

Meeting Date
November 3, 2015



AGENDA	
Section	Consent
Item No.	<i>II. A.3.</i>

AGENDA REPORT
BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS

SUBJECT:	Amendment 2 to Florida Department of Environmental Protection (FDEP) Brevard County Baffle Box Upgrades Grant Agreement No. S0648 Fiscal Impact: Grant Revenue of \$158,000; Local Stormwater Match of \$159,324
DEPT/OFFICE:	Natural Resources Management Department (NRM)

Requested Action:

It is requested that the Board of County Commissioners: (1) Authorize the Chairman to execute Amendment 2 to Grant Contract S0648 between Brevard County (Grantee) and the FDEP (Grantor) for additional Baffle Box Upgrades, subject to language review and approval by the County Attorney's Office and Risk Management; (2) Approve legal venue as Leon County; (3) Authorize the Chairman to execute Change Order No. 1 with JoBear Contracting Inc. to complete the additional work; (4) Authorize the County Manager, or designee, to execute future contract amendments subject to the approval of the County Attorney's Office and Risk Management; and (5) Approve associated budget change requests.

Summary Explanation & Background:

On August 20, 2013 the Board approved FDEP Grant S0648 to provide cost share funding to upgrade 17 existing Baffle Boxes from generation 1 to generation 2 to increase pollutant removal efficiency. Generation 2 baffle boxes include floating screens that filter organic debris from flowing water to reduce nutrient pollution reaching downstream waterways.

On November 25, 2014 the Board authorized the County to reject all bids and Rebid the project due to the high cost of the bids received. Staff revised the bid documents to separate several optional improvements from the base bid and re-advertised the work. On March 5, 2015 the County issued a Notice to Proceed to JoBear Contracting, Inc., who was the lowest, responsive, responsible bidder. JoBear Contracting is nearly complete with the 17 contracted upgrades and their work is satisfactory.

The County recently secured an additional funds from FDEP to upgrade nine (9) more baffle boxes (draft scope of work for the grant amendment and extension is attached). To complete the additional upgrades in a timely and satisfactory manner, it is in the best interest of the County to award a change order to Jobear Contracting to complete the 9 additional baffle box upgrades. This will provide continuity in the work flow as well as substantial savings to the County in reduced advertising costs and staff time associated with the bidding process.

Fiscal Impact: FY 15-16 Grant Revenue; **D-1:** \$35,111.11; **D-2:** \$17,555.56; **D-3:** \$35,111.11; **D-5:** \$70,222.22
Grant Match from Stormwater Funds; **1111:** \$35,405.33; **1112:** \$17,702.67; **1113:** \$35,405.33; **1115:** \$70,810.67
FY 16-17 No Fiscal Impact

Contact: Carolina Alvarez or Virginia Barker, Natural Resources Management Department; 633-2016

Clerk to the Board instruction: Total of three signed original contracts needed – one for the Clerk of Courts and two for FDEP.

Exhibits Attached: **ATTACHMENT A** - Project Location Map
ATTACHMENT B - Draft Scope of Work for Amendment 2 to Contract
ATTACHMENT C -Change Order No. 1 to JoBear Contracting Inc.

Contract /Agreement (If attached):		Reviewed by County Attorney	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	PR <input type="checkbox"/>
County Manager	Assistant County Manager	Department Director/Extension					
<i>Stockton Whitter</i>		<i>Virginia Barker</i> Virginia Barker/X52435					



Tammy Etheridge, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972

November 4, 2015

MEMORANDUM

TO: Virginia Barker, Natural Resources Management Interim Director Attn: Carolina Alvarez
RE: Item II.A.3., Amendment No. 2 of Grant Contract S0648 with Florida Department of Environmental Protection (FDEP) for Brevard County Baffle Box Upgrades

The Board of County Commissioners, in regular session on November 3, 2015, authorized the Chairman to execute Amendment No. 2 to Grant Contract S0648 with FDEP for additional Baffle Box Upgrades, subject to language review and approval by the County Attorney and Risk Management; approved legal venue as Leon County; authorized the Chairman to execute Change Order No. 1 with JoBear Contracting, Inc., to complete the additional work; authorized the County Manager, or his designee, to execute future contract amendments, subject to the approval of the County Attorney and Risk Management; and approved the associated budget change requests. Enclosed is the executed Change Order No. 1 for your action.

Upon execution by the Contractor, please provide this office with a fully-executed copy of the Change Order No. 1: and upon execution by all parties of the Amendment No. 2 to Grant Contract S0648 with FDEP, please provide the fully-executed Amendment No. 2 to this office for inclusion in the official minutes.

Your continued cooperation is always appreciated.

Sincerely,

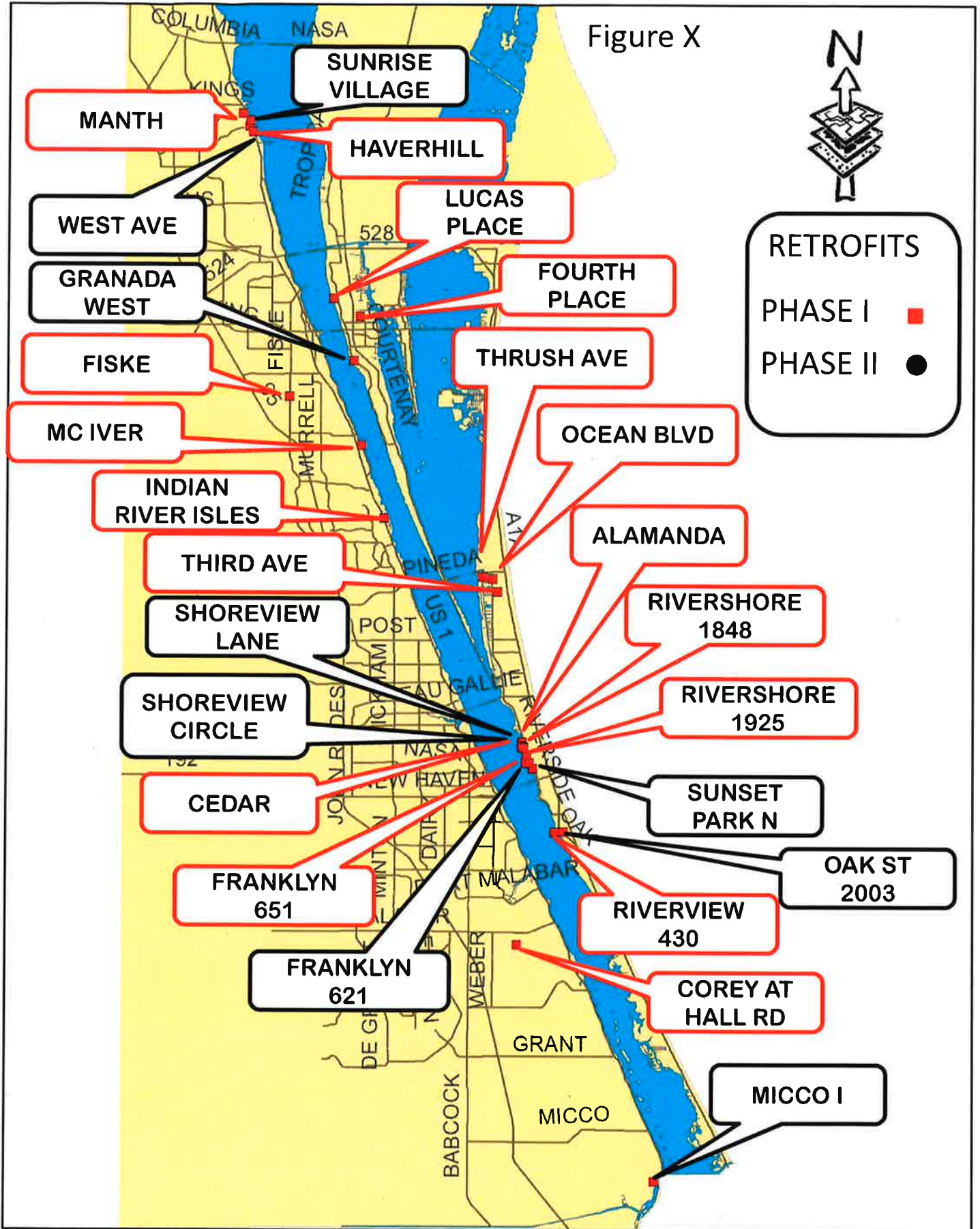
BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Etheridge, Deputy Clerk

/ds

Encls. (1)

cc: Contracts Administration
Finance
Budget



**BAFFLE BOX RETROFIT
BOX LOCATIONS**

MAP IS NOT TO SCALE
Date: 9-24-2015

ATTACHMENT B

ATTACHMENT A-2
REVISED GRANT WORK PLAN

PROJECT NAME: Brevard County Baffle Box Upgrades

PROJECT GRANT FUNDING: ~~\$117,000~~ 275,000.00 **MATCH:** ~~\$120,004.98~~ 279,328.98
TOTAL PROJECT COST: ~~\$237,004.98~~ 554,328.98

LEAD ORGANIZATION: Brevard County Natural Resources Management Department (NRMD)

PROJECT OVERVIEW:

Brevard County has aggressively undertaken a series of projects to reduce pollution to the Indian River Lagoon (IRL). The IRL has an adopted Total Maximum Daily Load (TMDL) and a draft a Basin Management Action Plan (BMAP). In the 1990's, Brevard County installed many first generation Baffle Boxes as retrofit projects to reduce pollutant loads from drainage pipes discharging directly into the IRL. Research by the Florida Department of Environmental Protection (FDEP) showed that first generation baffle boxes, while effective in reducing nutrients from stormwater runoff, can be significantly improved by installing screens into the existing baffle boxes that collect debris, trash and organic material. These improvements were demonstrated to provide a 19.1% reduction in total nitrogen (TN) and 15.5% reduction in total phosphorus (TP) by removing organic debris from the water column.

This project will retrofit twenty six (26) existing first generation Baffle Boxes in two phases (Figures 1) by installing trash screens that will convert these boxes to second generation Baffle Boxes. ~~The County proposes to do the work in two phases. The Baffle Box upgrades for each phase are depicted in the figure and the table above. Locations were carefully chosen in TMDL boundary areas where screens could effectively be installed above normal water levels inside the boxes, water quality would be improved, and site access to the boxes is easily available (i.e. baffle boxes are owned and maintained by Brevard County and are located within County rights-of-way or easements). No Water Management District permits will be required for this project.~~

TASK DESCRIPTIONS:

Task Number: 1

Name: Construction Bid Preparation & Award

Description: The Grantee's engineering consultant and the Grantee's Engineer III/P.E. will prepare, advertise, send, receive, and evaluate bids for construction of the improvements. The project will be awarded based on the lowest, responsive, responsible bid. Once the contracts are signed, a notice to proceed will be issued to the contractor. ~~The construction will be accomplished in two phases. Phase one consists of 17 baffle boxes, phase 2 consists of 9 baffle boxes.~~

Deliverables: Copies of final design, copy of construction contract.

Performance Standard: The Department's Grant Manager will review the final design(s) and copy of subcontract(s) to verify that they meet the specifications in the grant work plan and this task description.

Task Number: 2

Name: Baffle Box Upgrades Construction

Description: ~~The construction will be accomplished in two phases (Figure 1), with Phase one consists of 17 baffle boxes upgraded in phase 1 and phase 2 consists of 9 baffle boxes upgraded in phase 2. For each of the twenty-six (26) baffle box upgrades (Figures 1), the Grantee's selected contractor will a) remove concrete tops if necessary to install upgrades; b) remove sediments, water and trash from the existing baffle box chambers with a vacuum truck and, if necessary, install temporary inflatable pipe plugs; c) measure interior dimensions; d) remove existing vertical screens for the baffle boxes that have one; e) custom fabricate Type 2 screens; f) install the new Type 2 screens; g) install hatches for Baffle boxes with poor access; and, h) re-install any removed concrete tops.~~

Deliverables 2a: 1) Phase 1 Baffle box upgrades at 17 locations constructed as described in the task, as evidenced by dated color photographs of each site prior to and during construction and immediately following completion of the project; 2) complete installation of the upgrades per the task description; and, 3) signed acceptance of the completed project by the Grantee.

Performance Standard 2a: The Department's Grant Manager will review the dated photographs and signed acceptance of the completed project by the Grantee to verify that they meet the specifications in the grant work plan and this task description.

Deliverables 2b: 1) Phase 2 Baffle box upgrades at 9 locations constructed as described in the task, as evidenced by dated color photographs of each site prior to and during construction and immediately following completion of the project; 2) complete installation of the upgrades per the task description; and, 3) signed acceptance of the completed project by the Grantee.

Performance Standard 2b: The Department's Grant Manager will review the dated photographs and signed acceptance of the completed project by the Grantee to verify that they meet the specifications in the grant work plan and this task description.

Task Number: 3

Name: Public Education

Description: Public Education for the Brevard County Baffle Box Upgrades project will have the following components:

1. Website/Internet Presence - The Baffle Box Upgrades project will be featured on the County's website, Facebook page and the County's on-line Atlas of stormwater projects for the duration of this Agreement at: (<http://www.brevardcounty.us/NaturalResources/Watershed/ConstructionProjects>).
2. Project Information/Rainbarrel Workshop - One (1) workshop will be held for the local residents in each region of the County where the baffle boxes are upgraded (three workshops total). Free rainbarrels will be distributed to residents, who will be instructed how to construct and install rainbarrels at rainspouts. A survey will be completed by workshop attendees and collated by the Grantee to provide feedback on the content of the workshop and recommendations for future workshops.
3. Radio Advertisement - An existing Countywide 30 second Public Service Announcement promoting rain barrels and pollution prevention responsibility will be run for twelve (12) weeks on local radio stations.
4. Rain Barrel Video Production - A video featuring the benefits of rain barrels, baffle boxes and pollution prevention will be produced and aired at the County's Movie-in-the Parks events hosted by the Brevard County Parks and Recreation Department. A draft of this video must be approved by the Department prior to distribution.
5. Promotional Effectiveness Survey - A survey will be mailed out by Melbourne Utilities to 50,000 area customers. Results of the survey will be collated by the Grantee.

Deliverables: 1) Public Education completed as described in this task, as evidenced by: 2) copy of printed materials; 3) a link to the website as designed or updated with project information; 4) copy of draft and DEP approved Public Service Announcement(s), before airing and distribution; 5) copy of airing dates for the approved Public Service Announcement(s); 6) copy of promotional effectiveness survey(s) with summary of results; and, 7) copy of meeting or workshop notices, agenda, meeting minutes or notes, sign in sheets, and number of rainbarrels distributed.

Performance Standard: The Department's Grant Manager will review the draft deliverables and provide comments as needed, and will review and approve final deliverables to verify that they meet the specifications in the grant work plan and this task description.

Task Number: 4

Name: Bmp Effectiveness Monitoring

Description: Per FDEP policy, stormwater event monitoring will not be required for second generation baffle boxes. Monitoring will consist of documentation of sediments collected from each chamber of each baffle box, as well as organic debris collected from trash screens, at two (2) six (6)-month intervals after construction. Sediments will be analyzed for nutrients as required for Florida Stormwater Association's street sweeping database development.

Deliverables: After construction at two (2) six (6)-month intervals a report will be submitted documenting the sediments collected from each chamber of each baffle box, as well as debris collected from screens. Sediments will be analyzed and results submitted for Nitrate/Nitrite, Total Kjeldahl Nitrogen, Total Ammonia, Total Phosphorus, Ortho Phosphate, Bulk Density, and Moisture Content, in accordance with FDEP SOPs.

Performance Standard: The Department's Grant Manager will review the monitoring results and monitoring reports for completion and compliance with DEP SOPs.

Task Number: 5

Name: Draft and Final Reports

DEP Agreement No. S0648, Attachment A-2, Page 2 of 9

Description: The Grantee shall submit to the Department a Final Report. The Final Report is intended to capture the outcome and results of the selected project, including all tasks included in this project. It shall include, at least, the following: a summary of monitoring results and an explanation of any unexpected monitoring results or unexpected occurrences. This shall include, where applicable, why a BMP did not obtain or exceeded the expected removal efficiency; any problems encountered and how those problems were overcome; an explanation of any project delays; a brief summary of any additional phases yet to be completed; and any additional information which explains the results of the project. The Grantee shall submit the final report as a draft prior to submitting the final report for project closeout. Note: the Grantee will also provide quarterly progress reports starting after Agreement execution, to update the Department's Grant Manager on the status of each task and the overall project, as a way to describe any issues or delays encountered or if everything is on target.

Deliverables: Electronic copy of the draft final report in Word format; One paper copy and one electronic copy of the approved final report in Word and Adobe format that meets all of the requirements identified in the task description.

Performance Standard: The Department's Grant Manager will review the draft final report to verify that it meets the specifications in the grant work plan and this task description, and provide comments to the Grantee as needed. The Department's Grant Manager will review and approve the final report to ensure that draft comments have been taken into consideration in the final version.

TOTAL PROJECT TIMELINE: The task must be completed and all deliverables received by the end of the task timeline.

Task No.	Task Title	Start Date	Complete Date
1	Construction Bid Preparation & Award	9/14/2013	4/3/2015
2a	BMP Construction Phase I	4/3/2015	11/3/2015
2b	BMP Construction Phase II	12/1/2015	04/01/2016
3	Public Education	9/14/2013	7/3/2016
4	BMP Effectiveness Monitoring	01/01/2016	4/31/2017
5	Draft and Final Reports	4/31/2017	6/30/2017

SALARY AND FRINGE BENEFITS BY TASK:

Task No.	Position Title	Hourly Rate	Fringe Rate (%)
1	Engineer III	\$34.50	22.4
2	Construction Coordinator	\$29.09	26.5

PROJECT BUDGET BY CATEGORY and TASK:

Task No.	Category	Grant Funding	Match Funding
1	Salaries	\$0.00	\$2,760.00
	Fringe Benefits	\$0.00	\$618.24
	Total for Task	\$0.00	\$3,378.24
2	Salaries	\$0.00	\$1,483.59
	Fringe Benefits	\$0.00	\$393.15
	Contractual (Phase 1)	\$117,000.00	\$92,000.00
	Contractual (Phase 2)	158,000	82,000
	Total for Task	\$275,000.00	\$175,876.74
3	Contractual	\$0.00	\$71,250.00
	Total for Task	\$0.00	\$71,250.00
4	Contractual	\$0.00	\$23,824.00
	Total for Task	\$0.00	\$23,824.00
5	Contractual	\$0.00	\$5,000.00
	Total for Task	\$0.00	\$5,000
Total:		\$275,000.00	\$279,328.98
Total Project Cost:		\$554,328.98	
Percentage Match:		50%	50%

PROJECT BUDGET CATEGORY TOTALS:

Category Totals	Grant Funding	Match Funding
Salaries Total	\$0	\$4,243.59
Fringe Benefits Total	\$0	\$1,011.39
Contractual Total	\$275,000	\$274,074
Total:	\$275,000	\$279,328.98
Total Project Cost:	\$554,328.98	
Percentage Match:	50%	50%

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**EXHIBIT 1
PROJECT LOCATION AND WATERSHED CHARACTERISTICS, AND
POLLUTANT LOAD REDUCTION CALCULATIONS**

Geographic Location: Brevard County, FL

Impacted Watershed Name: Indian River Lagoon BMAP Zone North B: *NASA Causeway to Melbourne Causeway (U.S. 192)*, Banana River Lagoon BMAP Zone B: *the area south of State Road 528 Causeway*, Indian River Lagoon BMAP Zone Central: *Central A – Melbourne Causeway (U.S. 192) to the north tip of Grant Farm Island, Central SEB – Grant Farm Island to Wabasso Causeway (County Road 510)*.

Size of Project Impact: Zero acres – Internally retrofitting/upgrading existing baffle boxes through existing manhole cover.

Size of Drainage Area: 640.16 Acres.

Hydrologic Unit Code: 03080202

WBID: IRL BMAP Zone North B = 2963B, 2963C, 2963D;

BRL BMAP Zone B = 3044B, 3057A, 3060;

IRL BMAP Zone Central = 2963A, 3107, 3129A.

Impaired waterbody affected: Indian River Lagoon, Banana River Lagoon, and Central Indian River

Impairment: Nutrients, Dissolved Oxygen, and Mercury (in fish).

TMDL Status: The Indian River Lagoon Basin TMDL was adopted for nutrients (TP and TN) in 2009

BMAP Status: BMAP for the Indian River Lagoon was adopted January 2013.

Land is owned by: Brevard County ROW.

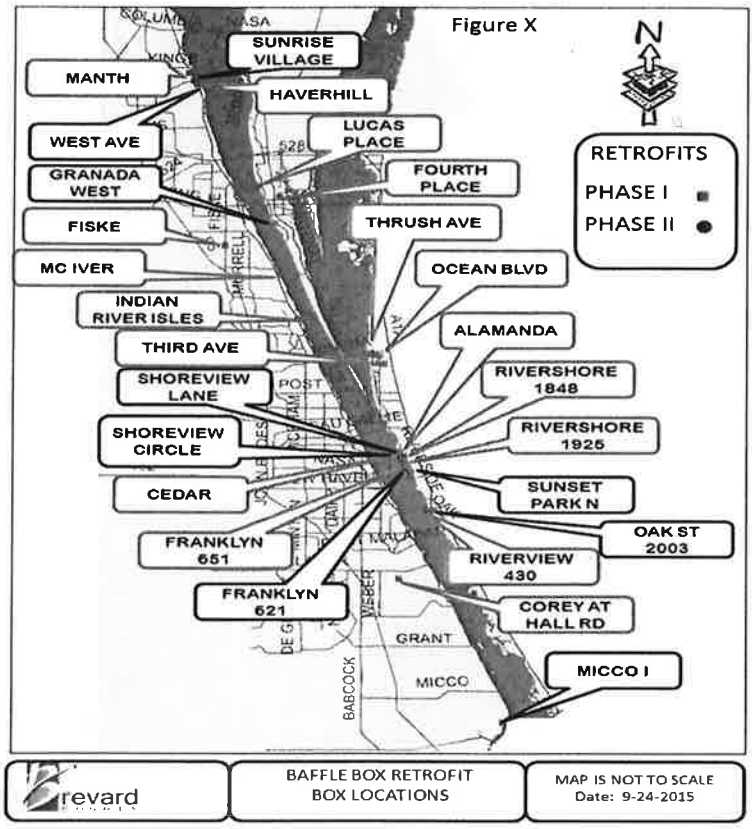
Latitude/Longitude:

Project Name	District	Latitude	Longitude
Thrush Baffle Box	4	28.209785	-80.71839267
Ocean Blvd Baffle Box	4	28.208372	-80.60602945
Third Ave Baffle Box	4	28.200853	-80.60282905
Indian River Isles Baffle Box	4	28.244688	-80.67892004
Fourth Place	2	28.365026	-80.69548799
Haverhill Rd.	1	28.478016	-80.77045871
Manth Ave	1	28.485704	-80.77478733
Mclver Lane	4	28.288235	-80.69439172
Alamanda BB	5	28.111258	-80.58562612
Rivershore 1848 Baffle Box	5	28.108288	-80.58568383
Rivershore Dr 1925	5	28.109571	-80.58603333
Cedar Lane Baffle Box	5	28.103454	-80.58281375
Franklyn Ave 651	5	28.099125	-80.58342405
Riverview Ln 430	3	28.057618	-80.56402579
Fiske at Green	2	28.317219	-80.74300141
Lucas Place BB	2	28.37577	-80.71329486
Corey Rd. at Hall Rd.	3	27.990884	-80.58963941
West Avenue (Port St. John)	1	28.474851	-80.76791631
Shoreview Lane	5	28.108509	-80.58491884
Franklin 621	5	28.098962	-80.58113169
Granada West	2	28.338618	-80.69974371
Micco Park	3	27.850106	-80.49768752
Oak Street 2003	3	28.057924	-80.55826114

Sunrise Village	1	28.481541	-80.76983636
Shoreview Circle	5	28.095706	-80.58474329
Sunset Park North	5	28.107806	-80.584743

Land Uses within the watershed:

Land Use	Acres	%
Residential Low Density (1100)	12.40	0.94
Residential Medium Density (1200)	603.1	72.74
Residential High Density (1300)	49.39	5.10
Commercial and Services (1400)	59.22	7.57
Industrial (1500)	0	0.00
Institutional (1700)	54.75	5.70
Recreational (1800)	2.73	0.00
Open Land (1900)	0.44	0.07
Agriculture (2000)	0.01	
Upland Non-Forested (3000)	5.60	.36
Upland Forests (4000)	58.55	5.43
Water (5000)	0.11	
Wetlands (6000)	0.11	.02
Barren Land (7000)	4.80	
Transportation, Communication, and Utilities (8000)	20.75	2.07
Land Use Totals (Acreage and %)	872.06	100



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Figure 1. Seventeen-17 existing first generation baffle boxes to be upgraded in Phase (Red), nine to be upgraded in phase 2 (Black).

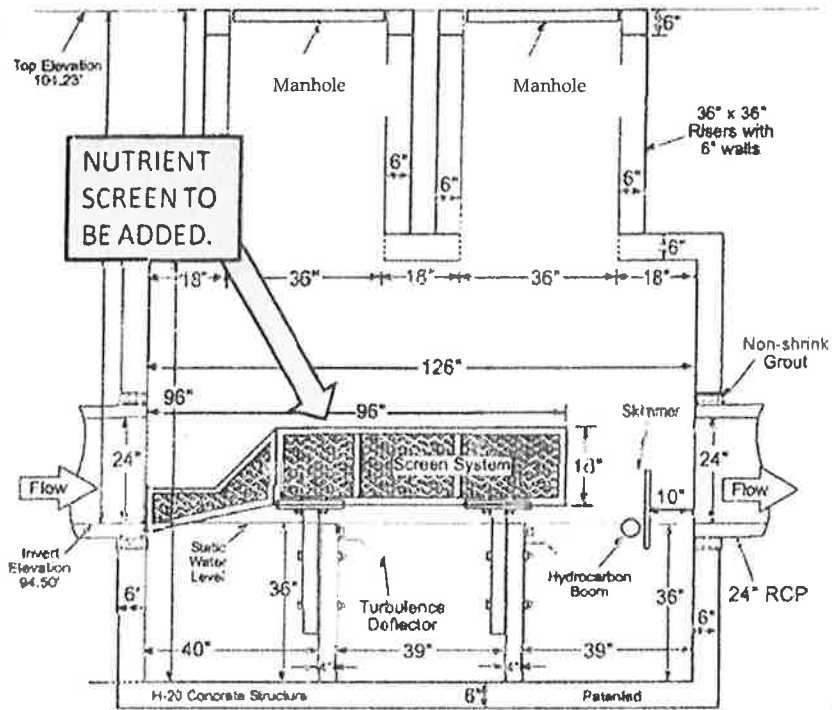


Figure 2. Standard baffle box - adding screen to a first generation baffle box.

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ESTIMATED POLLUTANT LOAD REDUCTION MODEL USED:

This project is for a structural BMP project. The Spreadsheet Tool for the Estimation of Pollutant Loads (STEPL) model was used for pollutant load calculations. BMP removal efficiency calculations were performed using Lake Harney BMAP Removal Efficiencies per FDEP for second generation baffle boxes.

Phase 1 BMP's Installed - NSBB		TP - lb/yr	TN - lb/yr
Pollutant Loads	Pre-Project	1084	6992.5
	Post-Project	915.98	5656.93
	Load Reduction	168.02	1335.57
	% Reduction	15.5	19.1
Phase 2 BMP's Installed - NSBB		TP - lb/yr	TN - lb/yr
Pollutant Loads	Pre-Project	513.46	3248.73
	Post-Project	433.65	2627.69
	Load Reduction	79.81	621.04
	% Reduction	15.5	19.1

Event Mean Concentrations (EMC) USED IN MODEL:

LAND USE CATEGORY	TYPICAL RUNOFF CONCENTRATION (mg/l)						
	TOTAL N	TOTAL P	BOD	TSS	COPPER	LEAD	ZINC
Low-Density Residential ¹	1.61	0.191	4.7	23.0	0.008 ⁴	0.002 ⁴	0.031 ⁴
Single-Family	2.07	0.327	7.9	37.5	0.016	0.004	0.062
Multi-Family	2.32	0.520	11.3	77.8	0.009	0.006	0.086
Low-Intensity Commercial	1.18	0.179	7.7	57.5	0.018	0.005	0.094
High-Intensity Commercial	2.40	0.345	11.3	69.7	0.015	--	0.160
Light Industrial	1.20	0.260	7.6	60.0	0.003	0.002	0.057
Highway	1.64	0.220	5.2	37.3	0.032	0.011	0.126
<u>Agricultural</u>							
Pasture	3.47	0.616	5.1	94.3	--	--	--
Citrus	2.24	0.183	2.55	15.5	0.003	0.001	0.012
Row Crops	2.65	0.593	--	19.8	0.022	0.004	0.030
General Agriculture ²	2.79	0.431	3.8	43.2	0.013	0.003	0.021
Undeveloped / Rangeland / Forest	1.15	0.055	1.4	8.4	--	--	--
Mining / Extractive	1.18	0.15	7.6 ³	60.0 ³	0.003 ³	0.002 ³	0.057 ³

ESTIMATED RESIDENCE TIME OF ANY PONDS, SWALES, ETC.: n/a