



The installation of the Church Street NSBB™ will be an impactful and essential component to the overall vision set forth through the Indian River Lagoon Restoration Project. The success of this project will afford a vital and invaluable stormwater management system for the City of Cocoa by implementing another step in the recovery of the treasured Indian River Lagoon.

Indian River Lagoon Restoration Project

Cocoa Village Negates Lagoon Nutrient Pollution

Cocoa, FL

The US National Estuary Program (NEP) identifies estuaries of national significance that are threatened by the risk of pollution, developmental disruption and overuse. The 156 mile Indian River Lagoon (IRL) is one of 28 estuaries identified by the NEP currently impacted by said issues. Plagued by heavy nutrient pollution and land disruption issues, the lagoon has become overwhelmed by algae blooms, brown tides, fish kills, muck propagation and habitat loss. The decline of the lagoon can be largely attributed to nonpoint source pollution transported via stormwater runoff causing eutrophication. Trash and fertilizer washouts, septic tank leakage, hydrocarbon infiltration and pet waste buildup are among the top factors

contributing to the decline of native species within this fragile ecosystem.

Amidst the lagoon's escalating decline, the counties of Brevard, Volusia, St Lucie, Martin and the Indian River County Coalition along with the St John's River and South Florida Water Management Districts and Florida DEP, formed the Indian River Lagoon National Estuary Program Council to enact projects that are strategically targeted toward reducing total nitrogen and phosphorous loads by a combined 900,000lbs by 2028. One specific nutrient reduction project involved installing a Nutrient Separating Baffle Box with integrated biosorption media upflow filter, at Church St in Cocoa, FL. This system will play a pivotal

DESIGN & CONSTRUCTION TEAM

Owner
City of Cocoa, FL

Distributor
Ferguson Waterworks

Contractor
DP Development of the Treasure Coast

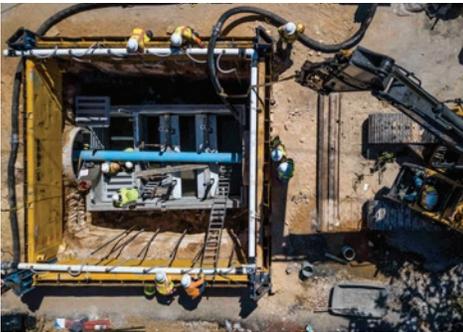
Engineer
QLH Associates

NSBB Manufacturer
Suntree Technologies Inc

Cocoa NSBB Negates Indian River Lagoon Nutrient Pollution Cocoa, FL



Installation personnel work on completing the upflow filtration chamber by installing the Bold & Gold biosorption media bed.



Top view of the Church Street NSBB within Cocoa Village. The device will aid in the treatment and recovery of the discolored river water resulting from brown tides and algae caused by heavy nutrient pollution.

role in eliminating large portions of nonpoint source pollution, before reaching the Indian River, by leveraging the capabilities of the NSBB and filtration media to accelerate its revitalization, ensuring its future health and prosperity.

COCOA VILLAGE'S NUTRIENT NEUTRALIZER NSBB

Plans for the Church St NSBB began in June of 2017 when project engineering firm QLH Associates surveyed the Cocoa Village drainage basin and determined the Church St outfall to be a focal point for pollution discharge into the Indian River. Therefore, by installing the NSBB in line with the existing drainage system prior to this termination point, basin runoff can be filtered prior to discharge, drastically lowering nutrient pollution impacts in the Indian River Lagoon. In order to assure maximum nutrient removal, the model 10-16 NSBB utilizes a custom end chamber filtration system filled with Bold & Gold® biosorption activated media. Bold & Gold forms sorbent surface bonds with water molecules, effectively establishing a media nutrient cycle that actively captures any nutrients via biological consumption, resulting in denitrification.

POLLUTION PREVENTION PREPARATIONS TO SAVE OUR LAGOON

The Nutrient Separating Baffle Box® or NSBB is an advanced multistage hydrodynamic separator that specializes in online sediment and nutrient capture without associated headloss and scouring. Both designed and manufactured by Suntime Technologies Inc®, an Oldcastle Infrastructure company™, the Church St NSBB includes a patented screen system used to capture and store debris in a dry state, minimizing nutrient leaching, septicity and affording an easier maintenance method. A SkimBoss® Floating Skimmer amplifies the effects of the included Hydro-Variant Technology®, bolstering pollutant capture potential and detention time. The incorporation of a custom upflow filtration box containing Bold & Gold Media, allows the system to drastically increase its nutrient removal effectiveness and promote denitrification, significantly reducing the estimated 5,200lbs of phosphorus and 26,000lbs of nitrogen flowing through Cocoa outfalls to a fraction annually.

Installation personnel gathered in Cocoa Village on 3/13/18 at Church St to begin the installation of the model 10-16 NSBB. The installation process spanned two days to complete successfully without any hindrances. The success of the Church St NSBB is another important step in the progression toward restoring a prized national estuary, realized by the efforts of DP Development of the Treasure Coast, QLH Associates, Ferguson Waterworks, Suntime Technologies Inc, the City of Cocoa and the IRLNEP. Their efforts to mitigate the nutrient pollution and eutrophication ravaging throughout the Indian River Lagoon, will promote the increased propagation of native fauna and flora, resulting in a healthy and prosperous estuarine habitat for countless generations of wildlife, residents and visitors to live, explore and thrive far into the future.

NSBB Unit Manufactured By:



About Oldcastle Infrastructure

Oldcastle Infrastructure, A CRH Company, is the leading provider of building materials, products and services for infrastructure projects to several market sectors nationwide, including: Building Structures, Communications, Energy, Transportation and Water.

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