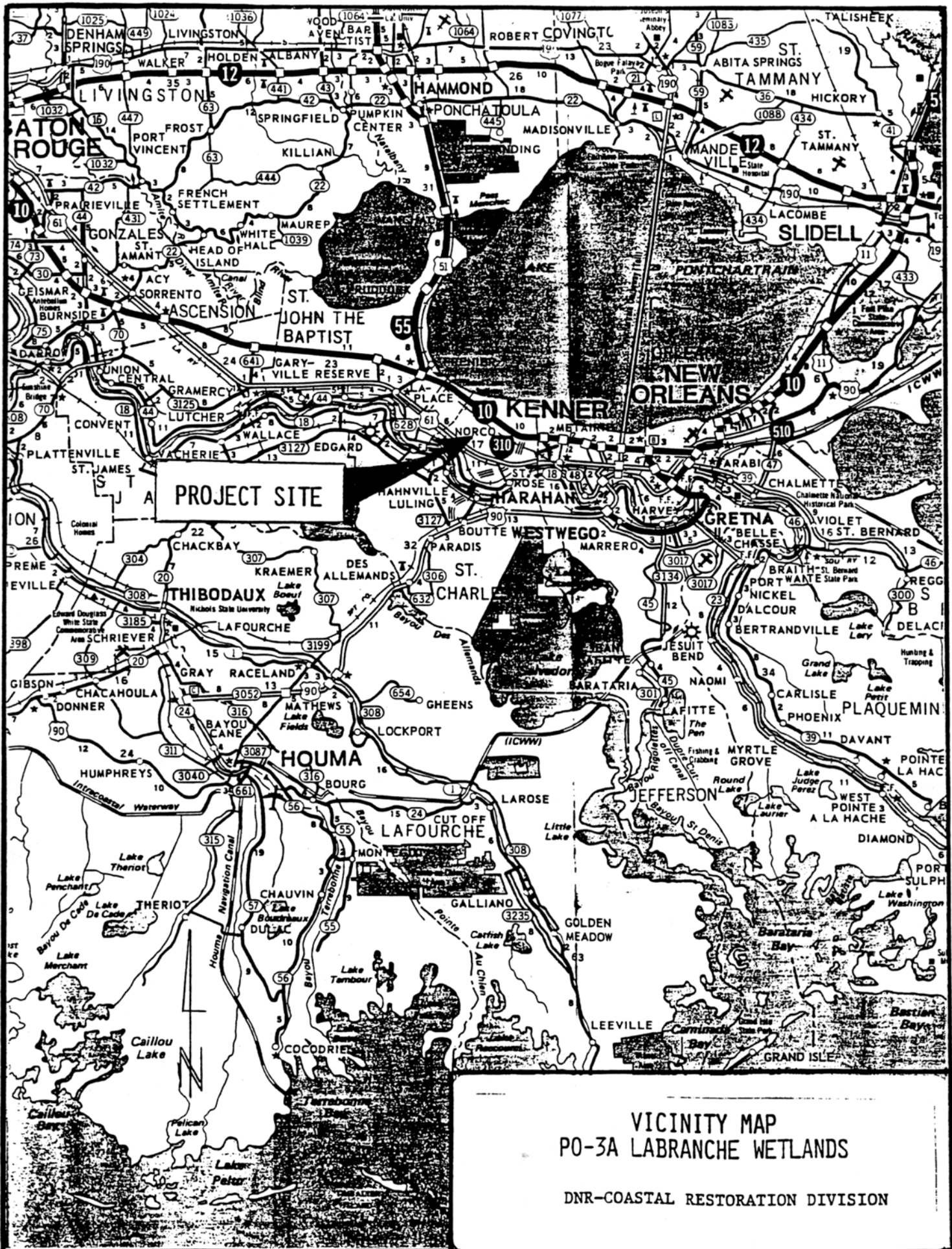


**PROJECT NO. P0-3A**  
**LABRANCHE WETLANDS**

**PROJECT PLAN UPDATE**

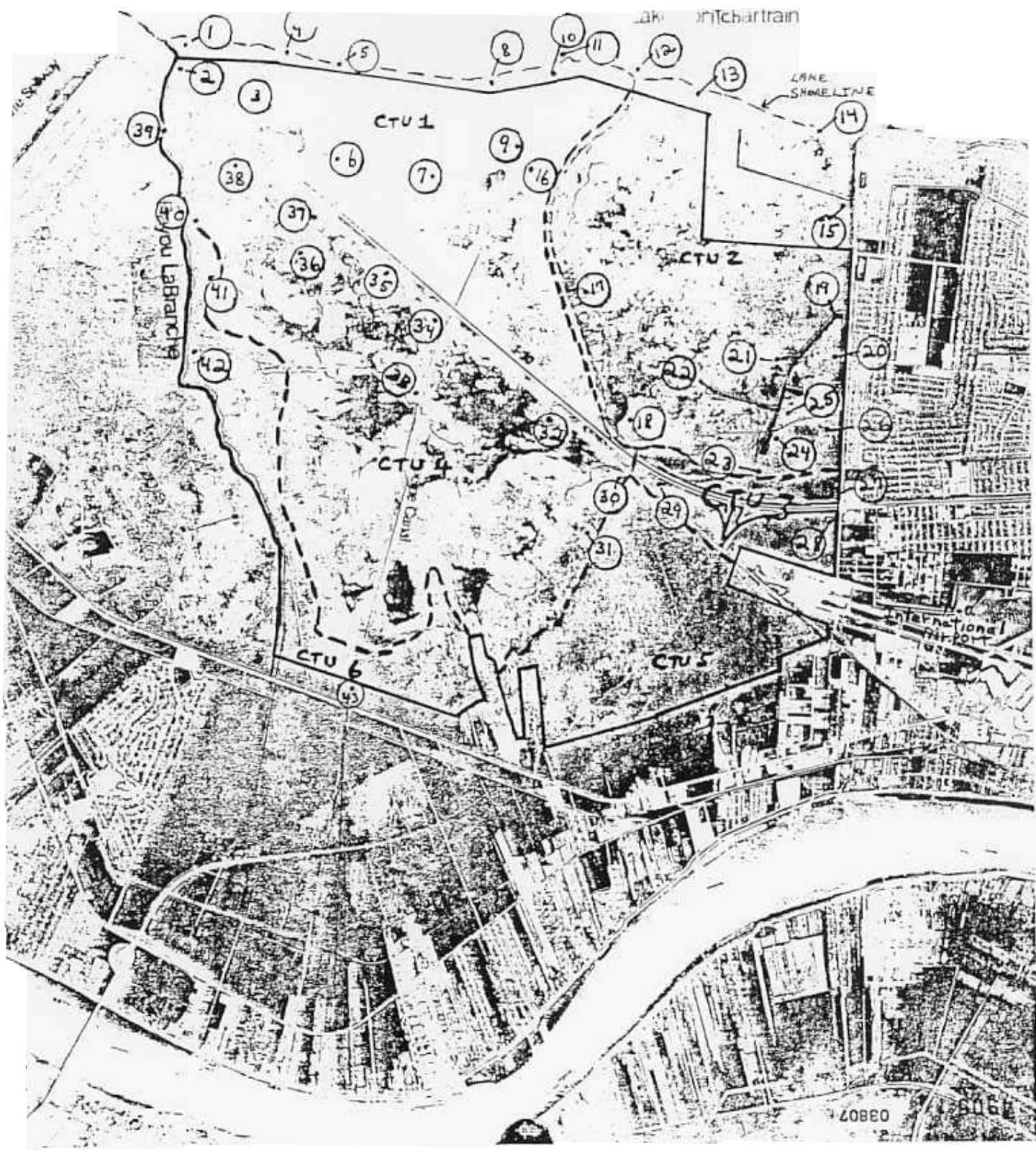
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**PROJECT SITE**

**VICINITY MAP  
PO-3A LABRANCHE WETLANDS**

DNR-COASTAL RESTORATION DIVISION



PLAN VIEW MAP  
PO-3A LABRANCHE WETLAND

- Project Boundary
- - - Conservation Treatment Unit Boundary
- Evaluation Site Location & No.

Prepared by: DNR-Coastal Restoration Division

PO-3a LABRANCHE WETLANDS  
PROJECT PLAN UPDATE

JULY 10, 1991

HISTORY

The original plan for this project was completed in 1986 by the St. Charles Land Syndicate (SCLS) with assistance from the Soil Conservation Service (SCS). A permit application was submitted to the Department of Natural Resources (DNR) and Corps of Engineers (COE) on 4-26-86. Several revisions to the plan were made during the permit application review process

A 404 permit, SE (St. Charles Parish Wetland) 156-A, was issued on 5-31-88 and a Coastal Use Permit (CUP), P860415, was issued on 11-19-87. Both permits authorized installing and maintaining eight water control structures and five earthen and/or shell plug closures. Additional structures required by the plan were either existing structures or were planned to be installed under existing permits. A copy of the General Description, Planned Land Use and Treatment, Water Management Scheme, and Engineering Sections of the project plan is attached as Appendix A.

An application for modifying the permits was submitted on 11-9-90 by the SCLS with assistance from SCS and Coastal Restoration Division (CRD) of DNR. COE has indicated verbal approval for the 404 permit modification and should issue the modified permit in the near future. The CUP P860415 (Revised), modification was issued on 6/5/91 (Appendix B). The

modification was necessary to reflect changes in structure types at ES-2 and ES-42. Details of the modification will be explained in discussion on specific structures.

The original project plan included 20 structures and recommended shoreline protection measures along Lake Pontchartrain. No specific shoreline protection measures were planned. Structure sites are referred to as Evaluation Sites (ES) in the original plan. The same ES numbers are currently used to designate structure locations. ES locations are indicated on the Plan View map, however, not all ES's structure sites.

The Louisiana 1990/91 Coastal Wetland Conservation and Restoration Plan ("90/91 Plan") includes two projects within this management area. Project PO-3a, LaBranche Wetland, authorizes funding to install structures at ES-2, 42, 30, 32, and 35. Project PO-3b, LaBranche Shoreline, authorizes funding to install shoreline protection measures between ES-5 and ES-11

The project area is divided into two main areas by the Illinois Central Gulf Railroad (see Plan View map). Conservation Treatment Units (CTU) 1, 2, & 3 are north of the railroad and include 5,451 acres planned to be passively managed as brackish marsh. Structure types planned include fixed crest weirs, plugs, and rock dams. Description of the structures affecting the area north of the railroad and a discussion on each follows:

A plug closure was installed at this site by DOTD after construction of I-10. The plug breached and a variable crest, flapgated weir was subsequently planned and permitted for this site. This was the only actively managed structure planned north of the railroad. The intent was to utilize this structure for fresh water introduction whenever the Bonnet Carre Spillway was operated. This structure site is within the right-of-way for Interstate 10. The Louisiana Department of Transportation and Development (DOTD) would not approve construction of the planned structure in the I-10 ROW, however, would approve a plug closure.

1991 permit modification approved changing the structure planned at this site to a 290' rock dam closure with a top elevation of +4.0' MSL. Funding for this structure will be provided by Louisiana Department of Transportation and Development (DOTD).

This structure was authorized by CUP P810967 and 404 permit LMNOD-SP (Lake Pontchartrain) 449. A shell armored earthen plug originally planned. A rock plug with sheet pile core was installed in 1987 by mitigation funds from the New Orleans International Airport Expansion and was administered by St. Charles Parish.

ES-8 - This structure was authorized by CUP P810967 and 404 permit LMNOD-SP(Lake Pontchartrain)449. A shell armored earthen plug was originally planned. A fixed crest weir was installed in 1987 with mitigation funds from the New Orleans International Airport Expansion and was administered by St. Charles Parish. The change

in structure type was authorized by P810967 Revised and LMNOD-SP(Lake Pontchartrain)449 Revised

ES-10 - The structure at this site was originally planned as a variable crest, flapgated weir. Revisions to the project plan during permit application review resulted in permit authorization to install a fixed crest weir set 10" below marsh level. structure was installed in 1987 by HBH, Inc. as contractor United Gas Pipeline Co., as mitigation for UGPC lowering a pipeline within the canal

ES-11 - A plug closure was installed at this site by United Pipeline prior to submitting the project plan for permitting prior to creation of the Parish CZM section. Maintenance of plug is essential to successfully achieve the project plan objectives and goals

ES-12 - A metal sheet pile and rock rip-rap plug was installed at this site prior to submitting the project plan for permitting. Maintenance of this plug is essential to successfully achieve the project plan objectives and goals

ES-19 - A shell armored, earthen plug is permitted for this site This structure will be installed by the parish or the landowner without DNR assistance.

ES-20 - A shell armored, earthen plug is planned for this site. This structure is not permitted. Acquisition of permits will be necessary before installation. This structure will be installed by parish or landowner without DNR assistance.

ES-26 - A fixed crest weir is planned and permitted for this site. The structure will be installed by the landowner or parish.

ES-27 - A fixed crest Wakefield weir was originally planned at this site and was to be installed across the north-south aligned Parish Line Canal (Duncan Canal) just north of I-10 on the east project boundary. The Jefferson Parish Levee District objected to the installation of this structure. The structure site was relocated to the east-west aligned I-10 borrow canal just west of the Parish Line Canal. DOTD agreed to install the structure as mitigation for damages caused by construction of the I-310/I-10 intersection. The structure type was changed to a 330' long rock weir with 165' of center crest set at 1.0' below marsh level and 165' set 0.5' below marsh level. Construction was completed in April 1991. Changing structure type and location was authorized by LMNOD-SE(St. Charles Parish Wetlands)156 Revised and P860915 Revised.

ES-4 to ES-11 - The original plan recommended shoreline protection measures on Lake Pontchartrain between these two sites. Rock rip-rap was installed on approximately 3000' of shoreline east of ES-5 in 1987 with a grant from the Governor's Trust Fund for Coastal Protection. The work was authorized by CUP P860985 and 404 permit LMNOD-SE(Lake Pontchartrain)449. Shoreline protection measures



between ES-5 and ES-11 is included in the 90/91 State Plan. This work will be addressed in the Feasibility Report and Project Plan for Project No. PO-3b, LaBranche Shoreline.

CTU's 4, 5, & 6 are south of the railroad and include 7,009 acres that will be actively managed for fresh/intermediate marsh. The structures planned for this area include plugs, rock dams, and variable crest, flapgated structures for water control. Description of the structures affecting the area south of the railroad and a discussion of each follows:

ES-30 - A rock dam was installed at this site prior to completion of the project plan as mitigation by the New Orleans International Airport (NOIA). The plan calls for and permits authorize replacing the rock dam with a shell armored earthen plug. This structure is planned to be installed as permitted by the NOIA for mitigation of airport construction

ES-32 - A rock dam was installed at this site prior to completion of the project plan. The plan calls for and permits authorize replacing the rock dam with a shell armored earthen plug. This structure is planned to be installed as permitted

ES-34 - A variable crest weir with additional double flapgated openings was planned and permitted for this site. Construction was completed in January 1990. This structure was installed by DOTD for mitigation of the I-310 project.

ES-35 - A rock dam was installed at this site prior to completion of the project plan. The plan calls for and permits authorize replacing the rock dam with a shell armored earthen plug. This structure is planned to be installed as permitted

ES-37 A variable crest weir with additional double flapgated openings was planned and permitted for this site. Construction was completed in January 1990. This structure was installed by DOTD for mitigation of the I-310 project.

ES-39 - A variable crest weir was planned and permitted for this site. This structure will be installed as planned.

ES-40 - A variable crest weir with additional double flapgated openings was planned and permitted for this site. Construction was completed in January 1990. This structure was installed by DOTD for mitigation of the I-310 project.

ES-41 - An earthen plug was planned and permitted for this site. This structure will be installed as planned by Shell Oil Pipeline whenever they are notified.

ES-42 - Two 30" culverts with variable crest inlets was originally planned and permitted for this site. The 1991 permit modification authorized changing this structure to a variable crest weir with additional double flapgated openings (similar to ES-40). The purpose of this modification was to allow greater water management flexibility and to allow for sediment/fresh water introduction.

This structure will be installed as planned. The structure site is on St. Charles Land Syndicate Property. An easement from the adjacent landowner for construction, operation, and maintenance must be obtained before construction begins.

ES-43 - This is an existing structure outside the project boundary that was identified in the original plan because of the possibility of introducing additional fresh water through the structure. This structure is not included in the project permit (CUP 860415). The landowners have no control over the structure. No action involving this structure is planned.

#### STRUCTURE OPERATION

All existing and planned structures, north of the railroad, are passive management type structures and will require no structure operation.

The planned or existing structures south of the railroad include both passive and active management types. The structures at ES-30, 32, 35, and 41 are passive management type and will require no structure operation. The structures at ES-34, 37, 39, 40, 42, and 43 do require periodic operation (manipulating stoplogs and/or flapgates).

The structure at ES-43 is not within the project area. Operation of this structure is controlled by adjacent landowners. The plan for this project does not include an operation schedule for the structure at ES-

An operation scheme for all remaining actively managed structures is included in the attached "Water Management Scheme" section of the SCS plan and is also included in the attached (Appendix B) P860415 (Revised) CUP dated 6/5/91. All structure operations will be governed by conditions specified in the CUP and will be performed by St. Charles Parish.

#### MAINTENANCE

Maintenance of project measures will be the responsibility of the parties, individually or shared, indicated below:

DOTD will maintain the structures at ES-2 and ES-27. St. Charles Parish will maintain all other existing structures. A maintenance agreement for features of this project has not been finalized, however, maintenance of the structures at ES-42, 39, 32, & 35 will be the responsibility of St. Charles Parish or DNR.

#### MONITORING

Responsibility for monitoring this project will be a cooperative effort between the landowner, St. Charles Parish, Soil Conservation Service, and DNR. The Monitoring Plan on page I-12, I-13, & I-14 of this report was developed by representatives of all four parties on March 3, 1991 and specifies responsibility of each party

MONITORING PLAN  
March 3, 1991

Measure effectiveness  
with data from  
monitoring element #'s:

Plan Objectives

- |                      |   |
|----------------------|---|
| 8, 2, 1, 11          | 1. Obtain water control to reduce saltwater intrusion, minimize erosive action of rapid tidal fluctuations, provide conditions for establishment of plants on exposed mudflats.     |
| 4, 6, 7, 9, 5, 10, 3 | 2. Improve plant species diversity, improving the value of this wetland for many wildlife species.  |
| 1, 4, 6, 7, 9, 5, 3  | 3. Operate water control structures to promote the growth of wetland vegetation, to enhance waterfowl and furbearers productivity, and to allow for migration of aquatic organisms. |

Plan Goals

- |                  |  |
|------------------|--|
| 6                | 1. Control erosion and reclaim eroded (open water) areas to emergent vegetation. Areas that could be reclaimed are those with water depths from marsh level to 1.0' below marsh level. |
| 1, 2, 11<br>4, 3 | 2. Control water fluctuations.   |
|                  | 3. Encourage growth of submergent vegetation especially in the deeper (1.0' below marsh level and deeper) open water areas.  |
| 10               | 4. Allow ingress and egress of marine organisms to the extent possible without compromising the integrity of the management system.  |
| 1, 2, 8, 11      | 5. Retain freshwater and stabilize salinity.   |

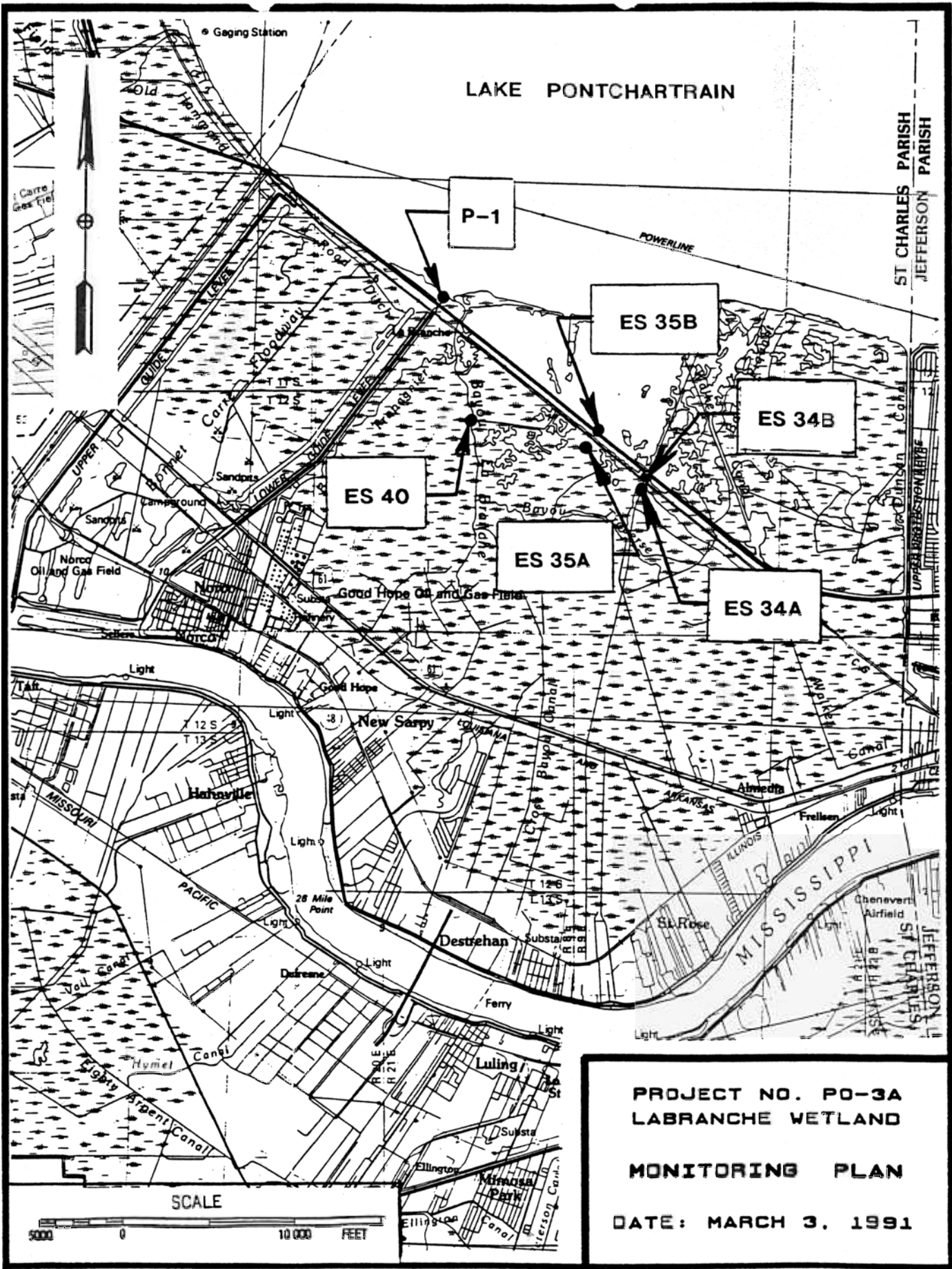
Monitoring Element

- 1 Record all structure manipulations - Date, elevation of stoplogs, flapgate positions, etc.
- 2) Record water level inside and outside the area at ES-34 & 40.
- 3) Record monthly turbidity data utilizing secci disc at ES-35a&b (a-south and b-north of railroad).
- 4) Measure percent of open water containing submergent vegetation by periodic aerial photo interpretations.
- 5) Estimate wintering waterfowl numbers based on visual observations.
- 6) Periodic aerial photo interpretations to determine acreage and percent emergent and woody vegetation and open water.

- 7) Periodic update of SCS evaluation sites to determine types of vegetation present. ES-31, 33, 36, 7, 9, 22, 23, 42, 8a&b (a-inside structure, b-outside).
- 8) Record water salinity inside and outside the area.
  - a. Monthly at ES-34.
  - b. Constant recorder at ES-40.
  - c. Once every 2 weeks at P-1 (outside only).
- 9) Annual furbearer and alligator harvest records.
- 10) Fisheries monitoring - (method and frequency will be determined by Greg Steyer).
- 11) Record Lake Pontchartrain water level at Station P-1 once every two weeks.

**Notes:**

- 1) All monitoring requirements of CUP or 404 permits, not specifically addressed in this monitoring plan, will be completed by the permittee.
  - 2) Station ES-34a&b are existing COE waterlevel recorders. ES-34a is south of the railroad and ES-34b is north. The Parish CZM will obtain data from COE.
  - 3) ES-40 will be a constant recording data collection platform installed and maintained by DNR and will record water level and salinity inside and outside the managed area at the water control structure.
  - 4) Station P-1 will be a staff gauge. Elevation will be established by DNR and gauge installed by Parish CZM. Permittee or Parish representatives will record this data.
  - 5) Station ES-35 turbidity will be collected by Permittee or Parish representatives.
  - 6) Data from the evaluation sites selected for monitoring element number seven should provide data on plant communities that are representative of all original sites completed by SCS. Permittee and SCS representatives will collect this data.
  - 7) The minimum salinity data recording frequency, during times when salinity safety provisions are in effect, will be once per week.
  - 8) Monitoring sites are designated with the same number as the original SCS evaluation site. P-1 was not an original SCS evaluation site and was designated as P-1 to reflect Pontchartrain Staff gauge number one.
- \* Refer to Plan View Map (page 2 of this report) for location of Evaluation Sites and Site P-1.



LIST OF APPLICABLE PERMITS

<u>Evaluation Site</u>	<u>P860415 SE(SCPW) 156</u>	<u>P810967 SE(LP) 449</u>	<u>P860985 SE(LP) 449</u>
2	X		
5		X	
8		X	
10	X		
11*			
12*			
19	X		
20**			
26	X		
27	X		
4-5			X
5-11**			
30	X		
32	X		
34	X		
35			
37	X		
39	X		
40	X		
41	X		
42	X		
43***			

\* - Structure installed prior to Project Plan development. Permit number unknown.

\*\* - Planned Structure that has not been permitted.

\*\*\* - Outside the project boundary and on an adjacent landowner.



**PROJECT NO. P0-3A**  
**LABRANCHE WETLANDS**

**APPENDIX - A**

**A - Project Plan - General Description.....II- 1**  
**Planned Land Use and Treatment.....II- 3**  
**Water Management Scheme.....II- 8**  
**Engineering Sections.....II-15**

ST. CHARLES LAND SYNDICATE

St. Charles, Louisiana

General Description of Area

To include all or parts of:

Sections 37, 39	T 11 S	R 8 E
Sections 33, 39, 40, 54, 57	T 12 S	R 8 E
Sections 41 - 52	T 11 S	R 9 E
Sections 7, 9, 17, 18, 20, 29, 39, 40, 43, 47, 55, 62, 68, 70, 72, 73, 75, 76, 79, 80 - 84	T 12 S	R 9 E

This 12,460 acre area, commonly referred to as the LaBranche Wetlands of St. Charles Parish, consist of 4,910 acres of intermediate and brackish marshes, 4,602 acres of open water, and 2,948 acres of forested wetlands. Bayou LaBranche and Cross Bayou Canal serve as the western boundary while the Pontchartrain Levee District property serves as the northern boundary. Jefferson Parish is the eastern boundary and a line parallel to and approximately 1,800 feet north of Airline Highway, U.S. 61, serves as the southern boundary.

Lafitte muck, a highly erosive deep organic soil with severe structural limitations is the dominant soil found in the marsh area. Barbary muck is the dominant soil occurring in the swamp area.

According to Ted O'Neil, in The Muskrat In The Louisiana Coastal Marshes, 1949, and personal communications with local landusers, prior to 1960, the dominate vegetation occurring south of the Illinois Central Gulf railroad (Conservation Treatment Unit #4), was roseau cane (Phragmites communis), sawgrass (Cladium jamaicense), cattail (Typha spp.), and bulrush (Scirpus californicus). Prior to 1960, threecornergrass (Scirpus olneyi), and marshhay cordgrass (Spartina patens) dominated most of the area between the railroad and Lake Pontchartrain.

Personal communications with local landusers and interpretation of old aerial photographs indicate fresh water from Bayou LaBranche buffered brackish tidal surges in Conservation Treatment Unit #1. Apparently this resulted in vegetation characteristic of intermediate marshes. This would explain why this marsh was so vulnerable to saltwater intrusion after dredging of the Interstate 10 Canal in the mid 1960's. Conversely, marsh vegetation in Conservation Treatment Unit #2 was predominately brackish plants and much less damage resulted from construction of Interstate 10.

ST. CHARLES LAND SYNDICATE  
General Description

Other natural and man-made events compounded the problems in these wetlands. The Mississippi River Gulf Outlet Project which was completed in 1963, increased salinity levels in Lake Pontchartrain by threefold (Montz, 1973). This project also increased daily tidal ranged, thereby, accelerating erosion. Hurricane Betsy (1965) and Camille (1969) flooded the marsh and swamp with 2 to 6 feet of saline water. Oil and gas activities introduced brackish water into the cypress trees, resulting in a reduction of stand density and quality. Photo interpretations have shown that 2,941 acres of the 4,615 acres of fresh marsh has converted to open water since 1953. Proper installation and management of water control structure should benefit the forested wetlands as well as the marsh.

Shoreline erosion along Lake Pontchartrain is jeopardizing the brackish ponds and remaining marsh vegetation. A 3,000 foot section of shoreline extending from the Pipeline Canal westward, ranges in width from 5 feet to 100 feet. Shoreline retreat in this area has been over 25 feet per year since 1971. The shoreline protecting the area east of the Pipeline Canal has experienced slower erosion rate of 17 feet per year because the abandoned Hammond Highway, US 51, buffeted most of the wave energy for many years. However, most of the highway bed has now eroded away, and shoreline retreat will likely accelerate.

The primary objective of this conservation plan is to obtain water control to reduce saltwater intrusion, minimize the erosive action of rapid tidal fluctuations, and provide conditions for establishment of plants on exposed mud flats. Water control, as described in this plan, will also improve plant species diversity thereby improving the value of this wetland for many wildlife species.

ST. CHARLES LAND SYNDICATE  
St. Charles, Louisiana  
Planned Land Use And Treatment

Conservation Treatment Unit #1    1,358 Acres    Wildlife Land

This unit consists of 437 acres of brackish and intermediate marsh and 921 acres of open water. In 1953, this unit consisted of 1,148 acres of marsh and a 210 acre pond created from abandonment of an agricultural reclamation project. Lafitte muck, a highly erosive organic soil, is the dominant soil occurring in this unit.

Dominant vegetation includes:

Marshhay cordgrass	43%	Fall panicum	7%
Alligatorweed	22%	Smartweed	7%

During the mid 1960's, this Conservation Treatment Unit was subjected to many destructive factors which resulted in land loss and vegetative changes. The dredging of the Interstate 10 Access Canal resulted in rapid tidal fluctuations and introduction of brackish water into this unit. The completion of the Mississippi River Gulf Outlet Canal in 1963 increased both tidal fluctuations and salinity levels in Lake Pontchartrain. To compound the problem, two hurricanes damaged this area in the 1960's. The combination of these major forces resulted in a conversion of 711 acres of marsh vegetation to open water. Vegetation in this unit also changed from fresh and intermediate to predominately brackish.

Installation of water control structures in conjunction with major shoreline protection measures are needed on lands owned by the Lake Pontchartrain Levee District. In addition, a water control structure is needed at Evaluation Site #2 to bring fresher water into this unit from Bayou LaBranche.

The average depth of ponds at mean tide is 2.5 feet. Establishment of marsh vegetation in these ponds is unlikely even with water control structures. A brackish aquatic plant, such as widgeongrass, can be managed to provide food and cover for marine fisheries and a quality food for waterfowl. Widgeongrass, which is tolerant of brackish water, requires periodic draw-down for maximum growth. Draw-downs will allow consolidation of pond bottoms and a two week draw-down every fourth year should be sufficient. Refer to the information sheet titled Widgeongrass, found in the "Wildlife Suitability" section of this conservation plan.

ST. CHARLES LAND SYNDICATE  
Planned Land Use And Treatment

Conservation Treatment Unit #2    3,539 Acres    Wildlife Land

This 3,539 acre unit consists of 2,799 acres of brackish marsh and 740 acres of water areas. Aerial photographs reveal in 1953 this area was virtually solid marsh vegetation. Lafitte muck is the dominant soil occurring in this unit.

Dominant vegetation includes:

Marshhay cordgrass	58%
Bulltongue	23%
Alligatorweed	8%

This unit experienced most of the same destructive forces that resulted in a 67% land loss in Conservation Treatment Unit #1, and a 63% land loss in Conservation Treatment Unit #4. Considerably less marsh vegetation, 21%, in this unit has converted to open water since 1953. This area was less impacted because vegetation historically has been tolerant to brackish water.

A plug was installed approximately 300 feet from the Lake Pontchartrain shoreline in the Walker Canal in the early 1980's. This plug prevents any tide water from entering the marsh at this site. The south end of the Walker Canal is tied directly to the lake through the Parish Canal and the access canal under Interstate 10. The Louisiana Department of Transportation and Development has immediate plans to close the access canal under the interstate highway. This will force all rain water to drain from the marsh through the two oil field canals or through the Pipeline Canal.

Installation of a plug at Evaluation Site #19, and a weir at Evaluation Site #26, will reduce saltwater intrusion and minimize tidal fluctuations. The weir should allow the ingress and egress of marine organisms. This water control system should minimize erosion and promote vegetative establishment in existing ponds.

After water control capabilities are gained, prescribed burning of marshhay cordgrass may be needed. For additional information, refer to the information sheet titled, Prescribed Burning For Wildlife In Coastal Marshes, found in the "Wildlife Suitability" section of this conservation plan.

Shoreline erosion on the land owned by Lake Pontchartrain Levee District has been approximately 17 feet per year from 1971 to 1983. Erosion of the Old Hammond Highway roadbed, which was abandoned in 1932, has been quite severe over the past few years. This roadbed significantly slowed shoreline erosion rates. Shoreline retreat will likely excellerate since very little of this roadbed remains. At the current rate of annual shoreline erosion, the plug in Walker Canal will be in jeopardy in 25 to 30 years. Shoreline erosion should be monitored and corrective measures should be made when necessary.

ST. CHARLES LAND SYNDICATE  
Planned Land Use and Treatment

CONSERVATION TREATMENT UNIT #3    554 Acres    Wildlife Land

This cypress area included over 900 acres in 1953. The construction of Interstate 10 destroyed approximately 120 acres, while more than 300 acres of cypress north of the Interstate have died since 1965. Saltwater intrusion, primarily through the oil field canal and the trainasse between Evaluation Sites #24 and #26, appears to be the leading cause of the cypress mortality. Soluble salts in the soil of this unit were 11,000 ppm which is excessive for cypress growth.

The cypress between the Interstate and the railroad appear to have experienced much less stress from saltwater than the stand north of Interstate 10. However, soluble salts in this area also proved to be excessive.

Installation of a plug at Evaluation Site #19, in conjunction with installation of weirs at Evaluation Sites #26 and #27, should reduce saltwater problems in this unit.

ST. CHARLES LAND SYNDICATE  
Planned Land Use And Treatment

Conservation Treatment Unit #4    4,615 Acres    Wildlife Land

This unit encompasses all marshlands south of the Illinois Central Gulf Railroad. Lafitte muck and Kenner muck are the dominant soils in this unit. †These deep organic soils have severe structural limitations and are highly erosive.

Dominant vegetation includes:

Bulltongue	43%
Marshhay cordgrass	32%

For centuries, fresh water grasses such as paille fine, cattail, giant cutgrass, wild millets and roseau cane were able to produce enough biomass to offset sea level rise, geological subsidence and natural erosion. Some Lafitte and Kenner muck soils have as much as 30 feet of organic material attesting to the ability of marsh grasses to build soil. When hydrology and salinities in this wetland were changed abruptly in the mid 1960's, the native fresh water plants were unable to survive these changes. Large plant die-offs occurred subjecting the highly erosive organic soils to increased tidal fluctuations. Large water bodies soon developed.

Alligatorweed, which invaded much of these open water areas, helped reduce tidal fluctuations and erosion rates. However, the introduction of the alligatorweed flea beetle and nutria led to an immediate reduction in alligatorweed during the early 1970's and accelerated marsh break-up. Bulltongue and marshhay cordgrass invaded those areas with enough elevation to support marsh vegetation. Bulltongue and marshhay cordgrass have low and moderate soil building potential, respectively.

In 1965, this unit consisted of 4,610 acres of fresh marsh with scattered cypress trees. Only 5 acres of water existed in 1965. By 1983, almost 3,000 acres of marshland had been converted to open water. This represents a 63% marsh loss. Additionally, most cypress have died, and marshhay cordgrass is now a dominant plant. Increased salinities are responsible for these changes.

The depth of most ponds is shallow. With installation of water control structures and proper management of such structures, much of this unit could once again become fresh marsh. During a spring and early summer drought in 1985, approximately 40% of the water areas had dried sufficiently to allow for germination and growth of dense stands of Walter millet.

The primary management objective in this unit is to install water control structures to provide conditions suitable for establishment and growth of plants with high soil building potential (ie. paille fine, Walter millet, giant cutgrass, and roseau cane). At least a three month drawdown is needed during the growing season to meet these objectives. Installation of water control structures at Evaluation Sites 34, 37, 39, 40, 42, and plug at Evaluation Sites 30, 32, 35, 41, would provide excellent water control capabilities.

Included in this plan is more specific information on water control structures. Detailed structural design surveys will be conducted as necessary prior to actual installation. The Illinois Central Gulf Railroad will be consulted to insure the existing railroad bed will not be effected.

ST. CHARLES LAND SYNDICATE  
Planned Land Use And Treatment

Conservation Treatment Units 5, 6    2,394 Acres    Wildlife Land

These units encompass the cypress areas south of the Illinois Central Gulf Railroad. Barbary muck and Fausse clay are the major soils found in these units.

Planned water control structures in Conservation Treatment Unit #6 will benefit the large marsh area of Conservation Treatment Unit #4.

Water control as described in unit #4 will also benefit these swamp areas by allowing periodic drying and a reduction of salinity.

An active bald eagle nest is located near Evaluation Site #31 in unit #5. Water control should also benefit the nesting eagles.



ST. CHARLES LAND SYNDICATE  
ST. CHARLES PARISH, LOUISIANA  
Normal Water Management Scheme

CONSERVATION TREATMENT UNIT 1

The original plan developed for this unit included:

1. Variable crest gated structures at Evaluation Sites 2 and 10.
2. Plugs at Evaluation Sites 5 and 8; maintenance of existing plug at Evaluation Site 11.
3. Shoreline restoration between Evaluation Sites 4 and 5.

These structures would have allowed a partial draw-down of Conservation Treatment Unit 1 on a 3 to 4 year rotation for improving conditions for maximum production of widgeongrass within portions of the open water areas of this unit.

An amendment to the original structural proposals for this unit was agreed upon during an interagency meeting and review on September 23, 1986. These changes were requested by St. Charles Land Syndicate in order to provide permit consistence on adjacent properties. St. Charles Parish holds existing permits to install certain types of structures at Evaluation Sites 5, 8 and 11. The following structures are presently proposed for Conservation Treatment Unit 1:

1. Variable crest gated structure at Evaluation Site 2 which will allow some freshwater introduction from Bayou LaBranche when proper conditions exist.
2. Plugs at Evaluation Sites 5 and 11.
3. Fixed crest weirs at Evaluation Sites 8 and 10.

E.S. 8	Set 6" below marsh level
E.S. 10	Set 10" below marsh level

4. Shoreline restoration between Evaluation Site 4 and 5.

These structures will not allow for draw-down in Conservation Treatment Unit 1, but will provide several beneficial effects as described in the following water management scheme.

Time of Year	Water Management Goal	Position
January - December	Stabilize water levels to encourage growth of aquatic and emergent marsh plants by reduction of tidal influences. Will eliminate drying of ponds during winter low tide periods. Will minimize extremes in salinities and turbidity. Will allow movement of marine organisms over the crest of structures.	Variable crest at 6" below marsh level on E.S. 8, and 10" below marsh level on E.S. 10.
January - December Except *	Same as above.	Variable crest at 6" below marsh level with single flap gate in open position.
*	To allow freshwater introduction from Bayou LaBranche.	The crest will be lowered to allow additional freshwater introduction from Bayou LaBranche only when conditions are favorable. Flap gate open.

\* This exception will only involve the variable crest structure and will normally occur with operation of the Bonnet Carre Spillway and/or pump discharges into Bayou LaBranche in the spring and summer months.

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## CONSERVATION TREATMENT UNIT 2

Structures within this unit include:

1. Plugs at Evaluation Sites 12 (existing), 19 and 20
2. Fixed crest weirs at Evaluation Sites 26 and 27.  
(Located in CTU 3)

The following water management benefits are expected

Time of Year	Water Management Goal	Position
January - December	Stabilize water levels to encourage growth of aquatic and emergent marsh plants by reduction of tidal influences. Will eliminate drying of ponds during winter low tide periods. Will minimize extremes in salinities and turbidity. Will allow movement of marine organisms over the crest of structures	Fixed crest at 6" below marsh level.

### CONSERVATION TREATMENT UNIT 3

Structures in unit - See Conservation Treatment Unit 2

\* This unit is composed of several acres of cypress swamp adjacent to I-10 on the east edge of St. Charles Parish. Saltwater intrusion has already caused some mortality to the stand and each year the critical area appears to expand. Structures planned in Conservation Treatment Unit 2 will help reduce the threat of saltwater intrusion into this unit.

### CONSERVATION TREATMENT UNIT 4

Structures in the unit at various Evaluation Sites include:

1. Variable crest or otherwise operative control structures at Evaluation Sites 34, 37, 39, 40, 42 and 43.
2. Plugs at Evaluation Sites 30, 32 and 41.

The following two-phase water management scheme will be utilized in this unit. Phase I will be followed for three years after all planned structures are in place. This phase will then be utilized on three year rotations once vegetation has been established.

Phase II is a maintenance scheme and will be followed after the initial Phase I and during all years when Phase I is not in operation. This normal rotation may be altered due to special conditions if agreed upon by an interagency review of the unit.

## PHASE I - WATER MANAGEMENT SCHEME - REVEGETATION

Time of Year (+or- 2 wks)	Water Management Goal	Position
February 1 - June 1	Expose pond edges and mud flats for plant germination.	Set stop-logs above marsh elevation, allow exterior flap-gates to operate, and open interior flap-gates.
June 1 - September 1	Allow water level to increase without detriment to plants.	Slowly lower stop-logs to 6" below marsh elevation; allow exterior flap-gates to operate, and interior flap-gates open.
September 1 - February 1	Optimum water level for water-fowl and furbearers.	Set stop-logs at marsh level; open exterior flap-gates, and allow interior flap-gates to operate.

## PHASE II - WATER MANAGEMENT SCHEME - MAINTENANCE MANAGEMENT

Time of Year (+or- 2 wks)	Water Management Goal	Position
February 1 March 1	Adjust water levels to allow for spring vegetative growth, minimize soil oxidation, and allow movement of marine organisms.	Lower stop-logs 6" to 12" below marsh level; allow interior flap-gates to operate, and exterior flap-gates open.
March 1 - June 1	Maintain stable water levels and allow movement of marine organisms.	Gradually increase water level from 12" below marsh elevation to 6" below marsh elevation by adjusting stop-logs; open exterior flap-gates, and allow interior flap-gates to operate.

[Phase II Continued]

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Time of Year (+or- 2 wks)	Water Management Goal	Position
June 1 - September 1	Improve conditions for arrival of migratory waterfowl and allow continued ingress and growth of marine organisms.	Gradually increase water level to marsh elevation by adjusting the stop-logs; exterior flap-gates open, and interior flap-gates operating.
September 1 - October 1	Marine organism egress.	Decrease water level to 3" below marsh elevation; exterior flap-gates operating and interior flap-gates open.
October 1 - February 1	Optimum waterfowl and fur-bearer habitat.	Increase water level to marsh elevation; exterior flap-gates open, and interior flap-gates operating.

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### SPECIAL PROVISIONS

1. SALINITY: Water salinities will be managed so as to maintain fresh to intermediate conditions in the area. To protect marsh vegetation during periods of high salinity, exterior gates may be closed when water salinities inside the marsh exceed 5 ppt 100 feet from the structures.

These structures also provide protection for the freshwater swamps in Conservation Treatment Units 5 and 6 and must be operated to reduce the threat of higher salinities on cypress stands in these units.

2. STORMS: During extreme rainfall, storm tidal surges, or hurricanes all gates may be open to protect the integrity of the water management system and key watershed features.

This management scheme is directed toward recovery of the large marsh area between the railroad and Highway 61, but will allow ingress and egress of marine organisms into this area. Much of the unit has been converted to open water by saltwater intrusion through the Interstate Canal and openings that were made through the lake shore for access to the construction site. The water management scheme will also reduce the amount of turbidity in the interior ponds by eliminating the rapid

exchange of water during low tide stages in Lake Pontchartrain. The water control structures are planned so that maximum flow can be directed into the marsh during periods when the Bonnet Carre Spillway is open.

#### CONSERVATION TREATMENT UNIT 5

The structures in Conservation Treatment Units 4 and 6 also control water in this unit.

A small existing sliding gate structure is located at Evaluation Site 43.

This unit is composed of a large freshwater swamp that is being impacted by saltwater intrusion from Lake Pontchartrain through the various man-made channels that have been constructed through the lake shore. The amount of saltwater entering this unit has been greatly increased by the construction of the I-10 access canal. This waterway permitted an increased amount of saline water to flow into the fresh marsh eco-system between the railroad and the edge of the swamp. As the fresh marsh plant communities were eliminated, frequent high tides have deposited salt into the swamp. An increase in the amount of accumulated salt present in the soil is causing stress on a significant portion of the existing plant community in this unit. The small existing control structure at Evaluation Site 43 is being used to allow fresh water to enter the unit during periods of heavy rainfall.

This unit will be managed in conjunction with the water management scheme developed for Conservation Treatment Unit 4.

#### CONSERVATION TREATMENT UNIT 6

The structures in Conservation Treatment Units 4 and 5 also regulate water levels in this unit. Additional structures include:

1. Variable crest weir, Evaluation Site 39
2. Variable crest weir with gates, Evaluation Site 40
3. Plug, Evaluation Site 41
4. Pipe structure with variable crest weir, Evaluation site 42.

This unit is similar to Conservation Treatment Unit 5 and differs from Conservation Treatment Unit 4 only in the fact that it is a freshwater swamp rather than a marsh. Elevations along the natural banks of Bayou LaBranche have supported an extensive stand of Cypress timber. Saltwater intrusion has taken a toll on some of the trees located along the fringe of the marsh in this unit.

The water management scheme developed for Conservation Treatment Unit 4 will control levels in this unit. During periods when the Bonnet Carre Spillway is open, the structures along Bayou LaBranche will be opened to encourage a backflow of silt laden freshwater into the unit and into Conservation Treatment Units 4 and 5.

ST. CHARLES LAND SYNDICATE

St. Charles Parish, Louisiana

Proposed Structures

<u>Evaluation Site</u>	<u>Description</u>	<u>Priority</u>
*5	Shell armored earthen plug in conjunction with shoreline-foreshore protection from E.S. 4 to E.S. 11. (Eng.Sheet LA-88)	1
*8	Shell armored earthen plug recessed to end of slip in conjunction with shoreline protection from E.S. 4 to E.S. 11. (Eng. Sheet LA-88)	1
*32, *35	Replace existing rock dams with shell armored earthen plugs. (Eng.Sheet LA-88)	1
41	Earthen plug. (Eng.Sheet LA-96)	1
42	Install pipe structures with variable crest/riser at existing opening of Bayou Traverse to allow for fresh water introduction. Two pipes would be optimum. (Eng.Sheet LA-84 modified)	1
*34, *37	Replace existing rock dams with variable crest weirs with gated structures to allow for seasonal draw-down capabilities and inhibit saltwater intrusion from the lake during high salinity periods. (Eng.Sheet LA-121)	1
	Replace existing wooden plug with a variable crest weir. (Eng.Sheet LA-87)	1
40	Replace existing wooden plug with a variable crest weir with gated structure. (Eng.Sheet LA-121)	1
	Variable crest weir with flap-gated structure in conjunction with shoreline protective measures. (Eng.Sheet LA-84 or LA-97)	2



<u>Evaluation Site</u>	<u>Description</u>	<u>Priority</u>
	Existing plug needs reinforcement.	2
19	Shell armored earthen plug. (Eng.Sheet LA-88)	2
26	Fixed crest weir. (Eng.Sheet LA-95)	2
27	Fixed crest weir. (Eng.Sheet LA-95)	2
2	Variable crest weir with gated structure. (Eng.Sheet <u>LA-84</u> or LA-97)	3
	Existing sheet metal pile and rip-rap plug in good condition. Plug will need to be relocated in 20 to 25 years if shoreline erosion continues at current rates.	4
	Existing sheet pile structure with small gated opening, approximately 4 to 5 feet wide for boat access. Excellent potential location for fresh water introduction with larger gated structure.	4

\* Proposed structure locations are on adjacent properties. Land rights will need to be coordinated with neighboring landowners.

**PROJECT NO. P0-3A**  
**LABRANCHE WETLANDS**

**APPENDIX B**

**B - Coastal Use Permit P860415 (Revised) 6/5/91.....III- 1**



DEPARTMENT OF NATURAL RESOURCES  
COASTAL MANAGEMENT DIVISION  
P. O. BOX 44487  
BATON ROUGE, LOUISIANA 70804-4487  
(504) 342-7591

D15

COASTAL USE PERMIT/CONSISTENCY DETERMINATION

C.U.P. No. P860415(Revised)

C.O.E. No. LMMOD-SE(St. Charles Parish Wetlands)156

NAME AND ADDRESS: ST. CHARLES LAND SYNDICATE: c/o Wetlands & Wildlife Management Co., P.O. Box 158, Belle Chasse, La. 70037

LOCATION: ST. CHARLES PARISH, LA: Sec. 67, T12S-R09E, T11S-R09E, T12S-R08E; Lat. 30°00'00" Long. 90°27'00", west and adjacent to Kenner, La.

PROJECT DESCRIPTION: SEE NEXT PAGE:

REVISED PERMIT

(Supersedes Permits Issued February 3, 1987 and November 19, 1987)

In accordance with the rules and regulations of the Louisiana Coastal Resources Program and Louisiana R.S. 49, Sections 213.1 to 213.21, the State and Local Coastal Resources Management Act of 1978, as amended, the permittee agrees to:

1. Carry out or perform the use in accordance with the plans and specifications approved by Department of Natural Resources.
2. Comply with any permit conditions imposed by the Department of Natural Resources.
3. Adjust, alter, or remove any structure or other physical evidence of the permitted use if, in the opinion of the Department of Natural Resources, it proves to be beyond the scope of the use as approved or is abandoned.
4. Provide, if required by the Department of Natural Resources, an acceptable surety bond in an appropriate amount to ensure adjustment, alteration, or removal should the Department of Natural Resources determine it necessary.
5. Hold and save the State of Louisiana, the local government, the department, and their officers and employees harmless from any damage to persons or property which might result from the use, including the work, activity, or structure permitted.
6. Certify that the use has been completed in an acceptable and satisfactory manner and in accordance with the plans and specifications approved by the Department of Natural Resources. The Department of Natural Resources may, when appropriate, require such certification be given by a registered professional engineer.
7. All terms of the permit shall be subject to all applicable federal and state laws and regulations.
8. This permit, or a copy thereof, shall be available for inspection at the site of work at all times during operations.
9. The applicant will notify the Coastal Management Division of the date on which initiation of the permitted activity described under the "Coastal Use Description" began. The applicant shall notify the Coastal Management Division by mailing the enclosed green initiation card on the date of initiation of the coastal use.
10. Unless specified elsewhere in this permit, this permit authorizes the initiation of the coastal use described under "Coastal Use Description" for two years from the date of the signature of the Secretary or his designee. If the coastal use is not initiated within this two year period, then this permit will expire and the applicant will be required to submit a new application. Initiation of the coastal use, for purposes of this permit, means the actual physical beginning of the use or activity for which the permit is required. Initiation does not include preparatory activities, such as movement of equipment onto the coastal use site, expenditure of funds, contracting out of work, or performing activities which by themselves do not require a permit. In addition, the permittee must, in good faith and with due diligence, reasonably progress toward completion of the project once the coastal use has been initiated.
11. This Coastal Use Permit authorizes periodic maintenance, but such maintenance activities must be conducted pursuant to the specifications and conditions of this permit.
12. The following special conditions must also be met in order for the use to meet the guidelines of the Coastal Resources Program:

**PROJECT DESCRIPTION:**

This work is for the purpose of placing under management a 12,460 acre area consisting of 4,910 acres of intermediate and brackish marshes, 4,602 acres of open water, and 2,948 acres of forested wetlands. The goals of the plan are to enhance the recreational and commercial productivity and to reduce land loss in this area. The plan includes the construction of plugs and weirs, of which six have been completed or scheduled for construction under an existing permit. In addition, the following structures are to be constructed: three shell plugs (sites 30, 32, & 35) requiring 1,200 cu. yds. of fill for installation, one earthen plug (site 41) requiring 30 cu. yds. of fill for installation, one shell armored earthen plug (site 19) requiring 350 cu. yds. of fill for installation; three fixed crest weirs (sites 10, 26, & 27) requiring 500 cu. yds. of fill for installation; one La-87 variable crest weir (site 39) requiring 30 cu. yds. of fill for installation; three La-121 variable crest weirs with gated structures (sites 34, 37, & 40) requiring 1,200 cu. yds. of fill for installation; one 290' long rock dam (DOTD) with a height of 4' MSL and a top width of 8' (1,000 cu. yds.) (site 2); one variable crested gated structure (La.121) with two 36" flapgates and 15' of variable crest weir cu. yds.) (site 42) requiring 150 cu. yds. of fill for installation. Water control structures will be operated in a manner so as to promote the growth of wetland vegetation, to enhance waterfowl and furbearer productivity, and to allow for migration of aquatic organisms.



C.U.P. No. P860415(Revised)

C.O.E. No. LTR00-SE(St. Charles Parish Wetlands)156

- a. The Marsh Management Plan shall be conducted according to the approved revisions submitted on November 18, 1986 and January 24, 1991.
- b. Monitoring Provisions:
- 1) The management area should be monitored at least monthly for salinity, water levels, and the condition and operation of the water control structures. Water level gauges should be established in each Conservation Treatment Unit in addition to reference sites outside the management area.
  - 2) The above data should be included in an annual report submitted to the Coastal Management Division, the U.S. Army Corps of Engineers and all interested regulatory advisory agencies. The annual report should describe the degree to which the management plan is achieving its major goals of land loss and saltwater intrusion prevention and the increase of fish and wildlife productivity. The annual reports should include: monthly water level and salinity data, relevant management information (i.e. control structure operation and maintenance), waterfowl and furbearer numbers, results of aerial surveys which may indicate changes in habitats or land/water ratios, and vegetation surveys which document percent cover of dominant vegetation using an objective methodology.
  - 3) Should the flapgates be closed due to salinities exceeding 5 parts per thousand (ppt), water salinity shall be monitored on a weekly basis until conditions are satisfactory for the re-opening of the flapgates.
  - 4) The monitoring of a possible impoundment of water in CTU I, as the result of the ES 2 rock dam, should be done by the permittee in conjunction with normal monitoring. If an impoundment situation is found, the permittee should implement adequate structural or operational modifications in order to relieve this impoundment situation. (One such remedy could be to lower the height of the rock dam to that of marsh level or lower for a specified section of the dam as with the fixed crest weir at ES 27).



C.U.P. No. P860415(Revised)

C.O.E. No. LHM00-SE(St. Charles Parish Wetlands)156

c. Water control structures shall be operated according to the following plan:

CTU I

<u>Dates</u>	<u>Stop Log</u>	<u>Weir Crest Height</u>	<u>Activity</u>
Jan. - Dec.	6" below marsh level*	ES 8 = -6" below marsh level ES 10 = -10" below marsh level	stabilize water levels & dampen tidal action

\* Crest level may be lowered during the operation of the Bonnet Carre Spillway or pump discharges into Bayou LaBranche in the Spring and Summer months for the introduction of freshwater and sediments into the management area.

CTU II & III

<u>Dates</u>	<u>Fixed Crest Weir</u>	<u>Activity</u>
Jan. - Dec.	6" below marsh level 12" below marsh level(ES 27)	stabilize water level & dampen tidal action

CTU IV, V, VI

PHASE I

<u>Dates</u>	<u>Flap Gates</u>		<u>Stop Logs</u>	<u>Activity</u>
	<u>Outside</u>	<u>Inside</u>		
Feb.1-June 1	flapping	open	above marsh level	drawdown for seed germination
June 1-Sept.1	flapping	open	-6" below marsh level	slow increase to normal water level
Sept.1-Feb.1	open	flapping	marsh level	increase water level for benefit of furbearers and waterfowl



C.U.P. No. P860415(Revised)

C.O.E. No. LMR00-SE(St. Charles Parish Wetlands)156

PHASE II

<u>Dates</u>	<u>Flap Gates</u>		<u>Stop Logs</u>	<u>Activity</u>
	<u>Outside*</u>	<u>Inside</u>		
Feb. 1-March 1	open	flapping	6" - 12" below marsh level	minimize soil oxidation; ingress of aquatic organisms
March 1-June 1	open	flapping	6" below marsh level	ingress of aquatic organisms
June 1-Sept. 1	open	flapping	marsh level	increase water level for waterfowl, ingress of aquatic organisms
Sept. 1-Oct. 1	flapping	open	-3" below marsh	egress of aquatic organisms
Oct. 1-Feb. 1	open	flapping	marsh level	increased water level for waterfowl and for furbearer trapping

\*Outside flap gates may be closed during periods in which salinities exceed 5ppt inside the management unit at a distance of 100' from the structure.

- d. An evaluation conducted approximately three (3) years after implementation of the plan will be performed by an interagency team. Monitoring data, scientific information, and revised goals will be used to determine if a change in the water management plan is warranted or even desirable. If a review of the preceding three years is not completed prior to beginning the fourth year of operation, the Phase II water management plan previously in effect will be continued.
- e. Proposed modifications or additions to this plan shall be submitted to CMD for review.
- f. All logs and stumps unearthed during dredging will be buried beneath the bottom of the waterway or removed to a disposal site on land.
- g. This Coastal Use Permit authorizes periodic maintenance including maintenance dredging for a period of five (5) years from the date of the Assistant to the Secretary's signature on the original permit which was February 3, 1987. All maintenance activities authorized by this permit shall be conducted pursuant to the specifications and conditions of this permit.



C.U.P. No.

P860415(Revised)

C.O.E. No.

LMM00-SE(St. Charles Parish Wetlands)156

- h. Upon abandonment of the management area, all water control structures shall be made inoperable in the "open" position unless otherwise agreed upon by the interagency team.
- i. The expiration date of this revised permit is five (5) years from the date of the Assistant to the Secretary's signature on the original permit (February 3, 1987). After this five year period, a new Coastal Use Permit must be acquired before any dredging (maintenance or otherwise) can be continued.

By accepting this permit the applicant agrees to its terms and conditions.

I affix my signature and issue this permit this 5<sup>th</sup> day of June, 19 88.

DEPARTMENT OF NATURAL RESOURCES

Terry W. Howey  
 TERRY W. HOWEY, DIRECTOR  
 Coastal Management Division

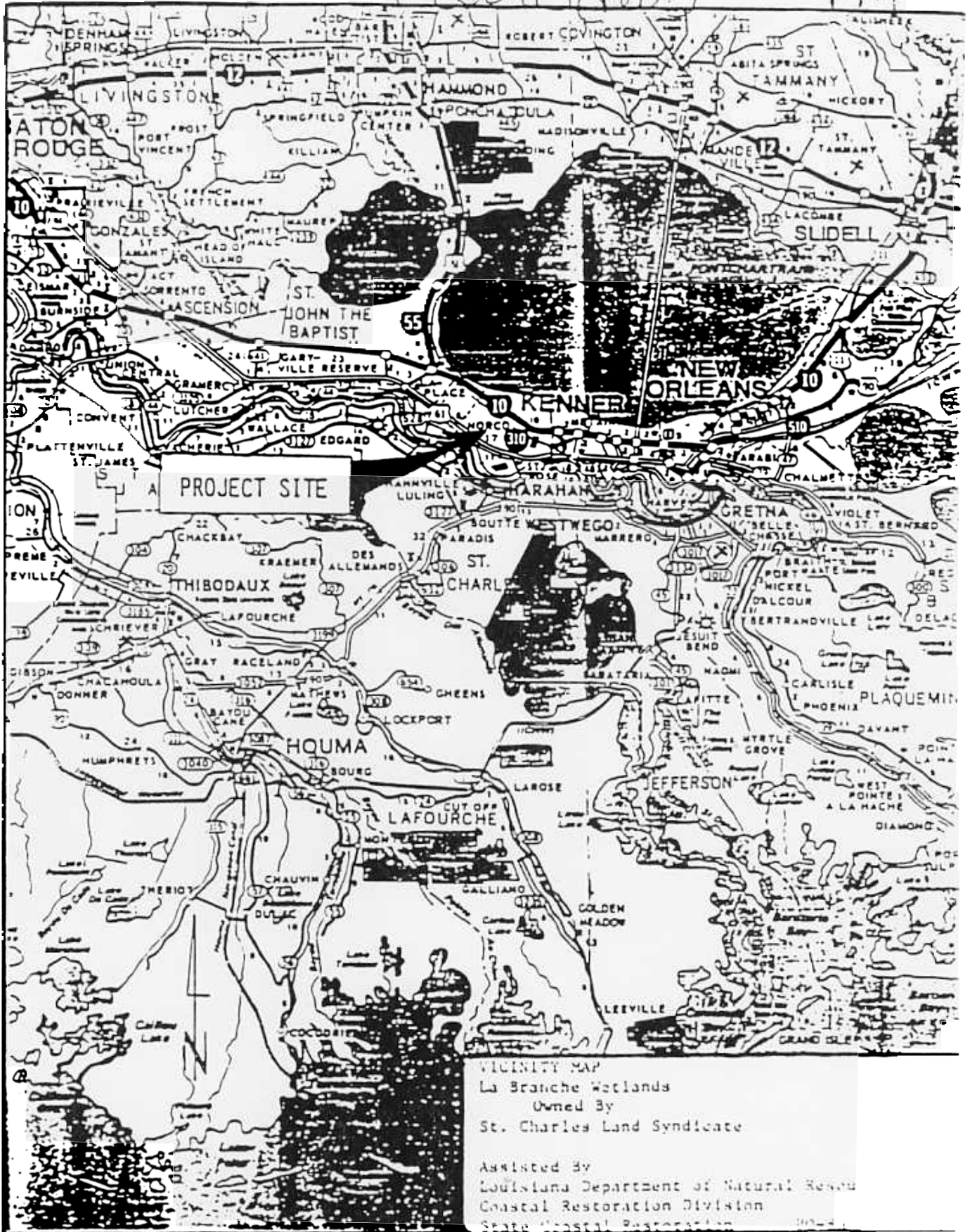


This agreement becomes binding when signed by the Director of the Coastal Management Division, Department of Natural Resources.



PA60215 (Page 7)

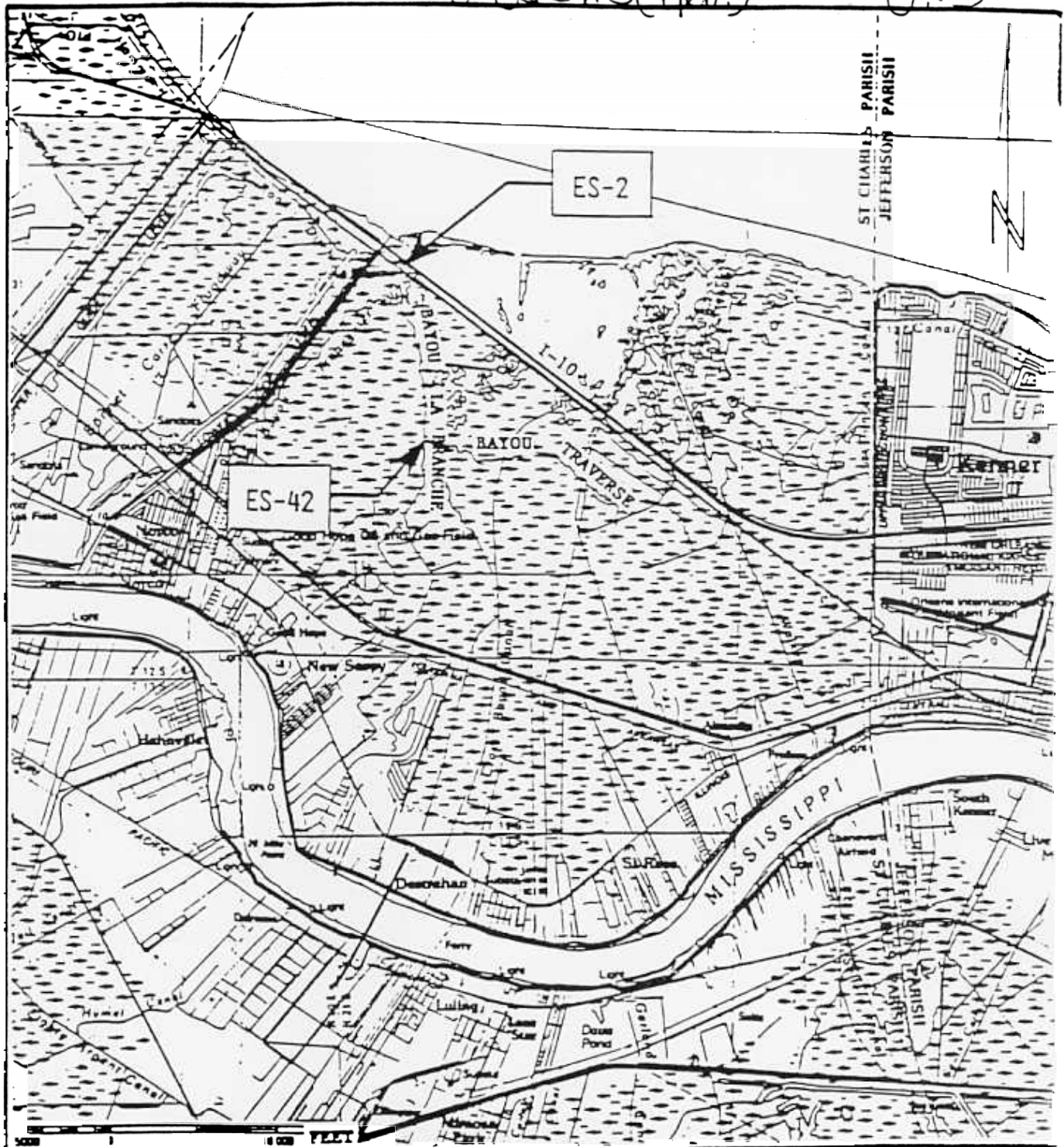
P. 4



PROJECT SITE

VICINITY MAP  
 La Branche Wetlands  
 Owned By  
 St. Charles Land Syndicate

Assisted By  
 Louisiana Department of Natural Resources  
 Coastal Restoration Division  
 State Coastal Restoration



La Branche Wetlands  
 Evaluation Sites 2 & 42  
 Permit Modifications

Owned By  
 St. Charles Land Syndicate

Assisted by  
 Louisiana Department of Natural Resources  
 Coastal Restoration Division

LOCATION MAP

PYDOTTISERW 1

P

WATER CONTROL STRUCTURES  
LABRANCHE MANAGEMENT PLAN  
SUMMARY

<u>EVALUATE SITE</u>	<u>CHANNEL WIDTH</u>	<u>CHANNEL DEPTH</u>	<u>WEIR TYPE</u>	<u>C R E S T LENGTH</u>	<u>PLANNED/ INSTALLED</u>	<u>REMARKS</u>
<u>South of R.R. Units 4-6 8332 Acres</u>						
34	65'	7.0'	LA-121	25'		4-48" Auto Gates
37	70'	10.0'	LA-121	37'		2-48" Auto Gates
39	30'	4.0'	LA-87	20'	P	
40	40'	5.5'	LA-121	13'		2-36" Auto Gates
42**	45'	2.0'*	LA-121 <sup>1</sup>	15'	P	2-36" Auto. Gates *2-3' soft bottom
				110'		Available Weir Length
				110'		Required Weir Length
<u>North of R.R. Units 1 &amp; 2 4897 Acres</u>						
2**	70'	9.0'	DOTD <sup>2</sup>	-0-	P	with modification
			LA-84	10'		original plan
8	80'	15.0'	LA-95	48'	I	set 6"
10	65'	6.0'	LA-95	37'	I	set 10" BML <sup>3</sup>
26	60'	4.0'	LA-95	45'	P	
27	200'	7.0'	DOTD <sup>2</sup>	330'	P	DOTD Design Modification <sup>4</sup>
			LA-95	150'		Original Plan
				463'		Available Weir Length modified
				293'		As originally planned
				180'		Required Weir Length

<sup>1</sup>Original planned as LA-84 modified, pipe with rise/weir only.

<sup>2</sup>DOTD designs: Site 2, rock closure dam; Site 27, shell armored with cellular block mattress.

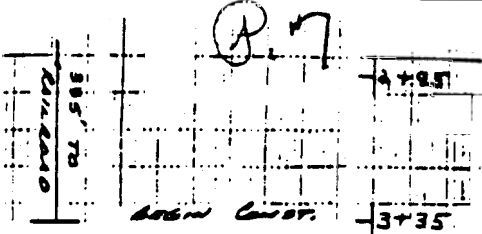
<sup>3</sup>Below marsh level

<sup>4</sup>Modified design includes 330' of weir crest; 164' set at 0.5' BML; 166' set at 1.0' BML. Original plan included 150' set at BML.

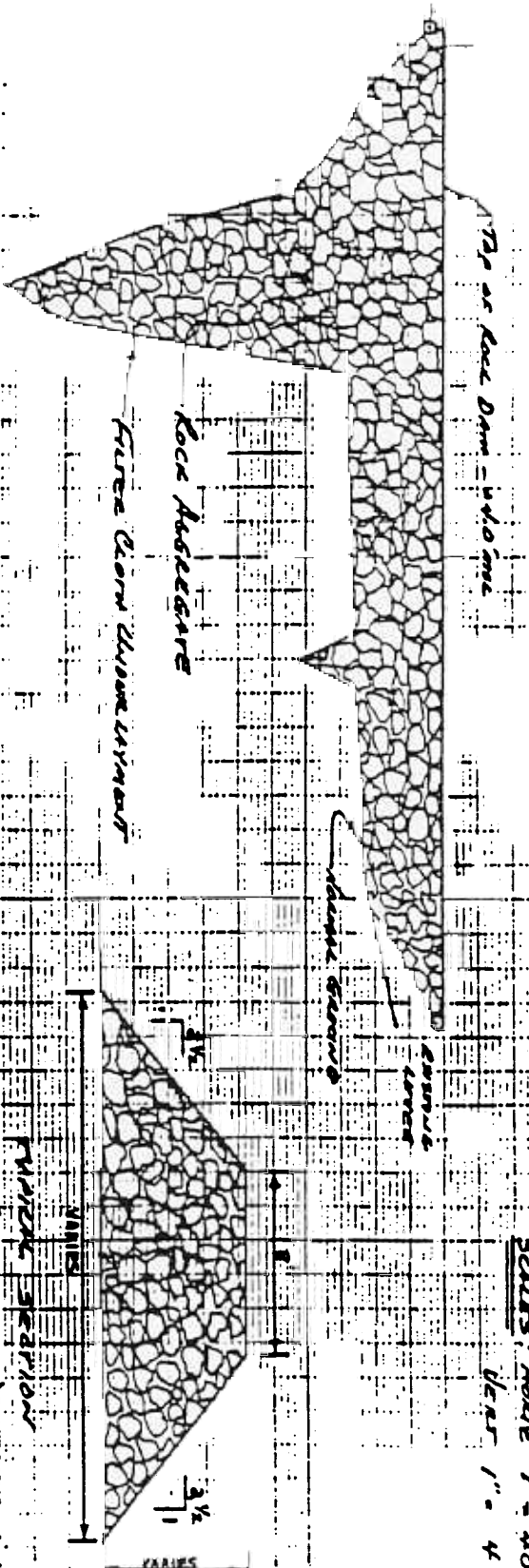
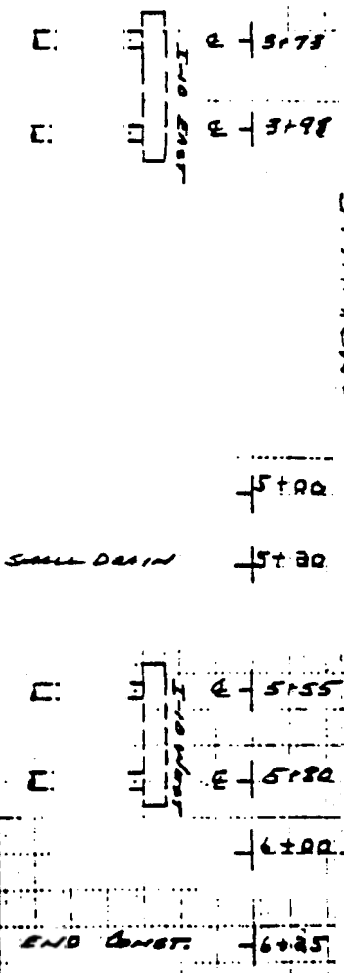
\*\*Only these structures are involved in the request for permit modification.

M.S.L U. DATUM

P. 7



STATIONS



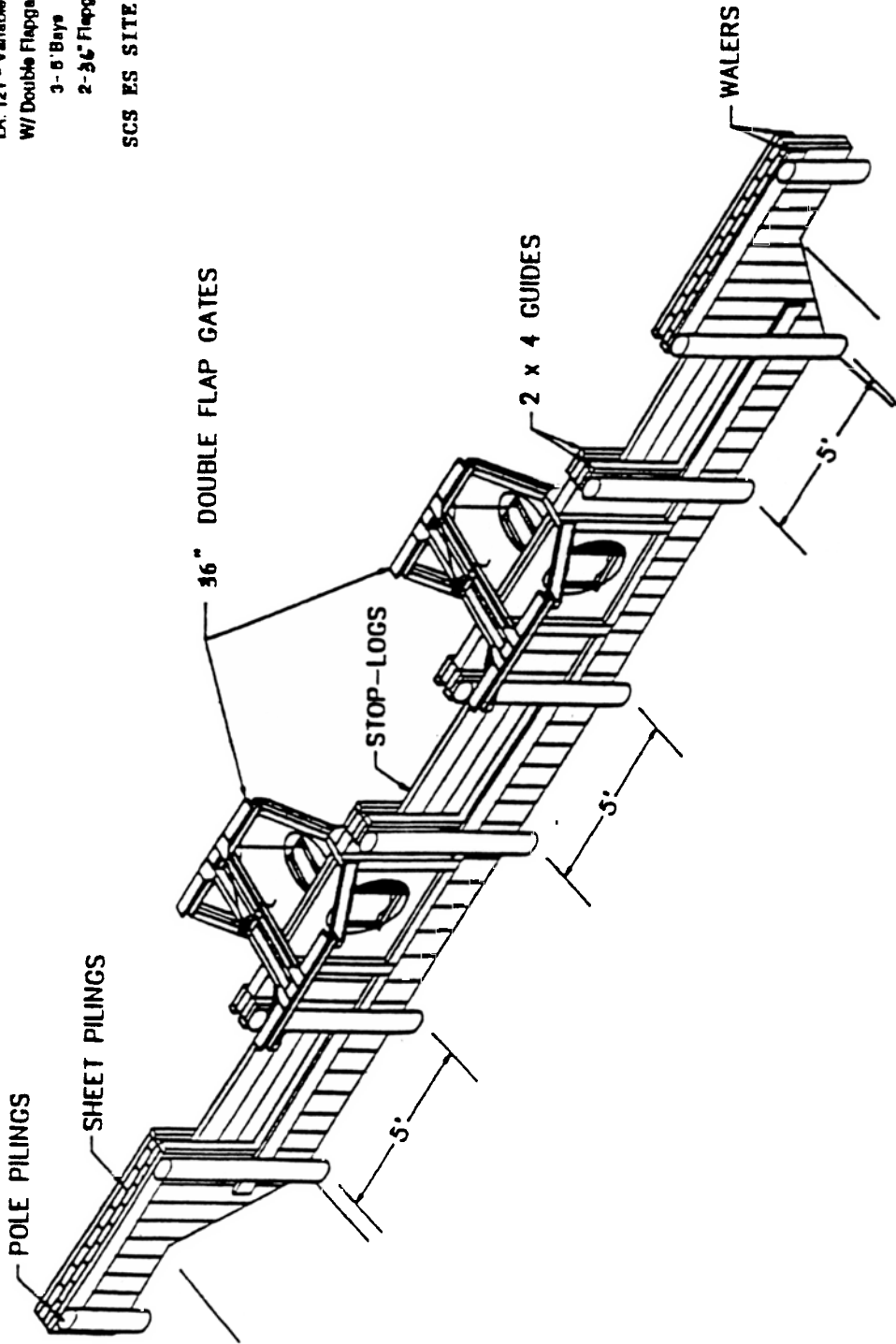
Scale: Horizontal 1" = 40'  
Vertical 1" = 4'

Vertical Section  
(not to scale)

LABAUCHE WETLANDS  
Rock Dam @ ESSR  
11/6/90  
LA. DEPT OF NATURAL RESOURCES  
COASTAL RESTORATION DIVISION

Project No.	5113
Approved By	
Checked By	
Drawn By	
Date	
Scale	
Sheet No.	
Total Sheets	

**STRUCTURE No. 42**  
 LA 121 - Variable Crest Weir  
 W/ Double Flapgate  
 3 - 6' Bays  
 2 - 36" Flapgates  
 SCS ES SITE 42



**LA-121 VARIABLE CREST GATED STRUCTURE**

LABRANCHE WETLAND (PO-3a)

DATE 11/6/90

LA DEPT OF NATURAL RESOURCES  
 COASTAL RESTORATION DIVISION

20  
 (P)  
 P. H. S. (P. H.)

DEPARTMENT OF THE ARMY PERMIT

Permitter St. Charles Land Syndicate

Permit No. SC (St. Charles Parish Wetlands)156-A

Issuing Office New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below

Project Description: Install and maintain eight water control structures and five earthen and/or shell closures for management of approximately 12,460 acres of marsh and swamp, in accordance with the drawings attached, in 19 sheets, dated June 1, 1987.

Project Location In St. Charles Parish, central to a point about 9 miles westerly from New Orleans, Louisiana.

Permit Condition

General Conditions:

May 31, 1991

1. The time limit for completing the work authorized ends on \_\_\_\_\_ . If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

- 4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
- 5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
- 6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

- 7. All structures shall be constructed and management shall be performed in accordance with the approved marsh management plan prepared by the Soil Conservation Service and amendments to the plan submitted by letters dated September 29, 1986 and November 18, 1986.
- 8. Deviations from the accepted marsh management plan and amendments, if found to be necessary, must first be approved by the Corps of Engineers and Coastal Management Division in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Services and Louisiana Department of Wildlife and Fisheries.

Other information: Special Conditions continued on page 4

Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- Section 404 of the Clean Water Act (33 U.S.C. 1344).
- Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

Limits of this authorization.

- This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- This permit does not grant any property rights or exclusive privileges.
- This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.



Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

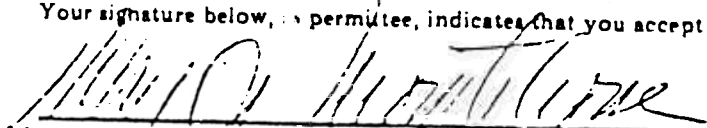
b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

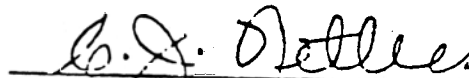
Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

 5-24-88  
X (PERMITTEE) (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

 May 26, 1988  
~~(XXXXXXXXXXXXXXXXXXXX)~~ (DATE)

C. J. Nettles, Chief, Operations and Readiness Division  
for Lloyd K. Brown, District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFeree) (DATE)





DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

P O BOX 60267

NEW ORLEANS, LOUISIANA 70160-0267

May 26, 1988

REPLY TO  
ATTENTION OF

Operations Division  
Central Evaluation Section

SUBJECT: SC (St. Charles Parish Wetlands)156-A

St. Charles Land Syndicate  
214 Royal Street  
New Orleans, Louisiana 70140

Gentlemen:

Enclosed is a permit dated this date authorizing installation and maintenance of eight water control structures and five earthen and/or shell closures for management of approximately 12,460 acres of marsh and swamp, in St. Charles Parish, central to a point about 9 miles westerly from New Orleans, Louisiana.

You are again reminded of the information in the following paragraph:

Work not in accordance with the plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

I am directed by the Department of the Army to caution you that if any material changes in the location or plans of the work are found necessary on account of unforeseen or altered conditions or otherwise, revised plans should be submitted promptly to the District Engineer. These revised plans will be reviewed, and, if found unobjectionable from the viewpoint of navigation and other public interest factors, will receive the approval required by Federal law before the work is begun. Public interest factors considered include, but are not limited to, fish and wildlife, water quality, economics, conservation, esthetics, recreation, water supply, flood damage prevention, ecosystems, and, in general, the needs and welfare of the people.

Your attention is directed to all the terms and conditions of the approval, especially those conditions relative to supervision and approval of work by the District Engineer. In order to have the work finally approved and declared legal, all terms and conditions of the permit and plans shown on the drawings attached thereto must be rigidly adhered to.

Special Conditions Cont.

9. Staff gages shall be installed both inside and outside of the management unit in close proximity to proposed water control structures. A minimum of one gage must be installed south of the Illinois Central Gulf Railroad. Additional gages should be installed in the unit north of the railroad, Bayou Labranche, and Lake Pontchartrain or the Parish Line Canal. Staff gages must be calibrated and checked periodically to insure accuracy.

10. Monitoring shall be performed pursuant to the attached monitoring plan dated April 12, 1988. It is the permittee's responsibility to obtain any permits which may be necessary to collect biotic resources.

11. The permittee or authorized agent shall submit an annual report to the Corps of Engineers in a timely manner. This report shall contain a schedule depicting the actual operation of all water control structures as well as results obtained from monitoring. These data and other pertinent information will be used by the Corps of Engineers in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Soil Conservation Service, and Louisiana Department of Wildlife and Fisheries to evaluate the success of the management plan and to recommend, if needed, modifications which would reduce environmental impacts and/or enhance the effectiveness of the management program.

12. All work associated with the construction of the proposed plug at E.S. 30 shall be restricted to the period between May 15 and October 1.

13. That the permittee is aware that portions of the work covered under this approval may be subject to permitting requirements of the Natural and Scenic Rivers Program, as administered by the Louisiana Department of Wildlife and Fisheries, and if so, the permittee is required to obtain approval or a class B permit prior to commencement of this work.