, it can create a nice border around the water and add to both the function and beauty of the area
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
Outfall	point where collected and concentrated surface and storm water runoff is discharged from a pipe system or culvert into a natural body of water
Outlet	point at which water discharges from a stormwater pipe or drain into a pond, ditch, or canal
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
Pond	retention basin, sometimes called a wet pond, wet detention basin or stormwater management pond (SWMP), is an artificial pond with vegetation around the perimeter, and includes a permanent pool of water in its design
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”
Retention Area	an area where stormwater is held or retained stormwater on a permanent basis, often are wet ponds
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.
Seawall	Retaining walls located along the perimeter of a water body, designed to maintain level shoreline and prevent erosion and surface water runoff
Sediment	a stormwater pollutant that is made up of soil particles that have been detached from the land by erosion and traveled to the water through surface water runoff
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

Spillway	a passage for surplus water from a dam, allows for the flow of high waters over the dam
Stormwater	the water that runs off surfaces such as rooftops, paved streets, highways, and parking lots, can also come from hard grassy surfaces like lawns, play fields, and from graveled roads and parking lots before it flows into the stormwater conveyance system
Submerged Vegetation	rooted plants with flaccid or limp stems and most of their vegetative mass is below the water surface, although small portions may stick above the water
Sustainable (ecological)	quality of not being harmful to the environment or depleting natural resources, thereby supporting long-term ecological balance
Substrate	The collection of inundated soil and sediments that comprise the ground at the bottom of a waterbody
Swale	a grassed, shallow, drainage conveyance with relatively gentle side slopes, generally with flow depths less than one foot, designed to hold stormwater for 72 hours following a storm event
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
TMDL	Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards
Weedoo	Specialized airboat designed to cut and collect aquatic vegetation from waterways
Weir	low head dam forms a barrier across the width of a canal or river, slows the flow of water and usually results in a change in the height of the water level, also used to control the flow of water for outlets of lakes, ponds, and reservoirs



IPM SUB-COMMITTEE AGENDA TRANSMITTAL FORM

Board Meeting Date: June 28th, 2021

Agenda Item Title: VIII. OLD BUSINESS
Item A. Approved Pesticide Table—ACTION ITEM

Recommendation: Sub-Committee Member Discussion

Background:

If Agenda Item Requires Expenditure of Funds:

Total Cost: n/a

Attachments: Pesticide table with revisions made, per discussions at the May 25th meeting

ACTIVE INGREDIENT	ACTION	TRADE NAME	EPA REG. #	WSSA RESISTANCE MGT. GROUP	ACTIVE INGREDIENT	LABELED SIGNAL WORD*	EIQ	Maximum Use Rate	FIELD USE EIQ	EIQ ECOLOGICAL COMPONENT**	TRAITS	TARGET CLASS	TARGET SPECIES	PRODUCT COST	COST RATING/ ACRE ***
Alkanolamide	adjuvant	Cohere	NA	NA	90.00%	warning	NA	NA	NA	NA	spreader, sticker	NA	NA	\$138 per 2.5 gals	\$
methelated seed oil	adjuvant	Alligare MSO 1 SunEnergy	NA	NA	100.00%	warning	30.9	NA	NA	NA	surfactant	NA	NA	\$61.25 per 2.5 gals	\$
polyacrylamide	adjuvant	Accuracy Polycontrol 2	NA	NA	30%	warning	NA	NA	NA	NA	deposition & drift retardant	NA	NA	\$129.77 per 1 gal	\$
D-limonene	adjuvant	Kammo Plus	NA	NA	100%	warning	NA	NA	NA	NA	surfactant	NA	NA	\$92.51 per 1 gal	\$
polyoxlkane ethers	adjuvant	Induce	NA	NA	90%	warning	NA	NA	NA	NA	wetter, spreader	NA	NA	\$136.39 per 2.5 gals	\$
Bispyribac	herbicide	Tradewind (powder)	59639-165	2	80%	caution	11.47	2oz/acre	1.1	2.3	systemic, selective	submersed, floating	Hydrilla	\$1,175.95 per 2 lbs	\$\$\$\$
Carfentrazone	herbicide	Stingray Speedzone	279-3279-67690 2217-833	14	21.3% 28.6%	caution	20.2	13.5 oz/acre 5 pints/acre	3.6 28.9	8.5 68.0	contact, selective	emergent, floating	Primrose, Water Lettuce, Hyacinth	\$205.95 per 1 qt	\$\$
Copper	herbicide, algaecide	copper sulfate (crystals)	56576-1	NA	99%	danger	61.9	1.75 lbs/acre	107.2	256.8	contact, non-selective	submersed	algae	\$45.95 per 1 gal	\$
Diquat	herbicide	Tribune Reward	100-1390 100-1091	22	37.30%	caution	39.2	.5 gal/acre	58.5	111.3	contact, non-selective	submersed, emergent floating	hyacinth, water lettuce, salvinia, mosquito fern	\$221.95 per 1 gal	\$
Endothall	hebicide	Aquathol	70506-176	Unknown	40.30%	danger	24	9.4 fl oz/ acre	38.7	82.1	contact/systemic, non-selective	submersed	hydrilla, filamentous algae	\$135.95 per 1 gal	\$\$
Florpyrauxifen	herbicide	ProcellaCOR SC Clipper	67690-79	4	26.50%	caution	NA	6.75 oz/acre-ft	NA	NA	systemic, non-selective	submersed, emergent, floating	hydrilla, hyacinth, primrose, watermilfoil	\$595.95 per 5 lbs	\$\$\$
Flumioxazin	herbicide	Clipper Schooner Semera (granule)	59639-120-91234	14	51%	caution	23.97	3 oz/acre	2.3	4.8	contact, non-selective	submersed, emergent, floating	algal mats, hydrilla, cabomba, water lettuce, duckweed, salvinia, spatterdock, water lilly	\$300 per 5 gals	\$\$
Fluridone	herbicide	Avast	67690-30	12	41.70%	caution	8	2.1 lb/acre	7	12.3	systemic, non-selective	submersed	hydrilla, duckweed	\$2,215.95 per 1 gal	\$\$\$\$
Glyphosate	herbicide	Roundup Custom AquaNeat	228-365	9	53.80%	caution	15.3	6 pints/acre	49.5	113	systemic, non-selective	emergent, floating	grasses, cattail, primrose, tussocks	\$89.95 per 2.5 gals	\$
Imazamox	herbicide	Clearcast	241-437-67690	2	12.10%	caution	19.5	1 gal/acre	18.9	41.2	systemic, selective	submersed, emergent, floating	cattail, wild taro, hyacinth	\$355.95 per 1 gal	\$\$\$
Imazapyr	herbicide	Polaris AQ Ecomazapyr 2	241-426-228	2	28.70%	caution	22.3	4 pints/acre	25.6	61.9	systemic, non-selective	emergent	tussocks, cattail, torpedo-grass, rush, melaleuca	\$235.95 per 2.5 gals	\$\$
Penoxsulam	herbicide	Galleon SC	67690-47	2	21.70%	caution	18.72	5.6 fl oz/acre	1.4	2.6	systemic	emergent, floating, submersed	hydrilla, hyacinth	\$695.95 per 1 qt.	\$\$
Peroxides	algaecide	GreenCleanPRO	70299-15	Unclassified	2760%	danger	16	.5 lb/ 1000 ft2	96.2	72.1	contact, non-selective	submersed, algae	planktonic algae, esp. blue-green	\$139.95 per 50 lbs	\$
Sethoxydim	herbicide	Segment	7969-88	1	13%	caution	20.89	40 oz/ acre	6.8	16.6	systemic, selective	emergent	grasses	\$707.06 per 2.5 gals	\$\$\$
Topramezone	herbicide	Oasis	7969-339-67690	27	29.70%	caution	27.17	16 fl oz/ acre	8.1	19	systemic	submersed	hydrilla, hyacinth	\$811.95 per 1 qt	\$\$\$
Triclopyr	herbicide	Garlon 3A Trycera	62719-37 5905-580	4	44.4% 29.4%	danger	11	8 qt/acre	78.1 51.7	142.1 94.1	systemic	submersed, emergent	brazilian pepper, broadleaf, hyacinch, water milfoil	\$69.95 per 1 qt	\$
2, 4-D	herbicide	Weedar 64 (liquid) Rugged (liquid)	71368-1 1381-247	4	46% 38.4%	danger	20.67 16.67	1gal/acre 4.12 gal/acre	56.4 53.0	128.8 121	systemic, selective	submersed, emergent, floating	milfoil, hyacinth	\$23.95 per 1 gal	\$

*** LABELED SIGNAL WORD**
CAUTION means the pesticide product is slightly toxic if eaten, absorbed through the skin, inhaled, or it causes slight eye or skin irritation.²
WARNING indicates the pesticide product is moderately toxic if eaten, absorbed through the skin, inhaled, or it causes moderate eye or skin irritation.¹
DANGER means that the pesticide product is highly toxic by at least one route of exposure. It may be corrosive, causing irreversible damage to the skin or eyes. Alternatively, it may be highly toxic if eaten, absorbed through the skin, or inhaled. If this is the case, then the word "POISON" must also be included in red letters on the front panel of the product label.^{2,4}

**** EIQ ECOLOGICAL COMPONENT**
= Combined score for effects on (Fish)+(Bird)
+(Bee)+ (Beneficial)

***** COST/ ACRE RATNG**
\$ = LESS THAN \$10.00
\$\$ = \$11.00-30.00
\$\$\$ = \$31.00-59.00
\$\$\$\$ = OVER \$60.00