

FECAL LOAD REDUCTION BEST MANAGEMENT PRACTICES IN SUPPORT OF THE MAY RIVER WATERSHED ACTION PLAN, PHASE III – MAY RIVER PRESERVE

PROJECT DESCRIPTION:

In response to rising fecal coliform concentrations, the May River was designated a priority and threatened watershed in 2008 by EPA and SCDHEC. The Town and its partners were awarded an EPA 319 grant by SCDHEC in 2009 (Phase 1), and again in 2012 (Phase 2). The Phase 1, 319 grant was closed in 2013 and was successful in launching programs and projects to decrease the concentration of fecal coliform in the May River. The Phase 2, 319 grant was awarded in 2012 and targets fecal coliform concentration and stormwater runoff volume-reduction via the retrofit of existing stormwater ponds and stormwater reuse for irrigation within the Pine Ridge subdivision. While these projects and programs are underway, the elevated fecal coliform concentration continues, as does the closure of shellfish harvesting grounds in the headwaters of the May River.

Simultaneous to the Phase 1, 319 grant work plan implementation, the Town and Beaufort County continued weekly fecal coliform "hot spot" sampling. Through this coordinated monitoring effort, we have learned a great deal more about the May River watershed and the complicated relationship between stormwater volume and wetlands. Essentially, testing data shows that stormwater effluent leaving a pond is low in fecal coliform concentrations. Yet, when that same discharge is sampled again in an undeveloped wetland-like area just a few feet from the pond outfall, the fecal coliform concentration may increase by a factor of 10.

Recognizing that the relationship between stormwater ponds, volume and wetland areas was not addressed in the Phase 1, 319 watershed plan, the Town of Bluffton Town Council directed staff to develop an updated, more comprehensive plan. The resulting May River Watershed Action Plan was adopted by Town Council in November 2011. Council directed staff to begin to implement the structural and non-structural Best Management Practices (BMPs) within the plan. Thus, as outlined in the goals of the May River Watershed Action Plan (Action Plan), the Town has identified a number of sites and potential projects aimed at reducing the existing level of fecal coliform that reaches the May River Headwaters.

These priority sites and projects have the highest potential for early success with respect to feasibility and pollutant load reduction. One of the proposed sites for a project is the May River Preserve (formally Kenzie Park) development as it drains to Stoney Creek (**Figure 1**). The project proposed for this area is the construction of a new stormwater pond. However, upon further investigation, this site is classified as a wetland, and due to the environmental sensitivity of the area, the Town is proposing to create a seasonal, extended-detention wetland BMP in this area instead. The wetland BMP will be created by installing a water control structure on a pipe located within an existing berm. This pipe currently conveys flow through the berm which is installed across the wetland in the May River Preserve development. The new water control structure will regulate stormwater peak flow rates for small, frequent storms while using the upstream wetland behind the berm as a ponding area. The reduction in peak flow rates will cause a brief period of inundation within the upstream wetland which will remove pollutants and provide increased opportunity for evaporation/evapotranspiration of stormwater runoff, resulting in lower pollutant loading from the contributing watershed. The project is anticipated to reduce fecal coliform loading from a contributing watershed area of approximately 1,000 acres (**Figure 2**) by 70% (Coastal Low Impact Development in Coastal South Carolina: A Planning and Design Guide, 2014).

The implementation of this project will also require that the Town enter into an Easement Agreement with the May River Preserve Property Owners Association. The agreement will grant a permanent easement to the Town for construction, maintenance and use of the project site. The Town plans to fund the proposed project through grant support and provide the non-federal match through Town General Fund and Stormwater Utility Fees.

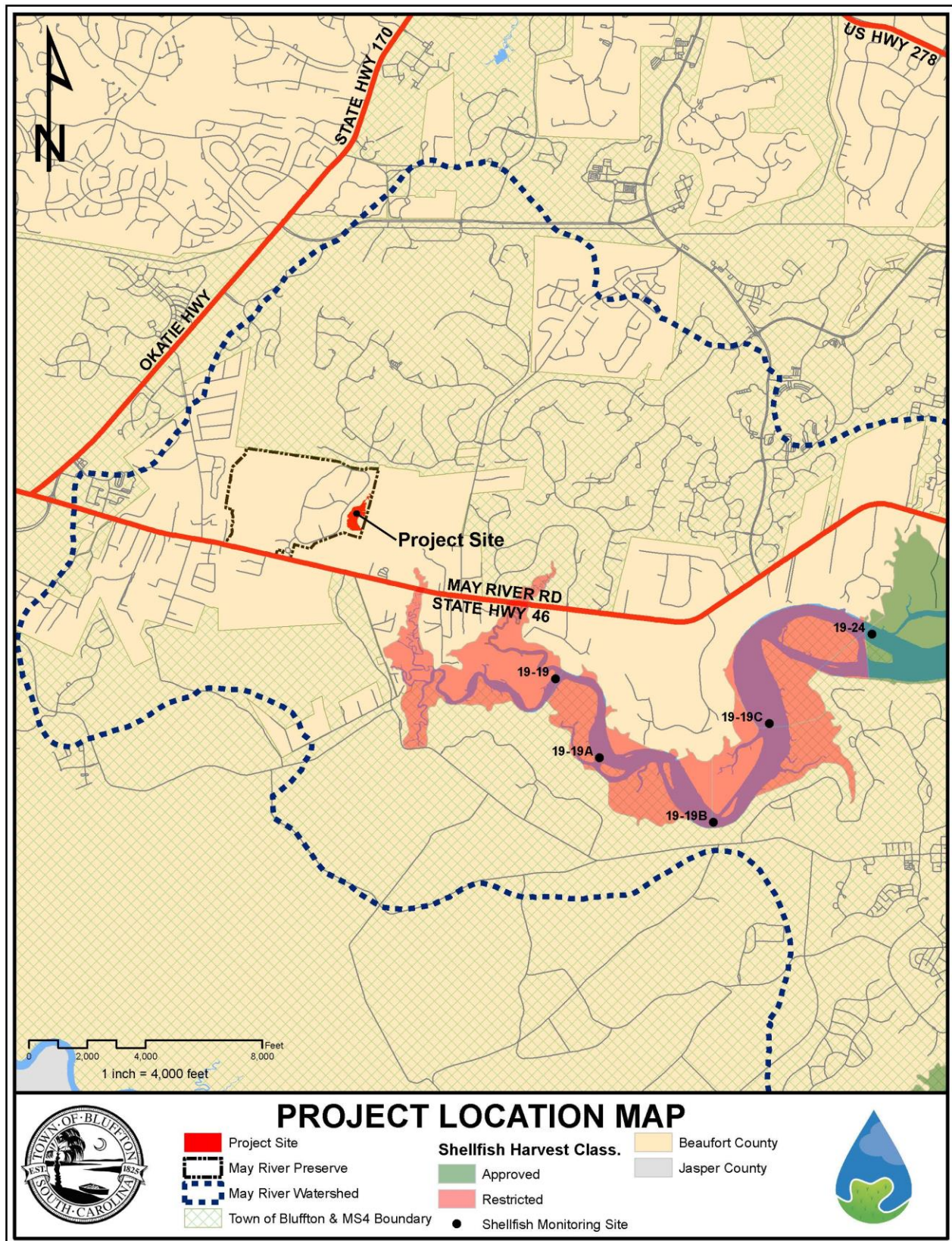


Figure 1. May River Watershed, Shellfish Monitoring Stations, MS4 Boundary and Project Location (*required map*)

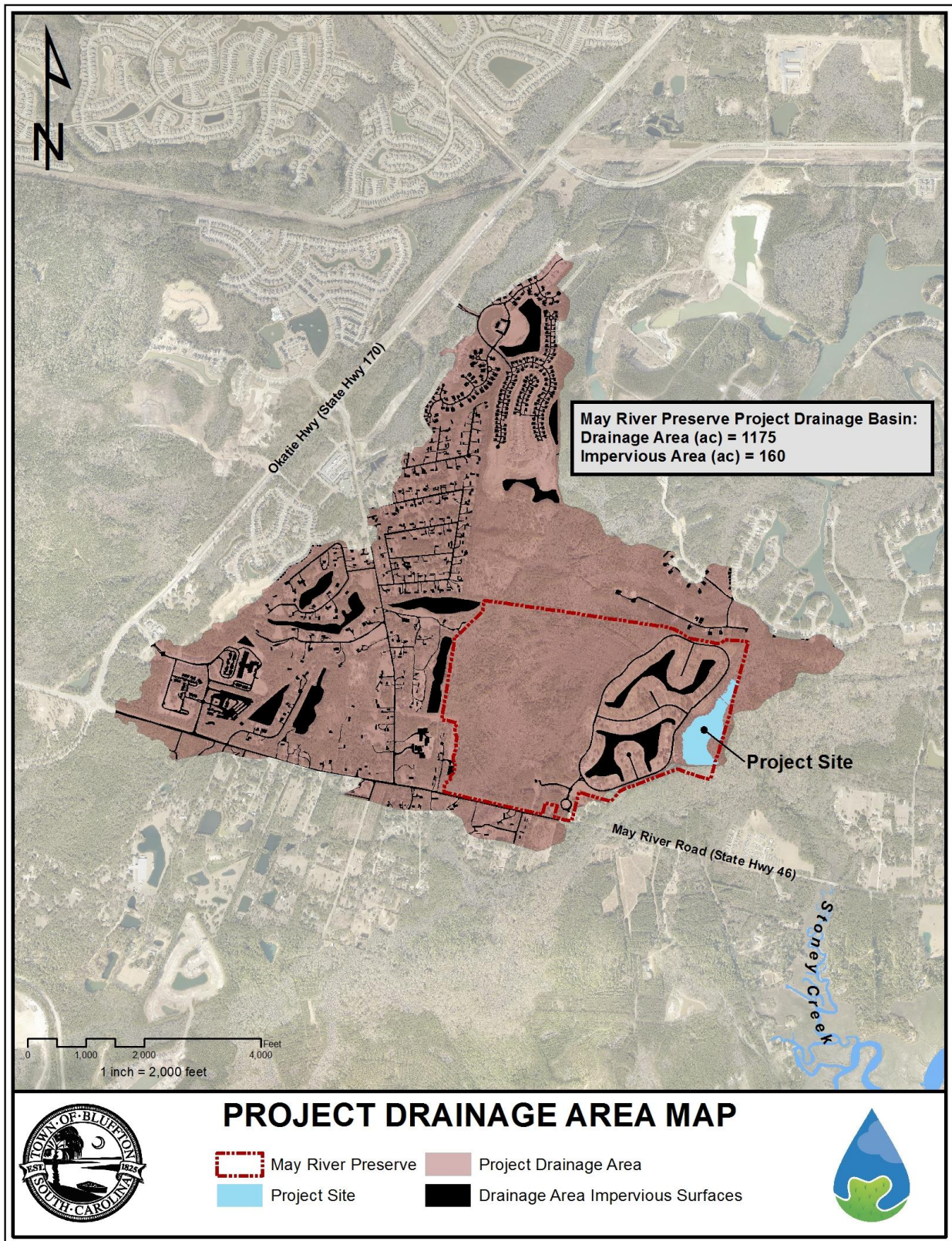


Figure 2. May River Preserve Project Drainage Area Map