Onsite Wetland Restoration Plan
At Bridge No. 072 over Jinnys Branch
on NC 179
Brunswick County

TIP B-4031
Federal Aid Project No. BRSTP-0179(2)
WBS No. 33398.1.1

August 30, 2007

The North Carolina Department of Transportation (NCDOT) will perform on-site mitigation for coastal marsh wetland impacts at Bridge No. 72 over Jinnys Branch in Brunswick County. This mitigation site occurs within Transportation Improvement Program (TIP) B-4031. The project begins approximately 270 feet south of existing Bridge No. 72 and continues to approximately 530 to the north of the bridge and will lengthen the existing bridge by approximately 179 feet. As a result, NCDOT will restore approximately 0.298 acres of coastal salt marsh wetland as onsite mitigation for B-4031.

EXISTING CONDITIONS

The project is located in Brunswick County on NC 179 over Jinnys Branch between the towns of Shallotte and Ocean Isle Beach. The project study area land use is mainly salt marsh or adjacent upland natural communities. Land use of uplands also consists of residential areas and a golf course. Jinnys Branch is designated as a High Quality Water, primary nursery habitat, primary trust waters, tidal salt waters, coastal waters and coastal shoreline within the project area.

The Natural Systems Technical Report for TIP B-4031, dated January 2002, provides further details concerning existing roadway and project study area conditions.

The existing causeway for the northern approach to Bridge No. 72 is located in the intertidal area of Jinnys Branch. This area exists on both sides of the causeway and is comprised of a tidal marsh wetland community. This community is dominated by herbaceous species consisting of smooth cordgrass (*Spartina alterniflora*), saltmeadow grass (*Spartina patens*), sea lavender (*Limonium carolinianum*) and blackneedle rush (*Juncus romerianus*). Marsh elder (*Iva frutescens*) and wax myrtle (*Myrica cerifera*) dominate the edge of the salt marsh, specifically in the transition zone where the coastal marsh wetland grades into the existing causeway slope. A narrow band of this wetland also exists along the southern bank of Jinnys Branch and is adjacent to the southern approach to the bridge.

PROPOSED CONDITIONS
DESIGN

The proposed wetland mitigation will consist of restoring 0.298 acres of coastal salt marsh wetland. Restoration will involve removing causeway fill mainly along the northern approach with a small area along the southern approach to Bridge No. 72. The restoration area will be graded to a range of 1.3 – 1.9 feet MSL based on the elevations of the adjacent existing marsh. The lower range of elevations, 1.3 feet, will be found nearest the creek and graded with a slight increase in elevation to 1.9 feet towards the end of the bridge. Excavated areas will be ripped and disked prior to planting of the site if necessary. Only the areas adjacent to the proposed bridge will be planted with appropriate species. The areas directly under the bridge will not be planted due to the sunlight restrictions caused by low bridge heights. By removing the causeway, the surface hydrologic functions and connectivity of these areas will be restored.

The Natural Environment Engineering Group shall be contacted to provide construction oversight to ensure that the wetland mitigation area is constructed appropriately.

VEGETATION PLANTING

The restoration site will be planted following the successful completion of the site grading. The site will be planted with smooth cordgrass (*Spartina alterniflora*), saltmeadow grass (*Spartina patens*) and blackneedle rush (*Juncus romerianus*) on 3 foot centers. Areas under the bridge will not be planted, however this area may naturally revegetate.

MONITORING:

Upon successful completion of construction, the following monitoring strategy is proposed for the mitigation site. NCDOT will document monitoring activities on the site in an annual report distributed to the regulatory agencies.

HYDROLOGIC MONITORING

No specific hydrological monitoring is proposed for this restoration site. The target elevation will be based on the adjacent wetland and verified during construction. Constructing the site at the adjacent wetland elevation will ensure the hydrology in the restored area is similar to the hydrology in the reference area.

VEGETATION SUCCESS CRITERIA

NCDOT shall monitor the restoration site by visual observation and photo points for survival and aerial cover of vegetation. NCDOT shall monitor the site for a minimum of three years or until the site is deemed successful. Monitoring will be initiated upon completion of the site planting.