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US Army Corps of Engineers

East Grand Lake After Action Report

ATCHAFALAYA BASIN FLOODWAY SYSTEM CHANNEL TRAINING

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Chapter One: Introduction to the Channel Training Program

Introduction

The East Grand Lake area of the Atchafalaya Basin Floodway is bounded on the north by the East Freshwater Distribution Channel, on the south and west by the Main Channel of the Atchafalaya River, and on the east by the East Atchafalaya Basin Protection Levee. Water circulation patterns in this geographic region have been influenced by the channel training efforts of the Mississippi River and Tributaries Program. The goals of the Channel Training Program were to 1) retain within the bank of the Main Channel all river flows up to the average annual high water flow, a requirement to successfully pass project flood flows safely to the Gulf of Mexico, and 2) to minimize sedimentation of the backswamp during average annual high water events. Previously existing canal openings and natural distributaries along the Main Channel of the Atchafalaya River were closed in an attempt to improve the carrying capacity of the Main Channel by having the river scour itself a larger channel.

Background

The Channel Training above the Latitude of Morgan City project was first presented in the U.S. Army Corps of Engineers 1982 Feasibility Study for the Atchafalaya Basin Floodway System, which was approved by the Chief of Engineers in 1983. Specific details followed in the U.S. Army Corps of Engineers Design Memorandum 41 in 1988. Human intervention with the hydrologic cycle in the Basin, however, began much earlier in the 1800s. In his history on the Atchafalaya River Basin and the control of its water, Reuss (1998) detailed the evolution of flood control measures in the Basin. The following is a brief synopsis, with the focus of channel development to carry Mississippi River flood flows through the Basin.

In 1850, the position of the Louisiana state engineer was that levees alone would never be sufficient to carry the flood water of the Mississippi River safely to the Gulf of Mexico. He concluded that many outlets would be necessary to transport the Mississippi River floods, and that "the Atchafalaya should be regarded as the great natural drain of Southern Louisiana .... By having all its obstructions fully removed, by working on it with a view to making it an available drain, it can readily be made to discharge at least twice as much water as at present" (as quoted in Reuss 1998).

In 1883 an engineer of the Fourth District engineer office in New Orleans wanted to regulate the depth of the Atchafalaya River and ensure the proper slope by proposing submerged sill dams of brush and stone at intervals of one mile. The crests of these dams were to be built just below the low water elevation, except in the center of the channel where they would be low enough to allow navigation at all stages. He suggested permeable dikes on the sides of the low water channels of both the Atchafalaya and upper Old River to help preserve the channels (Reuss 1998).

In 1922, the New Orleans city engineer was one of the first to suggest the improvement of the Atchafalaya to benefit downstream interests on the Mississippi and not primarily for navigation or local flood control. In particular he proposed: "At first view it seems to me that the proper place for any spillway for the protection of New Orleans is by an enlargement of the connection to the Atchafalaya and then by a careful straightening, training and diking of the Atchafalaya" (as quoted in Reuss 1998).

Despite much local interest and expertise contemplating and proposing solutions to Mississippi River flooding, in time the U.S. Army Corps of Engineers became the primary agent of human change in the Atchafalaya Basin. With the Flood of 1927, it was obvious that a comprehensive federal flood control plan was necessary to safely convey the Mississippi River flood waters to the Gulf of Mexico. Although federal Flood Control Acts dated to 1917, it was the 1928 Flood Control Act that dramatically expanded the Corps' responsibilities in the Basin.

Flood Control Acts of 1928 and 1936

As detailed by Reuss (1998) Public Law 70-391, as amended, which included the Atchafalaya Basin Floodway, authorized the Flood Control Act on May 15, 1928. This Act authorized the project for the flood control of the Mississippi River in its alluvial valley and for its improvement from the Head of Passes to Cape Girardeau, Missouri, in accordance with the engineering plan set forth and recommended in the report dated December 1, 1927, submitted by the Chief of Engineers to the Secretary of War and printed in House Document No. 90, 70th Congress, 1st Session. That report stated, "At high floods, it is necessary to divert down the Atchafalaya Basin the floodwater in excess of the discharge capacity between the levees of the Mississippi…" (U.S. Army Corps of Engineers 1989).

The 1928 Flood Control Act provided against the maximum probable flood, the discharge of which at the latitude of Old River was 3,000,000 cfs, with 2,800,000 of this coming from the Mississippi River and 200,000 cfs added by the Red River (Hebert 1973).

The Flood Control Act of 1936, a supplement to the 1928 Act, provided, among other improvements, an additional outlet for the Atchafalaya Basin and improved discharge capacity of the leveed channel of the Atchafalaya River. A primary effort in implementing the 1928 and 1936 Flood Control Acts included channel excavation to increase discharge capacities of the Main Channel of the Atchafalaya River (Hebert 1973). The Flood Control Acts of 1917, 1928, and 1936 were the major pieces of federal legislation passed for the single purpose of flood control.

Evaluation of Flood Control Works

Hebert's (1973) comments 40 years ago are still true today: the hydrologic evaluation of the flood control plans and the effects of engineering works built to implement them is very difficult. Looking back at completed projects and analyzing subsequent hydrologic data to determine each project's effectiveness is much easier than formulating new plans and engineering works to solve present and future flood control problems. Hindsight is much easier than foresight. The failures and inconsistencies, as well

as the successes and consistencies, are presented here to emphasize the complex and enormous problems encountered when attempting to protect the flood plains.

Chapter Two: Channel Training History

Introduction

As stated in the Introduction of this document, although the Channel Training above the Latitude of Morgan City project initiated with the Feasibility Study in 1982 (U.S. Army Corps of Engineers), actions to enlarge the carrying capacity of the Main Channel of the Atchafalaya River were first formalized in the Flood Control Act of 1928.

After the flood of 1927, the new dispersion policy required 650,000 cfs of the 1,500,000 cfs project flood assigned to the Basin to be discharged through the Atchafalaya River. This was to be achieved in part by building levees and excavating the main channel. However, two difficulties impeded the implementation of the flood control plan: silting of the Atchafalaya Basin Floodway and settling of the levees. Levee subsidence and substantial silting in the entire floodway system prevented the floodway from holding the design project flood of 1,500,000 cfs within the Basin. In response, the Corps decided to dredge a deep center channel and to close off distributary channels to increase the Atchafalaya's carrying capacity (Reuss 1998).

Increasing the carrying capacity of the Main Channel requires an understanding of the relationships among hydraulic elements within the Basin, as presented in Figure 1. The most important elements are the annual discharge regime as governed by the Old River Control Structure, the distance between the Old River structure and the Gulf of Mexico, which is identified as the river length, and the division of flow between Wax Lake Outlet and the Lower Atchafalaya River. With the ability of the river to modify its channel through scour and deposition, discharge regime and river length will ultimately determine the river slope and channel form of the future stable channel in which width, depth, and slope are related to discharge in such a manner that velocity is just sufficient to transport the sediment load (vanBeek 1979).

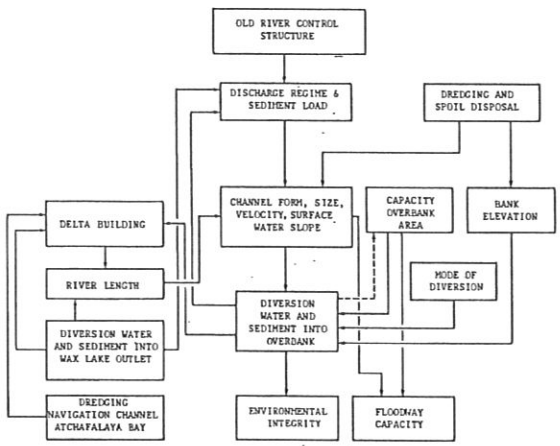


Figure 1. Relationships among Hydraulic Elements (after vanBeek 1979).

The central portion of the floodway is dominated by the main channel. Along the stream course, a number of other variables affect development and ultimate size, form, and water surface slope of the channel. The most important among these is the diversion of water from the stream into the backwater area. The magnitude of discharge diversion along the Atchafalaya Basin Main Channel is presented in Figure 2. Below River Mile 55, diversion reduces Main Channel discharges from 10 to 25 percent at flows of approximately 425,000 cfs, depending on return flows. The largest reduction follows with diversion of 30 percent of the initial discharge into Wax Lake Outlet, so that only 60 percent remains after about Mile 100 flowing toward Morgan City and the Lower Atchafalaya River (vanBeek 1979).

When diversion of water and sediment occurs from the channel into the floodplain mainly by overflow of the channel banks, most sediment is deposited on the stream bank as natural levee ridges. The resultant increases in bank elevation confine larger discharges for a given frequency, thus allowing the river to maintain a larger channel. The process of enlargement continues until the grade of the natural levee ridges follows the water surface profile for the discharge of the channel determinant frequency, which for the flood control project is the average annual high water (vanBeek 1979).

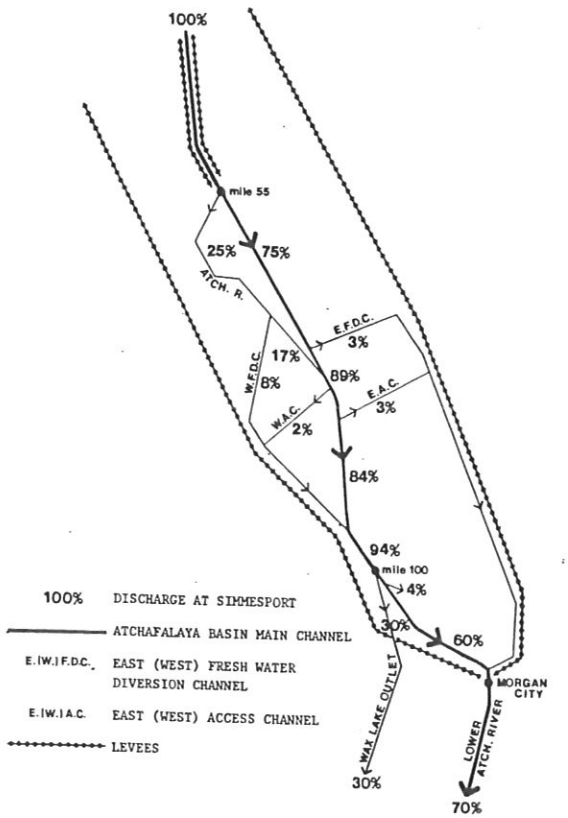


Figure 2. Magnitude of Discharge Diversions (after vanBeek 1979).

1920s

In the 1920s the upper Atchafalaya River had increased its carrying capacity 37.5 percent, according to various engineering studies. This resulted mainly from the construction of levees along the upper 54 miles of the river. In the 1927 flood, the river alone carried around 500,000 cfs. The problem was that the 70-mile lower stretch of the Atchafalaya River was actually a braided network of bayous, lakes and swamps. When water from the upper river descended on this lower reach, its current decreased and it deposited much of the sediment it carried—the more water in the upper Atchafalaya, the more sediment in the lower regions—congesting the lower river and raising flood heights. The Corps estimated that flood heights had increased two feet just from 1929 to 1932 (Reuss 1998).

1930s

In 1930 the House Committee on Flood Control on the Mississippi River heard arguments that the lower Atchafalaya River should be dredged to allow the river to carry more water (Reuss 1998). Dredging the river raised hopes of increasing the Atchafalaya's carrying capacity, thereby lowering flood heights and reducing the time that the water was over the banks. In the early 1930s, therefore, a series of dredging experiments began that transformed the terrain of the Atchafalaya Basin. In October 1932, the Corps of Engineers began dredging the Atchafalaya River. It continued intermittently until 1968 (Reuss 1998).

A member of the Board of Engineers for Rivers and Harbors advocated dredging a channel through the sand deposits above Grand Lake, the wide part of the Atchafalaya lying above Morgan City. He neatly defined the engineering problem: through dredging cutoffs and other river improvements, the Corps wished to gain the ideal river velocity that would transport the maximum amount of material without scouring the banks on one hand or depositing sediment on the other. Theoretically, once this ideal was met, only minimum dredging would be required in the future. He commented that the river must be allowed to make efficient use of its energy, "put it to work. Keep it from damaging its banks and make it carry the load in its bed." This was similar to James B. Eads' goal: help the river deepen its own channel (Reuss 1998).

1940s

Cross sections of the floodway taken by the Corps of Engineers showed that most of the sedimentation occurred during the major floods. A large portion of that sedimentation happened between 1940 and 1951, during which time in 1945 and 1950, two major floods occurred (Hebert 1973).

1950s

The continual silting of the Atchafalaya Basin Floodway prevented the establishment of the project discharge capacity. The extent and rate of sedimentation was revealed in the average water surface area in the Atchafalaya Basin from a survey in 1917 as compared with the average water surface from a survey completed in 1951. The Atchafalaya Basin had undergone a major physiographic change since 1917. In a portion of a cross section of the Atchafalaya Basin along a line from the western edge near Charenton to the eastern edge near Bayou Pigeon (Rangeline 19-A), the

accumulation of silt had been as much as 15 feet. Also, in some reaches through the same range, the depth of the deposits in the ten years from 1940 to 1950 had been more than 10 feet. As a result of silting in the floodway, the computed elevation of the flow lines associated with the required discharge capacity had been rising each year (Hebert 1973).

In 1954, a systematic program was begun to accelerate maturation of the Atchafalaya River Main Channel in reaching its estimated self-maintaining size of 100,000 square feet in cross-sectional area. The program involved the progressive confinement of normal river flows to the main channel by dredging to increase flow capacity, placing dredged material intermittently along the river's banks to aid confinement, and closing off some twenty-two distributary streams. These improvements in main channel capacity were directed at minimizing the need for increasing the heights of the East and West Atchafalaya Basin Protection Levees (U.S. Army Corps of Engineers 1982).

The annual average sediment load of the Atchafalaya River is approximately 90,000,000 tons. Assuming a unit weight of 100 pounds per cubic foot, with 40 percent of the load deposited in the Atchafalaya Basin, the yearly sediment would exceed 28,000,000 yd^3. Records from the Corps of Engineers from 1954 to 1965 document the total removal of sediment from the Atchafalaya Basin Floodway to be 190,000,000 yd^3. This means that the Atchafalaya River might deposit more silt on one year than the Corps of Engineers could excavate in two years. Between 1932 and 1951, approximately 125,000,000 yd^3 were excavated; from 1954 to 1963, over 150,000,000 yd^3. The amount per decade has more than doubled (Hebert 1973).

The sediment was being deposited in the lake areas; it was only a matter of time before all the lakes would be filled. At that point, when the Main Channel became the only stream in the floodway to the Gulf, it would have to carry all of the sediment load. The sediment would then be deposited in the Lower Atchafalaya River and Atchafalaya Bay.

1960s

The New Orleans District of the Corps of Engineers began work in 1963 on a plan for developing a central channel in the Atchafalaya Basin to increase the sediment transport out of the Atchafalaya Floodway and thereby alleviate overbank deposition, which had been reducing floodway capacity. The proposed central channel would have a minimum cross-sectional area of 100,000 ft^2 below the design flow line (U.S. Army Corps of Engineers 1973). Of the more than 250 million yd^3 of material dredged in the Atchafalaya Basin between 1932 and 1963, most was removed to provide for the allotted flow defined by the Act of 1928 (Hebert 1973).

1970s

Excavation in Old River, Wax Lake Outlet, and the Atchafalaya Basin Main Channel was required to achieve the large capacities for the project flood. By 1973, all of the necessary excavation had been completed in the Wax Lake Outlet channel. Excavation in the Atchafalaya Basin had not been systematic, but efforts were directed toward the

excavation of one main channel (Hebert 1973). To facilitate channel flow and natural enlargement due to erosion, the main channel was being enlarged in a series of steps—first to 40,000 ft^2, then in successive increments to 60,000, 80,000, and finally 100,000 ft^2 below the 1963 ultimate stabilized project flow line (U.S. Army Corps of Engineers 1972).

As of 1973, the plan for the lower portion of the Atchafalaya Floodway included the excavation of the Atchafalaya Basin Main Channel through the lower portion of the basin by way of Whiskey Bay Pilot Channel, Upper Grand River, Blind Tensas Cut, Lake Mongoulois, Bayou Chene Cut, Tarleton Bayou, Chicot Pass, Grand Lake, and Six Mile Lake.

The water surface profile of the project flood was determined from hydraulic computations using 100,000 ft^2 of opening in the Atchafalaya Basin Floodway Main Channel. From measurements in 1972, the average cross-sectional area of the Atchaflaya Basin Floodway Main Channel, about 67,000 ft^2, was only two-thirds the area actually used in the hydraulic computations to determine the project flow line (Hebert 1973).

In 1973, the plan to eliminate the flood control inadequacies of the Atchafalaya Basin required the excavation of a continuous channel through the middle of the floodway. The Corps of Engineers, recognizing that the previous silting rate precluded the success of the present system, planned to reduce silting in the Atchafalaya Basin Floodway by (1) enlarging the Atchafalaya Basin Main Channel to 100,000 ft^2 below project flood flow line through the floodway and (2) damming off nearly all of the tributaries and distributaries from the Atchafalaya Basin Main Channel. A 100,000 ft^2 opening in the Atchafalaya Basin Main Channel would confine moderate flows. These measures, the Corps believed would substantially prolong the usefulness and increase the capabilities of the floodway (Hebert 1973).

Model test showed that the mean annual flood stages would be reduced from 2 to 3 feet if a 100,000 ft^2 channel were excavated from Whiskey Bay Pilot Channel to Mile 80.2. If the 100,000 ft^2 channel were dug to Morgan City and through the Atchafalaya Bay, then the annual flood stages in the Basin could be expected to drop much more than 2 or 3 feet (Hebert 1973). At this time, neither the flow line nor the cross-sectional area of the Atchafalaya Basin Main Channel was stable. Since 1969 the flow line had decreased in elevation upstream from the Whiskey Bay Pilot Channel, while below the Pilot Channel the flow line had increased in elevation. The project flow lines, as determined in 1963 and in 1973 during floodflows, showed a difference of four feet upward revision as a result of sedimentation in the overbank areas and delta development (vanBeek 1979).

Therefore, the plan in 1973 required the enlargement of the Atchafalaya Basin Main Channel to a cross-sectional area of 100,000 ft^2. The basic question was whether the flow in the Atchafalaya River would maintain this area. Comparative cross sections were studied at the upper end of the Basin (Mile 60) near Whiskey Bay Pilot Channel, at the center of the Basin (Mile 80) and at the lower portion of the Basin in Grand

Lake and Six Mile Lake (Mile 100). The comparative cross sections at approximately Mile 60 showed that the channel was enlarging by the channel scouring. All of the flow was in the channel at that latitude. The comparative cross section at Mile 80 showed that the channel opening was maintaining itself, neither scouring nor silting. However, the comparative cross section at Mile 100, which was in Grand Lake, showed that the channel was silting. This meant that when there was overbank flow the channel would silt and deteriorate. This also showed that when the main channel went through lakes, it could not maintain a channel (Hebert 1973).

In order to determine whether the flow in the Atchafalaya River Main Channel would maintain the required cross-sectional area, tests were conducted on the Atchafalaya River Basin portion of the Mississippi Basin Model. The model was of the fixed-bed type, reproducing a large portion of the Mississippi River and its major tributary system to a horizontal scale of 1:2000 and a vertical scale of 1:100. A series of tests were conducted with the model simulating 1969 conditions and man-made ultimate conditions, in which the central channel was dredged to a minimum cross-sectional area of 100,000 ft^2 below the project design flow line downstream to Mile 105.0 and to 80,000 ft^2 to Mile 112.3. The spoil from the dredged central channel was placed along the central channel in designated areas, leaving an opening of about ten percent between the spoil areas. The model was built up along sedimentation ranges to elevations furnished by the New Orleans District, which simulated deposition expected with a dredged central channel, and a channel with a 15,000 ft^2 cross-sectional area was developed connecting the central channel at Mile 99.7 through Six Mile Lake to Wax Lake Outlet. The natural ultimate conditions were the same as for the man-made ultimate conditions except that the openings between the spoil areas along the central channel were closed, simulating continuous spoil banks as they would occur naturally, and the model was built up higher along sedimentation ranges to elevations furnished by the New Orleans District, which simulated basin deposition expected from a naturally developed central channel. Test results from hydrograph flow and steady-flow tests indicated that a man-made central channel with a minimum cross-sectional area of 100,000 ft^2 downstream to Mile 105.0 and 80,000 ft^2 to Mile 112.3 would decrease stages throughout the Basin, with a maximum reduction of 8.1 ft at the mouth of Whiskey Bay Pilot Channel, from those with 1969 conditions. This maximum reduction occurred with a flow of 350,000 cfs. Test results indicated that if the central channel developed naturally, the stages in the Basin would be slightly higher, but the area inundated would be smaller because the Basin deposition would be greater (U.S. Army Corps of Engineers 1973).

Another series of tests were conducted on the Atchafalaya River Basin portion of the Mississippi Basin Model to aid in developing rating curves and water-surface profiles in the Atchafalaya River Basin for various flow conditions with and without the Wax Lake Outlet closed and with and without Land and Water Management Unit and channel training levees. Prior to these tests, the Atchafalaya River Basin portion of the

model from Simmesport to Eugene Island, LA, had been updated to reflect 1973-74 prototype conditions and adjusted to reproduce closely the stages that occurred in 1973. Steady-flow tests with Wax Lake Outlet closed with a levee confined a flow of 550,000 cfs but allowed a 600,000-cfs flow to overtop the levee for its entire length. Closing the Wax Lake Outlet with a levee as tested would raise stages throughout the basin upstream of the closure levee and lower stages in Wax Lake Outlet downstream of the levee for all flows tested. Closing Wax Lake Outlet raised stages as far upstream as Simmesport for the lowest flow tests (50,000 cfs). The maximum amount of rise in stages progressively increased with flow until the closure levee was overtopped (from 0.3 ft for a flow of 50,000 cfs to 3.2 ft for a flow of 425,000 cfs), then decreased for flows that overtopped the closure levee (2.2 ft for a flow of 600,000 cfrs and 0.5 ft for a flow of 800,000 cfs). The maximum increase for all flows was at the latitude of Charenton, LA. Results of hydrograph tests indicated that the closure of Wax Lake Outlet would have about the same effect on crest stages of the hydrograph flows as it did on the steady flows of the same magnitude. Results indicated that constructing the Atchafalaya River training levees would increase crest stages of the average annual hydrograph in the main channel and in the western half of the Atchafalaya Basin by as much as 1.1 ft and lower those in the eastern half of the Atchafalaya Basin by as much as 0.6 ft (Foster and Allen 1980).

Countering the flood control interests in the Atchafalaya Basin were the wildlife and fishing interests that opposed a channel to prevent frequent flooding of the floodway. Through public meetings and interagency negotiations, they had gained some concessions from the Corps of Engineers for conservation. Under consideration were connections between the Main Channel and some of the tributaries. There was not a question that the Main Channel would be detrimental to wildlife and fishing by reducing stages in backwater areas. Therefore, the usefulness of the Main Channel to prolong the discharge capabilities of the floodway had to be weighed against the potential damage to the conservation programs (Hebert 1973).

After flood control, maintenance dredging, mainly for navigation, was the most detrimental to the Basin's ecology. Annual maintenance above the Teche Ridge required dredging of approximately 2,000,000 yd^3. One-half of this dredging was done in waterways in the backwater areas and waterways connecting the former to the Atchafalaya River. These included the East and West Access Channels, which accounted for 600,000 yd^3, the Freshwater Distribution Channels, and the alternate route of the Gulf Intracoastal Waterway. As indicated to some extent by the volume of maintenance dredging required, these channels were also the main route for the diversion of excessively larger volumes of sediment into the backwater area of the floodway below I-10. Not only did this result in a decrease in floodway capacity, it also resulted in several ways in the degradation of environmental integrity of the floodway's wetlands. Introduction of sediments through these channels into the floodplain swamps greatly contributed to the reduction of the total water area and the degradation

of the quality of forested wetlands (vanBeek 1979).

Concern for the protection of the environment had been growing, as had concern that the flood control value of the floodway was becoming increasingly less than it should have been. On June 11, 1968, and March 23, 1972, the United States Senate Committee on Public Works, and on June 14, 1972, the United States House of Representatives Committee on Public Works, adopted resolutions concerning management and use of the water and related land resources of the Atchafalaya River Basin. This included reports with a view to developing a comprehensive plan for the management and preservation of the water and related land resources of the Atchafalaya River Basin, Louisiana. As directed, this would include provisions for reduction of siltation, improvement of water quality, and possible improvement of the area for commercial and sport fishing (vanBeek 1979).

In assessing alternatives for a multi-use Basin, wildlife and fishing interests urged the Corps of Engineers to acknowledge that natural systems adapted based upon the hydrologic regime as controlled primarily by stages and discharges of the Atchafalaya River. Since within the existing floodway system the needed increase in capacity of flood control could only be obtained by increasing efficiency and related necessary change of the Atchafalaya River Main Channel, the channel system was the most important element in the consideration of alternatives. The second category of alternatives was to increase, where necessary, below Mile 55, channel efficiency and size through intensification of natural channel development by confinement of flows up to a given discharge and to obtain reduction of overbank sedimentation through management of water and sediment diversion. This would have involved some dredging for construction of channel embankments, providing for overbank flow only where possible and taking structural measures where channelized diversion was necessary or unavoidable (vanBeek 1979).

1980s

The cross-sectional area of the Atchafalaya River had progressed to approximately 92,000 ft^2 from Mile 54.8 to Mile 65.4, to 80,000 ft^2 from Mile 65.4 to Mile 100.8, and to 38,000 ft^2 from Mile 100.8 to Mile 113.7. The completion of the Cross Basin Channel Realignments decreased the amount of sediment load in the flows allowed to reach the overbank and backwater areas during low to normal flows. This project was designed to keep more of the sediment load of the waters in the Main Channel. As a result, the sediment transport capacity of the Main Channel was to be increased, thereby accelerating development of the Main Channel (U.S. Army Corps of Engineers 1989).

Responding to both flood control issues and environmental concerns, the 1982 Army Corps of Engineers' multipurpose, comprehensive plan for the Atchafalaya Basin Floodway System, Louisiana, had as its primary goal the protection of southeast Louisiana from Mississippi River floods by ensuring safe passage of one-half the project flood through the floodway system. At the same time, the plan retained and restored the unique environmental values of the floodway and maintained or enhanced the long-term productivity of the wetlands and

woodlands. The features of the recommended plan for accomplishing this goal include (1) channel training works along the main channel above Morgan City, (2) realignment of the four principal distributaries of the main channel to provide the optimum channel entrance angles for sediment control, (3) control of the distribution of low and normal flows at the outlets to 30 percent through Wax Lake Outlet, (4) widening of the Wax Lake Outlet Overbank by setting back the west levees, (5) channel training along the Lower Atchafalaya River and Wax Lake Outlet above the Atchafalaya Bay and closure at Bayou Shaffer, and (6) miscellaneous canal closures and water circulation improvements (U.S. Army Corps of Engineers 1982; U.S. Army Corps of Engineers 1989). The purposes of the project were to reduce floodway sediment deposition in order to more effectively contain the project flood, and concurrently to help preserve the unique environmental features and to extend the long-term productivity of the natural environment (U.S. Army Corps of Engineers 1989).

The planning process used in the 1982 study consisted of developing groups of measures to address the individual functional and geographic areas of concern and then combining alternative features for those measures into comprehensive plans. Group II of the alternative features as "Alternatives for Atchafalaya Basin Main Channel Development and Levee Raising." All alternatives for main channel development recognized that the East and West Atchafalaya Basin Protection Levees would continue to be raised, as necessary, in combination with the main channel development feature to safely pass the project flood. Also included in all structural plans was the installation of bank protection measures on the Atchafalaya River above River Mile 55.0. Channel training would be accomplished by dredging material from the main channel where necessary and depositing it within diked areas on the banks to a height sufficient to contain the average annual high water. Additionally, the main channel would be dredged as necessary to attain a 100,000 square foot cross-sectional area from the head of Whiskey Bay Pilot Channel to Wax Lake Outlet, and to 80,000 square foot cross-sectional area from Wax Lake Outlet to Stouts Pass. Gaps would be left in the dredged material. In a modification of this alternative features, no gaps would be left in the dredged material (U.S. Army Corps of Engineers 1982).

The Recommended Plan from the 1982 Feasibility Study combined features of the Environmental Quality Plan with features of the National Economic Development Plan into a compatible mix that addressed both national economic development and environmental quality objectives. The Recommended Plan consisted, in part, the following features. For training works on the Atchafalaya Basin Main Channel above Morgan City, for development of the main channel, training works would be implemented on the Atchafalaya River Main Channel to a height sufficient to confine average annual peak flows, approximately 450,000 cfs. This would require dredging approximately 29,000000 cubic yards of material from 17.6 miles of channel, from River Mile 116.0 to River Mile 90.0, and placing it on the banks within diked areas to simulate the development of natural ridges. The

majority of the works would be below River Mile 94.0 and would be confining; that is, essentially no gaps would be left in the training works to allow overflow of the banks during low flows. Possible bank maintenance works may be required along the Main Channel in the future from River Mile 90.0 to River Mile 53.0 on the east bank and River Mile 55.0 on the west bank (U.S. Army Corps of Engineers 1982).

For Sediment Control, the component of the Recommended Plan would confine more sediment transport to the main channel by realigning the four principal distributaries of the Atchafalaya River to provide optimum distributary channel entrance angles. These distributaries were the Old Atchafalaya River, East Freshwater Distribution Channel, the West Access Channel, and the East Access channel (U.S. Army Corps of Engineers 1982).

In 1987-1988, the Corps of Engineers built a 4,000-foot rock weir across Grand and Six Mile Lakes to regulate the distribution of flows between the Wax Lake Outlet and the lower Atchafalaya River. The weir was to ensure that 70 percent of the flow went through the lower Atchafalaya River and the remaining 30 percent through Wax Lake, thereby accelerating the channel development of the lower Atchafalaya and helping to maintain the ability of both channels to pass the project flood to the Gulf of Mexico (Reuss 1998).

In 1988, the details of the Channel Training above the Latitude of Morgan City project was proposed in DM 41. It was located in the Lower Atchafalaya Basin Floodway portion of the Atchafalaya Basin Floodway System in the south-central portion of Louisiana. The project consisted of training works on the left descending bank extending from River Mile 99.7 to 113.8 and on the right descending bank extending from River Mile 87.5 to 95.5. The training works were to a height equal to that of the average annual high water of the area. This allowed, on average, biannual overflow in the overbank area. The purpose of the project was to simulate the development of natural ridges, confining low to average flows to the main channel, accelerating the development of the main channel and reducing the amount of future overbank deposition. The training works were completely confining works; no gaps were allowed to let water flow into the overbank area during low to normal flows. Several channels, however, were left open to provide public access or freshwater into the overbank area. Work above Mile 87.5 consisted of closing gaps between existing dredge disposal mounds, elevating depressions in the natural levees, and making channel closures. Work below Mile 87.5 consisted of raising existing dredge disposal mounds or constructing training works, as well as closing gaps and channels (U.S. Army Corps of Engineers 1988).

In 1989 a moveable-bed material model investigated the development of plans for the realignment of the entrance of the Atchafalaya River West Access Channel, Louisiana (Maggio and Nickles 1989). The West Access Channel, also referred to as Bayou Chene, was a water distributary channel from the Atchafalaya River to the channel adjacent to the West Atchafalaya Basin Protection Levee. Plans tested were designed to provide a channel that would

require a minimum of maintenance dredging. The entrance of the West Access Channel had been an area requiring frequent maintenance dredging to maintain flow distribution to the West Atchafalaya Basin Protection Levee. The West Access Channel had a history of shoaling to the extent that the amount of flow through the channel had been significantly reduced. Due to the channel alignment and length, the flows in the channel were normally too small to move the sediment through the channel; therefore, frequent dredging of the channel was required. A plan was proposed by the New Orleans District to relocate the entrance of the West Access Channel approximately 3 miles upstream of its existing site and realign the upper portion of the channel. The model study was undertaken to obtain some indication of the effectiveness of the proposed relocation and realignment to reduce the sediment entering the channel and the effects of the Atchafalaya River Main Channel (Maggio and Nickles 1989).

1990s

A Supplement to DM 41 presented the justification for the location change and down sizing of the freshwater diversion feature of the Channel Training above the Latitude of Morgan City project. In general, the goal of the Channel Training above the Latitude of Morgan City project was to confine the average annual highwater of 450,000 cfs to the Atchafalaya Basin Main Channel. This helped to preserve and develop the Main Channel while reducing the amount of sediment that entered into the backswamp area. The limits of the work were from about Mile 54 (Whiskey Bay) to Mile 114 at Stouts pass just above Morgan City (U.S. Army Corps of Engineers 1990).

A group of recreational fisherman voiced concerns with the proposed Hog Island location for freshwater diversion. Their first concern was that a greater volume of flow than estimated in DM 41 was already reaching the Upper Grand River backswamp area from sources other than the Atchafalaya Basin Main Channel. The second concern was that diverting directly from the Main Channel on a year-round basis would leave the area waters clouded by the fine sediments entrained in the river water column and adversely affect fisheries (U.S. Army Corps of Engineers 1990).

The Corps performed additional field investigations and data collection as a result of the concerns of recreational fishermen. The results of this work showed that even with the training works, some flow would still reach the backswamp areas to the east of the Main Channel. The backswamp would still require additional freshwater. However, the new data showed that the Hog Island Freshwater Diversion Channel would provide more water than necessary (U.S. Army Corps of Engineers 1990).

In 1994-1995 the Corps removed the Wax Lake Outlet weir in response to public concerns regarding increased flood crests in Morgan City and Berwick.

Conclusion

Overall, the story of flood control in the Atchafalaya Basin is a tale of how modern society is coping with nature in one of the most dynamic and challenging hydraulic systems in the world. In fact, just understanding the hydraulics of the

Atchafalaya Basin is a major challenge. Engineers tinkering with the Atchafalaya's hydraulics need to balance competing claims for protection from property owners and commercial entrepreneurs. As often happens in such cases, economics and ideology eventually influence the discussion as much as or more than engineering judgment.

As the river changes, old engineering studies become outdated. It seems probable that new engineering studies will offer modifications to both the flood control and environmental features of the project. Nonetheless, central to this story are the engineers who transformed political, economic, and environmental expectations into engineering plans and projects, all the time responding to and influencing the requirements of a democratic, pluralistic society. Just as Captain Shreve epitomized the engineer whose good intentions and engineering know-how could not compensate for inadequate investigations and insufficient scientific knowledge, during the next 150 years, these same limitations bedeviled other engineers who sought answers to complex questions relating to the Atchafalaya (Reuss 1998).

Chapter Three: Project Elements

The Channel Training project area and individual project elements are depicted in Figure 3. Table 1 illustrates the Channel Training Program Timeline, including contract solicitations, awards, and completions; major design memoranda and supplemental documents, and field reconnaissance and data collection efforts. Each project element in the Channel Training Program is then described in a detailed Fact Sheet from its inception in Corps of Engineers Design Manuals to solicitation plans and As-Built descriptions to current conditions. Plans associated with each solicitation are presented in Appendix A.

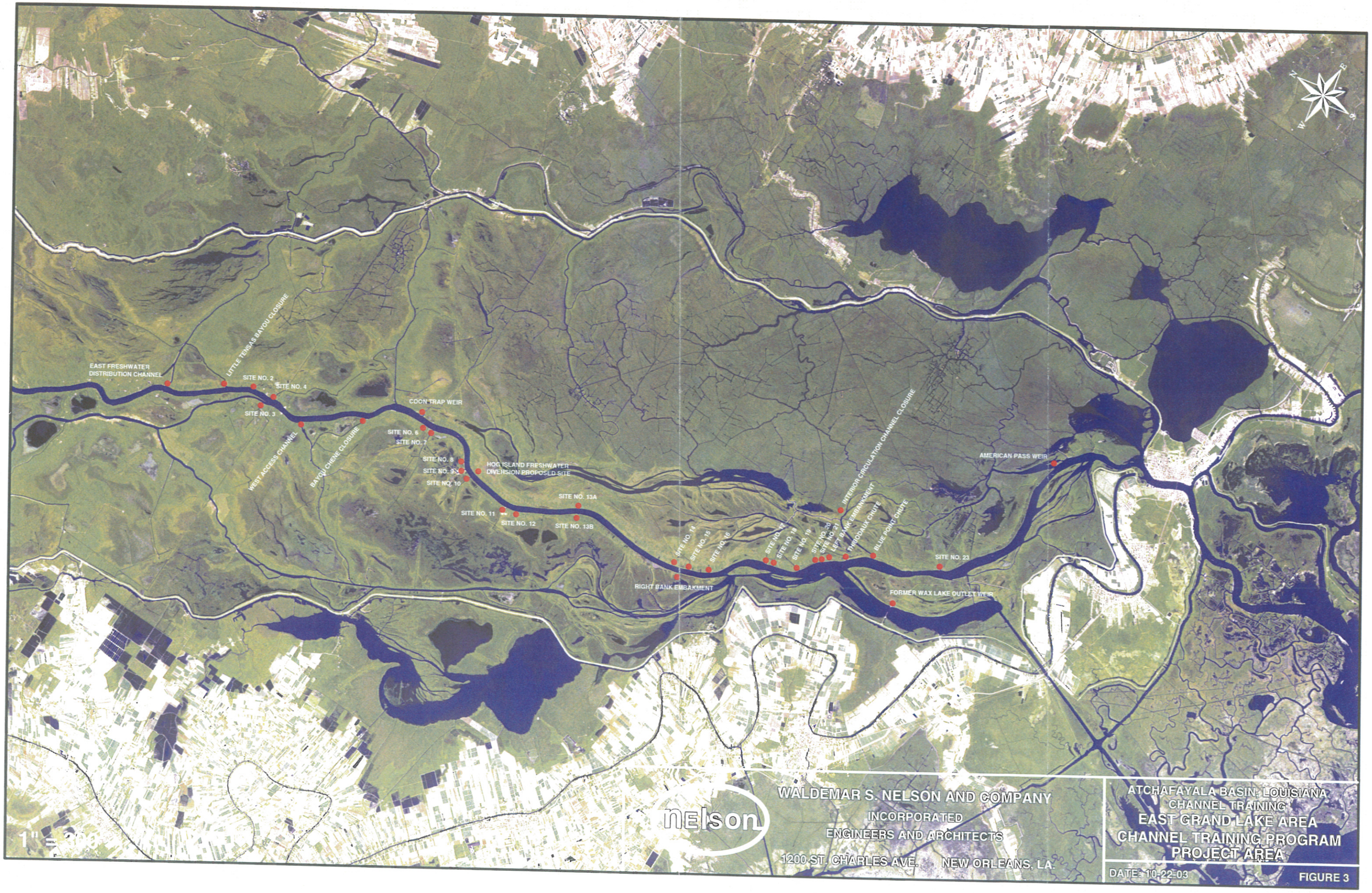
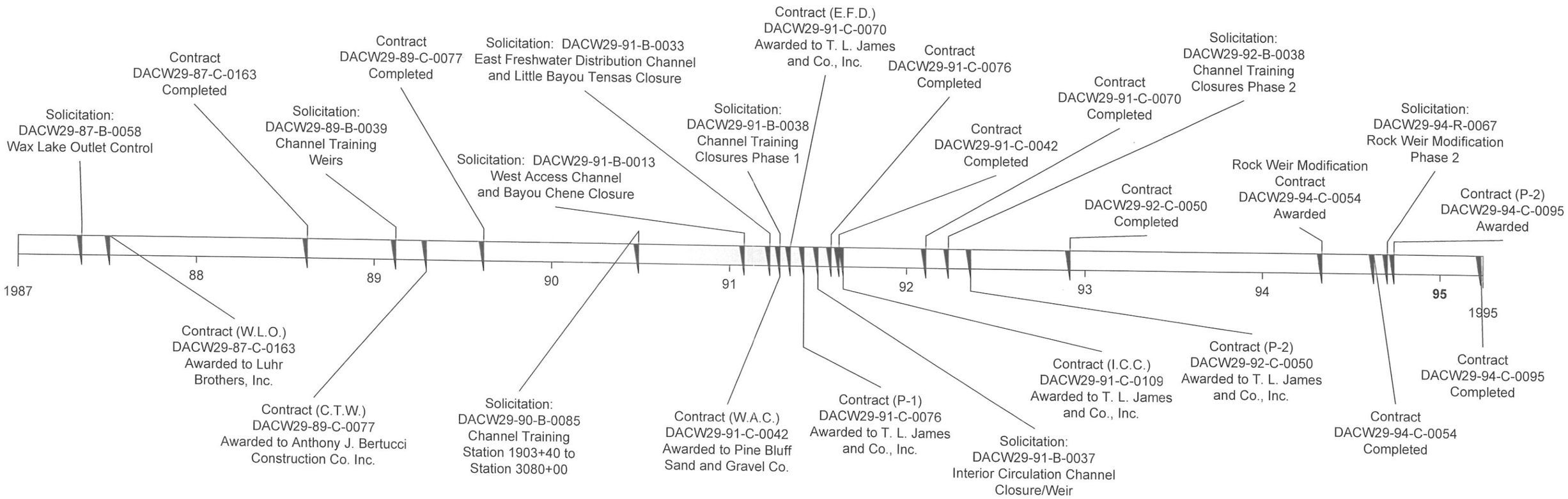

N
E
S
W
EAST FRESHWATER DISTRIBUTION CHANNEL
LITTLE TENSAS BAYOU CLOSURE
SITE NO. 2
SITE NO. 4
SITE NO. 3
COON TRAP WEIR
WEST ACCESS CHANNEL
BAYOU CHENE CLOSURE
SITE NO. 6
SITE NO. 7
SITE NO. 8
SITE NO. 9
SITE NO. 10
HOG ISLAND FRESHWATER DIVERSION PROPOSED SITE
SITE NO. 13A
SITE NO. 11
SITE NO. 12
SITE NO. 13B
SITE NO. 14
SITE NO. 15
SITE NO. 16
SITE NO. 17
SITE NO. 18
SITE NO. 19
SITE NO. 20
SITE NO. 21
INTERIOR CIRCULATION CHANNEL CLOSURE
LEFT BANK EMBANKMENT
HIPPODAUX CHUTE
BLUE POINT CHUTE
AMERICAN PASS WEIR
SITE NO. 23
RIGHT BANK EMBAKMENT
FORMER WAX LAKE OUTLET WEIR
1" = 200'
nelson
WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
CHANNEL TRAINING PROGRAM
PROJECT AREA
DATE: 10-22-03
FIGURE 3

Table 1. Channel Training

Program Timeline



Little Tensas Bayou Closure at River Mile 71.5

Little Tensas Bayou Closure (30°12'15"N; 91°32'09"W), located near River Mile 71.5 on the east bank of the river, is technically not a part of the "channel training" works. This closure was built because a new entrance to the East Freshwater Distribution Channel was dredged as part of the "channel realignment" program under the U.S. Army Corps of Engineers DM 43 (1989). The original Closure 1 as presented in DM 41 was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 4 illustrates the existing conditions of the access canal prior to the channel training work.

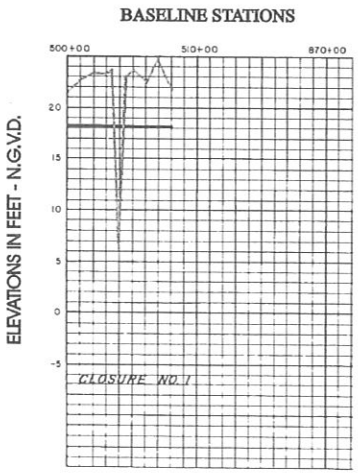


Figure 4. Closure 1 as presented in DM 41.

Closure 1 was not included in solicitation for bids and was not built at River Mile 65.6

Solicitation DACW29-91-B-0033 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, East Freshwater Distribution Channel and Little Bayou Tensas Closure, Iberville and St. Martin Parishes, Louisiana was issued on March 25, 1991. It called for the dredging of a new freshwater distribution channel at approximately River Mile 68.7 and the closing of Little Bayou Tensas at approximately River Mile 71.5 on the east bank. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0070 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, East Freshwater Distribution Channel and Little Bayou Tensas Closure, Iberville and St. Martin Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 6, 1991, for a cost of $2,417,500 for the construction of a freshwater distribution channel and a closure at Little Bayou Tensas. The design elevation was +20.0' NGVD at the crown and a 1V:16H slope, however the highest elevation to which the dike could be pumped was only approximately +15.0' NGVD. The contractor tried various methods, but any time the soft clay fill material was placed higher than +15.0' NGVD it would slide down the side slope of the closure. Approximately 160,000 cy of fill were pumped in the area to create the closure. The work was completed on February 9, 1992, and the

contract was closed out on February 10, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on June 18, 1992.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ) (Louisiana State University 1998). The DOQQ of the Tensas Bayou Closure is presented in Figure 5.

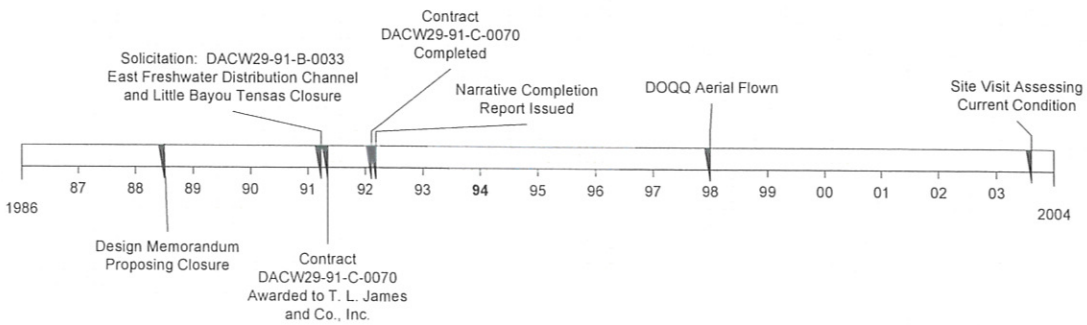
On August 12, 2003, the current conditions of the Tensas Bayou Closure were assessed and documented during a field visit. Figure 6 shows the closure looking east from the main channel of the Atchafalaya River. Figure 7 is the back of the closure looking southeast. The closure at Tensas Bayou was intact, with no evidence of breaching or vandalism.

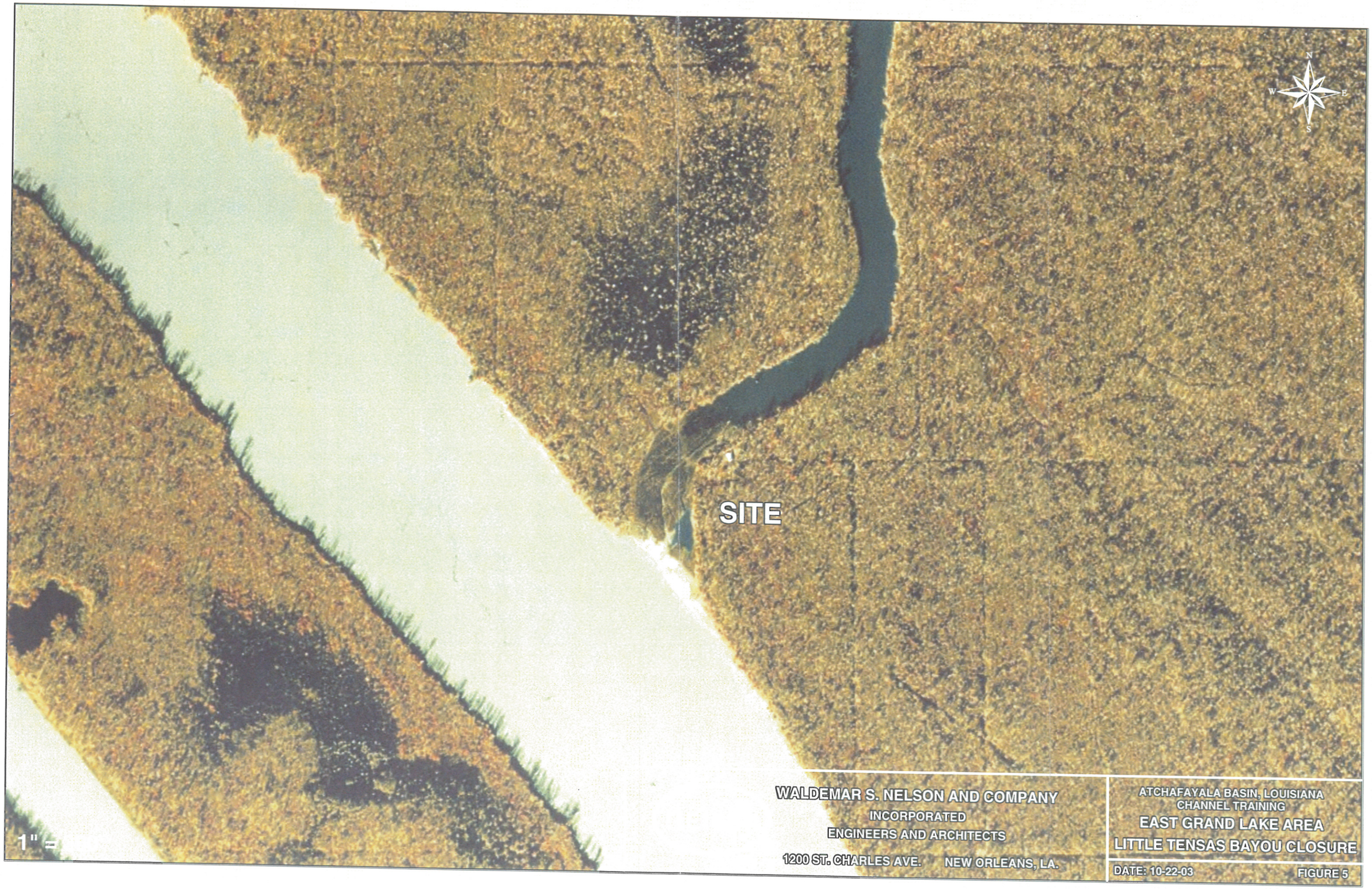
The complete timeline for the Tensas Bayou Closure is presented in Table 2.

Figure 6. Tensas Bayou Closure, looking east from the Atchafalaya River.

Figure 7. Tensas Bayou Closure, looking west toward the Atchafalaya River.

Table 2. Tensas Bayou Closure Timeline





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ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
LITTLE TENSAS BAYOU CLOSURE

DATE: 10-22-03 FIGURE 5

Closure 2 at River Mile 72.7

Closure 2 (30°11'23"N; 91°31'30"W), located near River Mile 72.7 on the east bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 8 illustrates the existing conditions of the access canal prior to the channel training work.

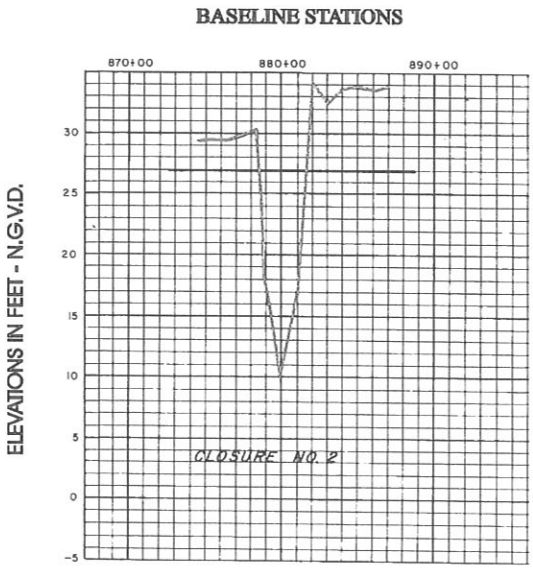


Figure 8. Closure 2 as presented in DM 41.

Solicitation DACW29-91-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on April 15, 1991. It called for the construction of four (4) closures along the Atchafalaya River between River Mile 72.7 and 86.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0076 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on June 3, 1991, for a cost of $198,970 for the construction of four (4) closures. Closures included on this contract were 1, 2, 3 and 4 currently designated as Closures 2, 3, 4 and 12 respectively. T. L. James & Co., Inc. placed approximately 7,563 cy of uncompacted fill in Closure # 2 at a cost of $29,800. The work was completed, and the contract was closed out on July 29, 1991. T. L. James & Co., Inc. submitted the Narrative Completion Report on September 23, 1991.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ) (Louisiana State University 1998). The DOQQ of Closure 2 is presented in Figure 9.

On August 12, 2003, the current conditions of Closure 2 were assessed and documented during a field visit. Figure 10 shows the closure looking east from the main channel of the Atchafalaya River. The downstream side of the closure had a low flow channel, as shown in Figure 11. At a river stage of 4.35 ft at the Bayou Sorrel

gage, water was draining from basin to the main channel of the river. Water was pooled behind the closure, as shown in Figure 12. A long sand berm was evident behind the closure, consisting of material similar to that of the closing material. The berm was likely the result of material washed from the closure during overtopping events on the main channel of the Atchafalaya River.

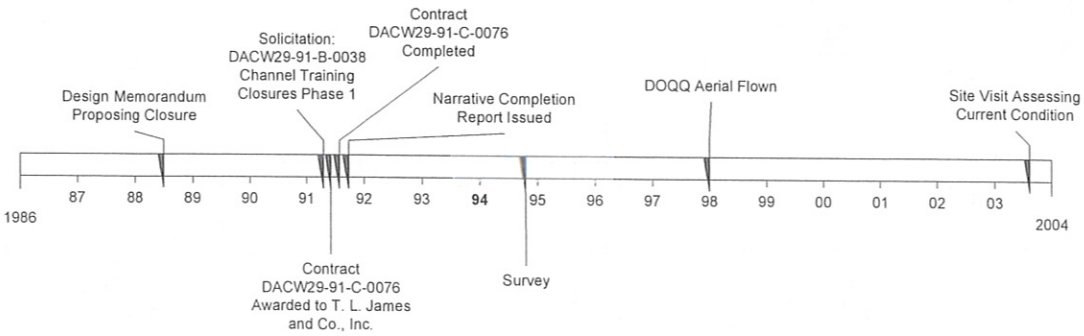
The complete timeline for Closure 2 is presented in Table 3.

Figure 10. Closure 2, looking east from the Atchafalaya River.

Figure 11. Low flow channel on downstream portion of Closure 2.

Figure 12. Ponded water and sediment berm behind Closure 2.

Table 3. Closure 2 Timeline



SITE NO. 2
N
W
E
S
1" = 300'
nelson
WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
CLOSURE NO. 2
DATE: 10-22-03
FIGURE 9

Closure 3 at River Mile 73.3

Closure 3 (30°10'53"N; 91°31'45"W), located near River Mile 73.3 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 13 illustrates the existing conditions of the access prior to the channel training work.

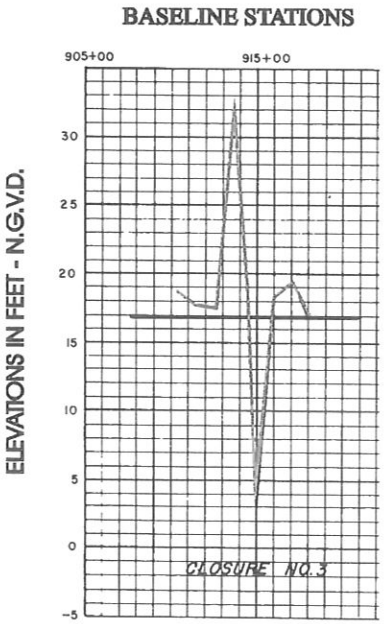


Figure 13. Closure 3 as presented in DM 41.

Solicitation DACW29-91-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on April 15, 1991. It called for the construction of four (4) closures along the Atchafalaya River between River Mile 72.7 and 86.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0076 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on June 3, 1991 for a cost of $198,970 for the construction of four (4) closures. Closures included on this contract were 1, 2, 3 and 4 currently designated as Closures 2, 3, 4 and 12 respectively. T. L. James & Co., Inc. placed approximately 10,215 cy of uncompacted fill in Closure # 3 at a cost of $43,800. The work was completed and the contract was closed out on July 29, 1991. T. L. James & Co., Inc. submitted the Narrative Completion Report on September 23, 1991.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ) (Louisiana State University 1998). The DOQQ of Closure 3 is presented in Figure 14.

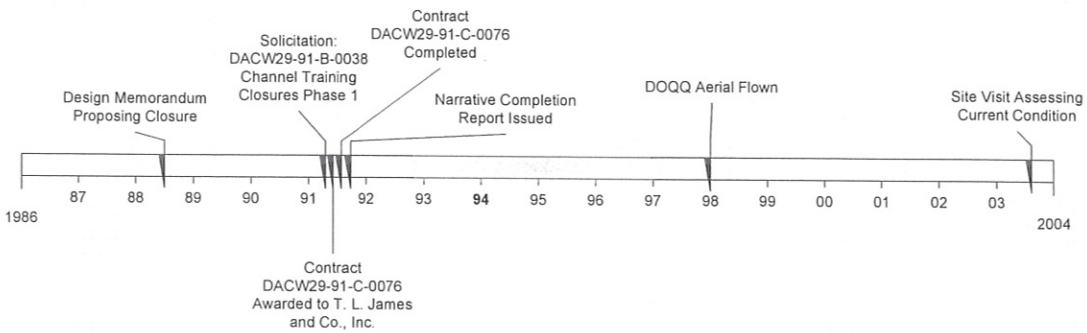
On August 12, 2003, the current conditions of Closure 3 were assessed and documented during a field visit. A channel opening approximately 12-15 ft wide and 6 ft deep for a river stage of 4.35 ft at the Bayou Sorrel gage was

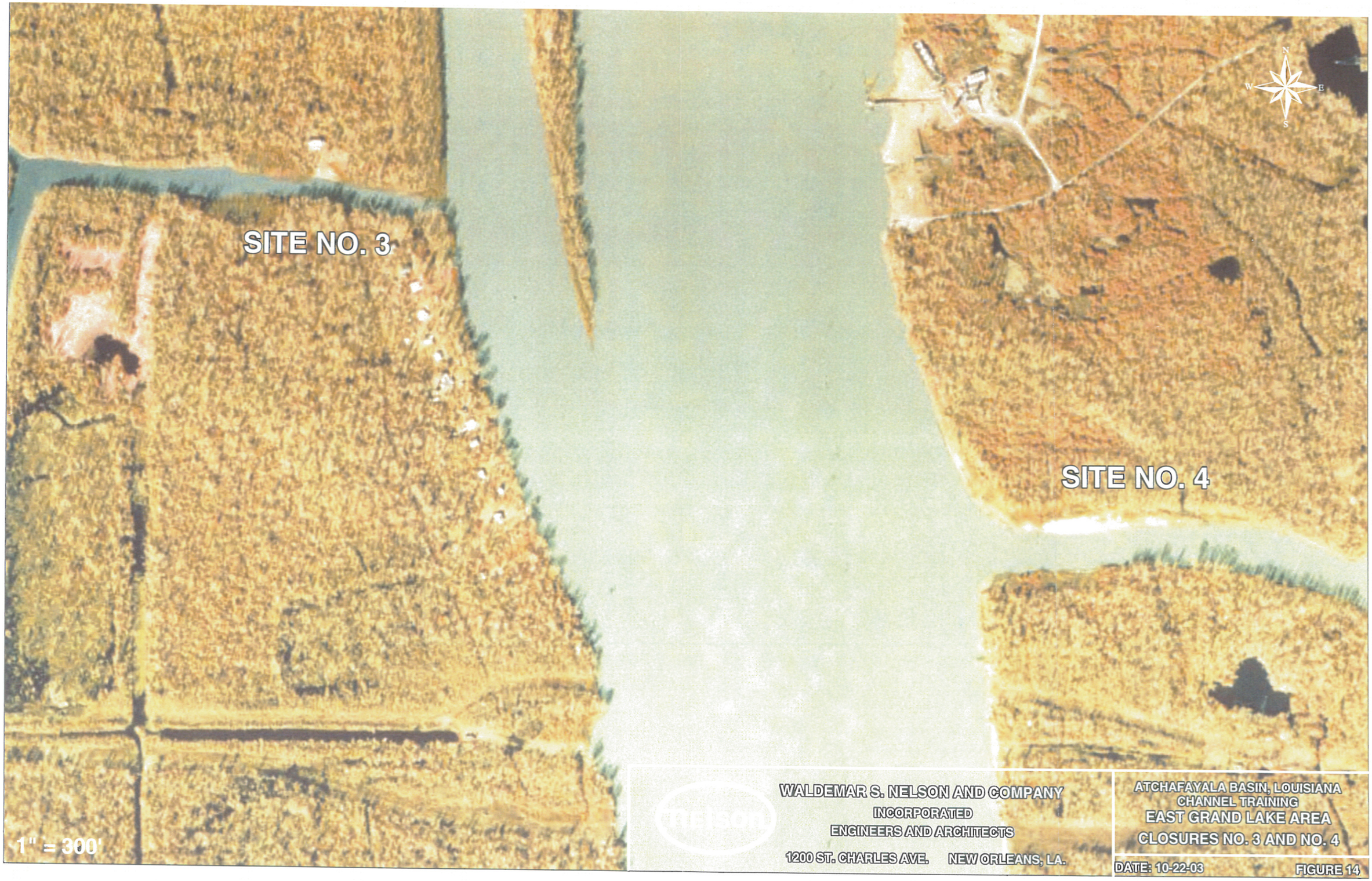
evident in the center of the closure. This opening is shown in Figure 15.

Figure 15. Opening in Closure 3, looking west from the Atchafalaya River.

The complete timeline for Closure 3 is presented in Table 4.

Table 4. Closure 3 Timeline





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EAST GRAND LAKE AREA
CLOSURES NO. 3 AND NO. 4

DATE: 10-22-03

FIGURE 14

Closure 4 at River Mile 73.6

Closure 4, Jake's Bayou, (30°10'38"N; 91°31'12"W, mouth of opening at Atchafalaya River; 30°10'38"N; 91°31'17"W, where closure should have been present), located near River Mile 73.6 on the east bank of the river, was proposed to impede flow from the main channel into Jake's Bayou during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 16 illustrates the existing conditions of the bayou prior to the channel training work.

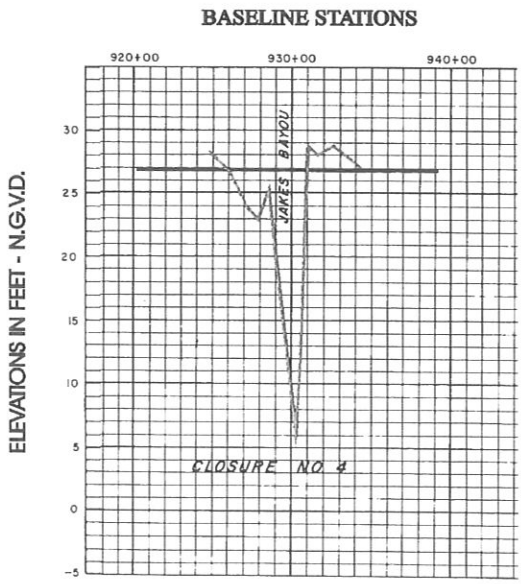


Figure 16. Closure 4 as presented in DM 41.

Solicitation DACW29-91-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on April 15, 1991. It called for the construction of four (4) closures along the Atchafalaya River between River Mile 72.7 and 86.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0076 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on June 3, 1991 for a cost of $198,970 for the construction of four (4) closures. Closures included on this contract were 1, 2, 3 and 4 currently designated as Closures 2, 3, 4 and 12 respectively. T. L. James & Co., Inc. placed approximately 16,860 cy of uncompacted fill in Closure # 4 at a cost of $74,700. The work was completed and the contract was closed out on July 29, 1991. T. L. James & Co., Inc. submitted the Narrative Completion Report on September 23, 1991.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 4 is presented in Figure 14.

On August 12, 2003, the current conditions of Closure 4 were assessed and documented during a field visit. No closure existed at this location. It is possible that the closure was blown out

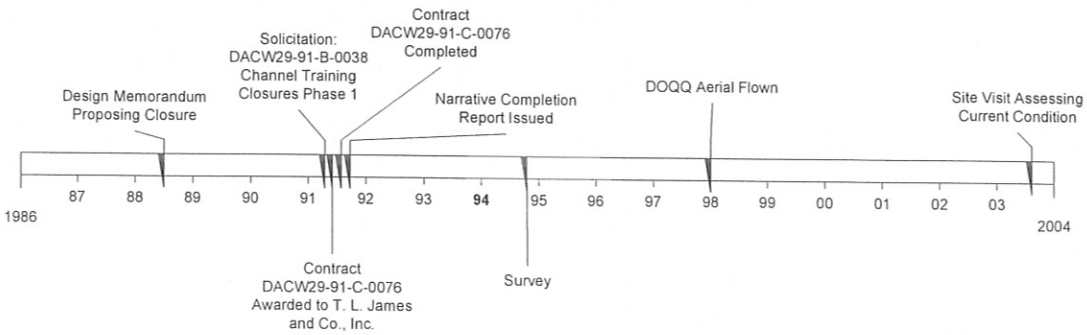
during flood events on the main channel of the Atchafalaya River. As shown in Figure 17, a sand bar was located behind where the closure should have been appeared to be the remnants of the earthen closure. Figure 18 illustrates the opening, which was approximately 5-6 ft deep at a river stage of 4.35 ft at the Bayou Sorrel gage. Water was entering Jake's Bayou from the Atchafalaya River at a reasonably high velocity, but no velocity measurements were taken.

The complete timeline for Closure 4 is presented in Table 5.

Figure 17. Sand bar behind Closure 4, looking northeast from the Atchafalaya River.

Figure 18. Closure 4 opening from Jake's Bayou looking west toward the Atchafalaya River.

Table 5. Closure 4 Timeline



Closure 5 Coon Trap Weir at River Mile 80.2

Closure 5, Coon Trap Weir, (30°05'49"N; 91°28'28"W) located from River Mile 80 to 80.5 on the east bank of the river, was proposed to impede flow through this natural distributary during river stages below ordinary high water. The closure design called for it to be constructed using the same method as the channel training embankments by placement of hydraulically dredged disposal with retaining dikes. The closure had a side slope of 1V:25H with a height of 17.8 feet. A retaining dike was to be built behind the closure as necessary. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 19 illustrates the existing conditions of the distributary opening prior to the channel training work.

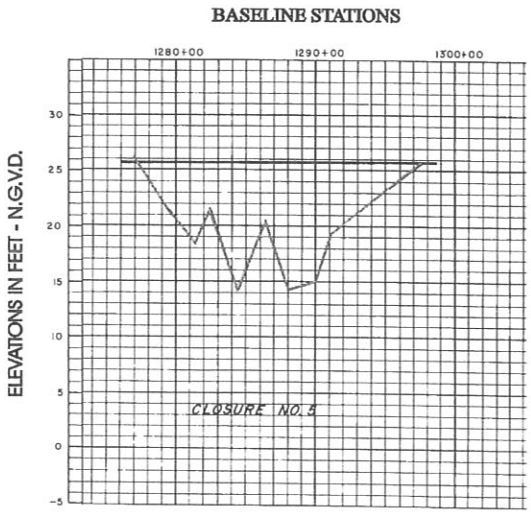


Figure 19. Closure 5 as presented in DM 41.

In May 1990 a supplement to the original design memorandum which authorized Hog Island Freshwater Diversion was issued. The supplement downsized the diversion to 5,000 cfs and moved it to the site of Closure 5, changing it to a freshwater diversion weir. The revised design calls for an earthen closure having a top elevation of +18.0' NGVD and side slopes of 1V:4H. A weir was to be constructed in the closure with a sill elevation of +8.0' NGVD and 1V:3H transitions to the top of the closure. The sill was to be 200 feet in length and have a crest width of 25 feet. The sill, transitions and embankments were to be protected by stone.

Solicitation DACW29-91-B-0037 for Atchafalaya Basin Floodway, Channel Training, Interior Circulation Channel and Closure/Weir (Vic. Mile 80), St. Martin Parish, Louisiana was issued on July 2, 1991. It called for constructing a circulation channel in Grand Lake off of the Atchafalaya Basin Main Channel and constructing a closure with a diversion weir at approximate River Mile 80 of the Atchafalaya Basin Main Channel.

Contract DACW29-91-C-0109 for Atchafalaya Basin Floodway, Channel Training, Interior Circulation Channel and Closure/Weir (Vic. Mile 80), St. Martin Parish, Louisiana was awarded to T. L. James and Co., Inc. on August 23, 1991 for a cost of $831,300.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Coon Trap Weir is presented in Figure 20.

On August 12, 2003, the current conditions of Closure 5 were assessed and documented during a field visit. As shown in Figures 21-24, the Coon Trap Weir was intact and functioning well.

The complete timeline for Closure 5 is presented in Table 6.

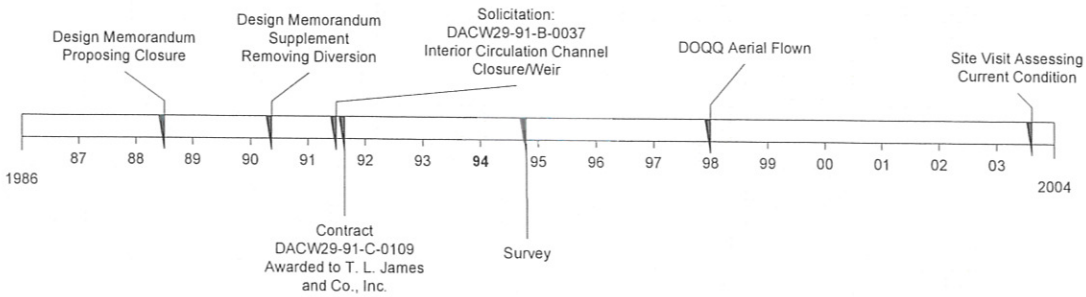
Figure 21. Coon Trap Weir, looking east from the Atchafalaya River.

Figure 22. Coon Trap Weir, looking southeast from the Atchafalaya River.

Figure 23. Coon Trap Weir , looking west toward the Atchafalaya River.

Figure 24. Backside of Coon Trap Weir.

Table 6. Coon Trap Weir Timeline



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COON TRAP WEIR
DATE: 10-22-03
FIGURE 20

Closure 6 at River Mile 80.6

Closure 6 (30°05'31"N; 91°28'40"W), located near River Mile 80.6 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core has side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 25 illustrates the existing conditions of the access canal prior to the channel training work.

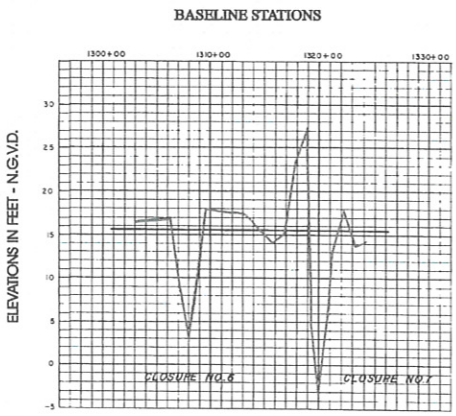


Figure 25. Closure 6 as presented in DM 41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 6 is presented in Figure 26.

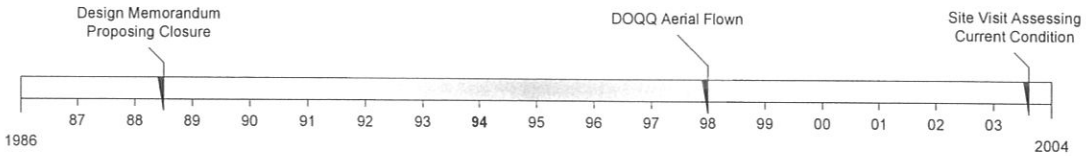
Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure. Some time between 1988 and 2002, a sheet pile closure was installed by a non-Corps of Engineers party.

On August 12, 2003, the current conditions of Closure 6 were assessed and documented during a field visit. As shown in Figure 27, the closure consisted of sheet piling set far back from the river, making it difficult to see from the Main Channel. Water was ponded behind the sheet piling approximately 5 ft higher than the current river stage of 4.35 ft at the Bayou Sorrel Gage. An alligator slough was also evident.

The complete timeline for Closure 6 is presented in Table 7.

Figure 27. Closure 6, looking west from the Atchafalaya River.

Table 7. Closure 6 Timeline



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EAST GRAND LAKE AREA
CLOSURES NO. 6 AND NO. 7
DATE: 10-22-03
FIGURE 26

Closure 7 at River Mile 80.9

Closure 7 (30°05'12"N; 91°28'37"W), located near River Mile 80.9 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 28 illustrates the existing conditions of the access canal prior to the channel training work.

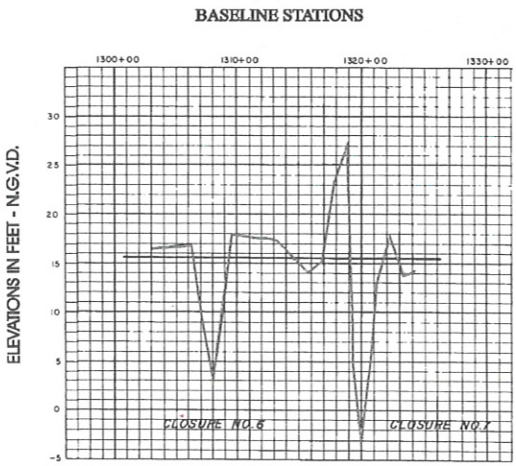


Figure 28. Closure 7 as presented in DM 41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 7 is presented in Figure 26.

Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure. There is some evidence of a closure, but this would have been installed by a non-Corps of Engineers party.

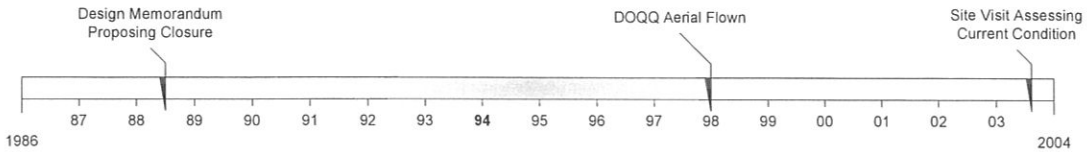
On August 12, 2003, the current conditions of Closure 7 were assessed and documented during a field visit. As can be seen in Figure 29, this closure was no longer in existence. Figure 30 shows the former tie-in of the closure with the river bank.

Figure 29. Closure 7 looking west from the Atchafalaya River.

Figure 30. Former south bank tie-in of Closure 7.

The complete timeline for Closure 7 is presented in Table 8.

Table 8. Closure 7 Timeline



Closure 8 at River Mile 83.2

Closure 8 (30°03'37"N; 91°29'00"W), located near River Mile 83.2 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 31 illustrates the existing conditions of the access canal prior to the channel training work.

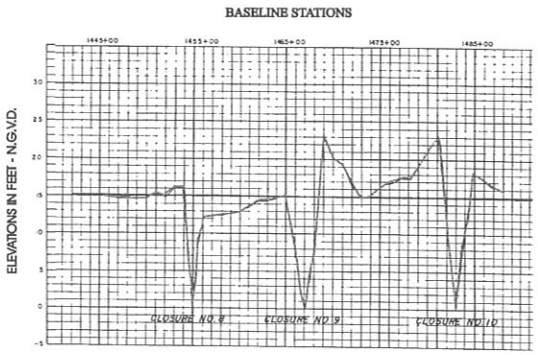


Figure 31. Closure 8 as presented in DM41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 8 is presented in Figure 32.

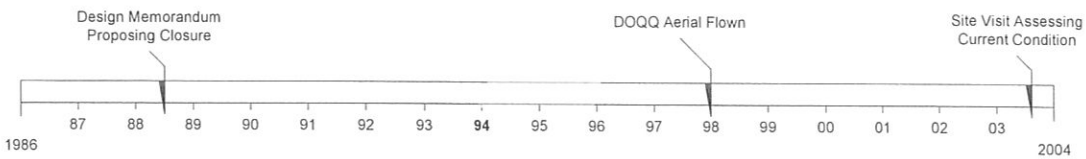
Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure.

On August 12, 2003, the current conditions of Closure 8 were assessed and documented during a field visit. As shown in Figure 33, the closure had an opening approximately 12-15 ft wide for a river stage of 6.8 ft at the Chico Pass gage.

Figure 33. Opening in Closure 8, looking west from the Atchafalaya River.

The complete timeline for Closure 8 is presented in Table 9.

Table 9. Closure 8 Timeline



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CLOSURES NO. 8 AND NO. 9

DATE: 10-22-03 FIGURE 32

Closure 9 at River Mile 83.5

Closure 9 (30°03'25"N; 91°29'14"W), located near River Mile 83.5 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 34 illustrates the existing conditions of the access canal prior to the channel training work.

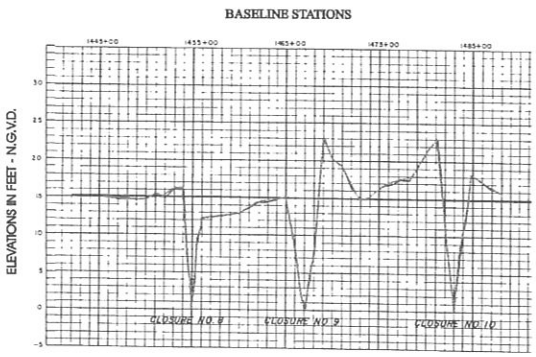


Figure 34. Closure 9 as presented in DM 41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 9 is presented in Figure 32.

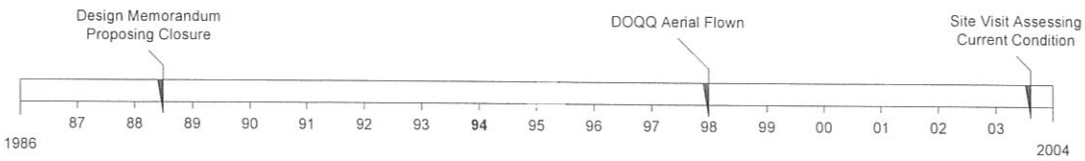
Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure.

On August 12, 2003, the current conditions of Closure 9 were assessed and documented during a field visit. As shown in Figure 35, Closure 9 was completely open.

Figure 35. Closure 9, looking west from the Atchafalaya River.

The complete timeline for Closure 9 is presented in Table 10.

Table 10. Closure 9 Timeline



Closure 10 at River Mile 83.8

Closure 10 (30°03'08"N; 91°29'23"W), located near River Mile 83.8 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 36 illustrates the existing conditions of the access canal prior to the channel training work.

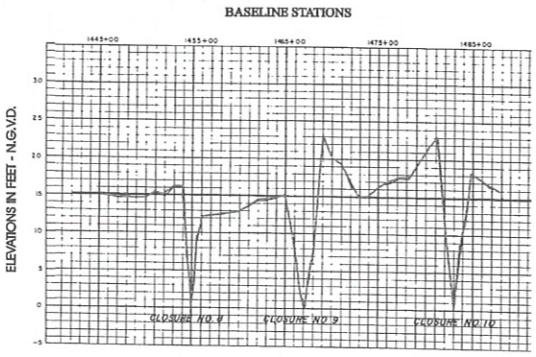


Figure 36. Closure 10 as presented in DM 41.

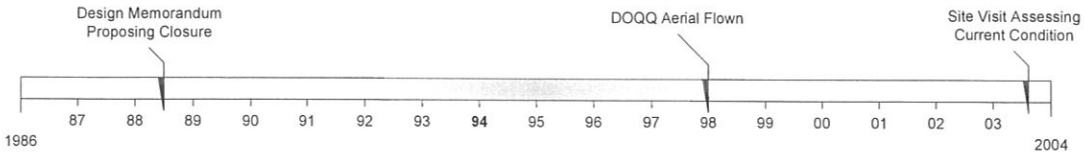
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 10 is presented in Figure 37. Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure. Some time between 1988 and 2002, a closure was installed by a non-Corps of Engineers party.

On August 12, 2003, the current conditions of Closure 10 were assessed and documented during a field visit. As shown in Figure 38, although there was evidence of washout from previous high water events on the Atchafalaya River, the closure was intact.

Figure 38. Closure 10, looking west from the Atchafalaya River.

The complete timeline for Closure 10 is presented in Table 11.

Table 11. Closure 10 Timeline



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CLOSURE NO. 10

DATE: 10-22-03

FIGURE 37

Closure 11 at River Mile 85.7

Closure 11 (30°01'26"N; 91°29'32"W), located near River Mile 85.7 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 39 illustrates the existing conditions of the access canal prior to the channel training work.

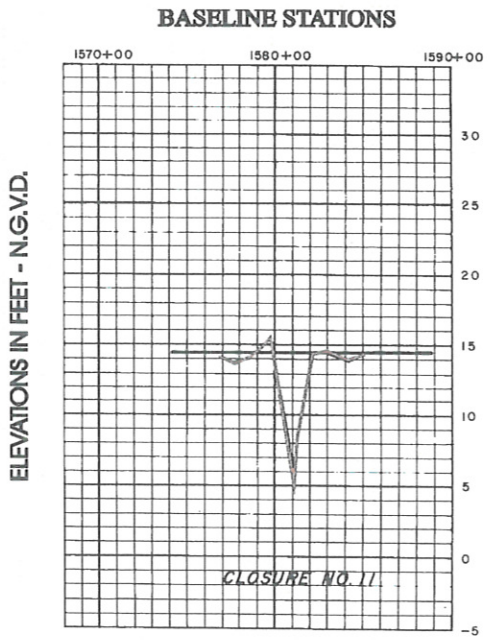


Figure 39. Closure 11 as presented in DM41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 11 is presented in Figure 40.

Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure. Some time between 1988 and 2002, a sheet pile closure was installed by a non-Corps of Engineers party.

On August 12, 2003, the current conditions of Closure 11 were assessed and documented during a field visit. Unlike many of the other closures, this access canal was closed with sheet pile set back from the river channel. As shown in Figures 41-43, vandals have cut an opening in the sheet pile. The result was that the closure functioned as a notched weir. Drainage from the Basin had carved a low flow channel and delta splay east of the closure toward the Atchafalaya River.

Figure 41. Closure 11, looking west from the Atchafalaya River.

Figure 44 shows a remnant of the metal fencing tie-in, located closer to the river channel along the bankline.

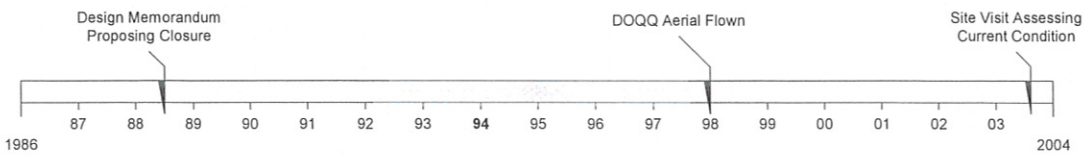
Figure 42. Vandalized opening in Closure 11 sheet pile.

Figure 43. Low flow channel and delta formation between Closure 11 and the Atchafalaya River.

Figure 44. A portion of the metal fencing bank tie-in for Closure 11, looking west from the Atchafalaya River.

The complete timeline for Closure 11 is presented in Table 12.

Table 12. Closure 11 Timeline



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EAST GRAND LAKE AREA
CLOSURE NO. 11
DATE: 10-22-03
FIGURE 40

Closure 12 at River Mile 86.2

Closure 12 (30°00'11"N; 91°28'52"W), located near River Mile 86.2 on the west bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 45 illustrates the existing conditions of the access canal prior to the channel training work.

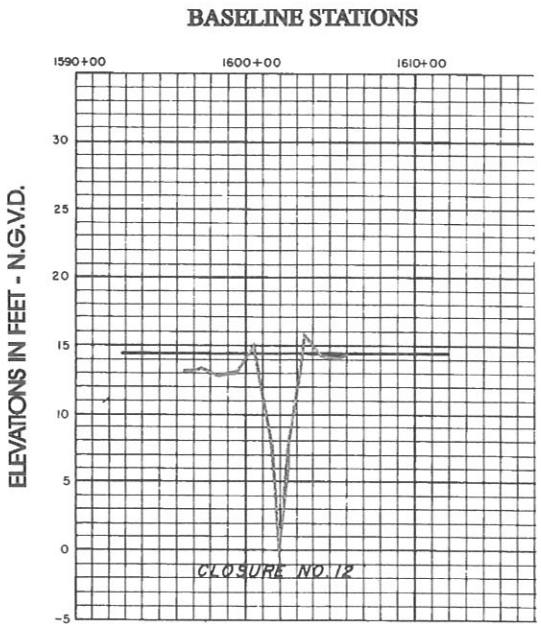


Figure 45. Closure 12 as presented in DM 41.

Solicitation DACW29-91-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on April 15, 1991. It called for the construction of four (4) closures along the Atchafalaya River between River Mile 72.7 and 86.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0076 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 1, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on June 3, 1991 for a cost of $198,970 for the construction of four (4) closures. Closures included on this contract were 1, 2, 3 and 4 currently designated as Closures 2, 3, 4 and 12 respectively. T. L. James & Co., Inc. placed approximately 2,802 cy of uncompacted fill in Closure # 12 at a cost of $13,200. The work was completed and the contract was closed out on July 29, 1991. T. L. James & Co., Inc. submitted the Narrative Completion Report on September 23, 1991.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 12 is presented in Figure 46.

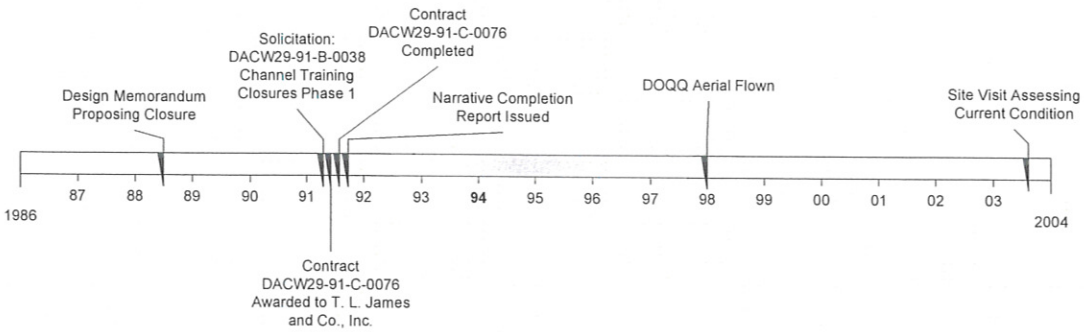
On August 12, 2003, the current conditions of Closure 12 were assessed and documented during a field visit. As shown in Figures 47 and 48, this closure was intact and fully functional. Evidence of the shell cap was present on the crown of the embankment.

Figure 47. Closure 12, looking west from the Atchafalaya River.

Figure 48. The top of the earthen embankment, looking west into the Atchafalaya Basin.

The complete timeline for Closure 12 is presented in Table 13.

Table 13. Closure 12 Timeline



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CHANNEL TRAINING
EAST GRAND LAKE AREA
CLOSURE NO. 12
DATE: 10-22-03
FIGURE 46

Closures 13 and 13b at River Mile 88.75

Closure 13 (29°59'14"N; 91°27'53"W), located near River Mile 88.8 on the east bank of the river, was proposed to impede flow from the main channel into a pipeline canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 49 illustrates the existing conditions of the pipeline opening prior to the channel training work.

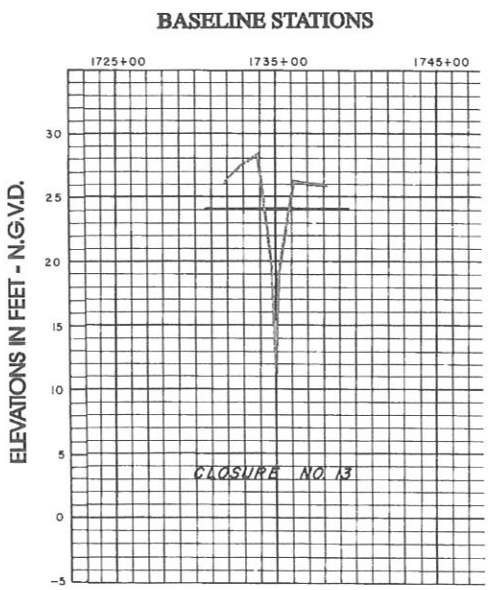


Figure 49. Closure 13 as presented in DM 41.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. T. L. James & Co., Inc. placed approximately 1,200 cy of uncompacted fill in Closure 13 and 5,674 cy of uncompacted fill in Closure 13b. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

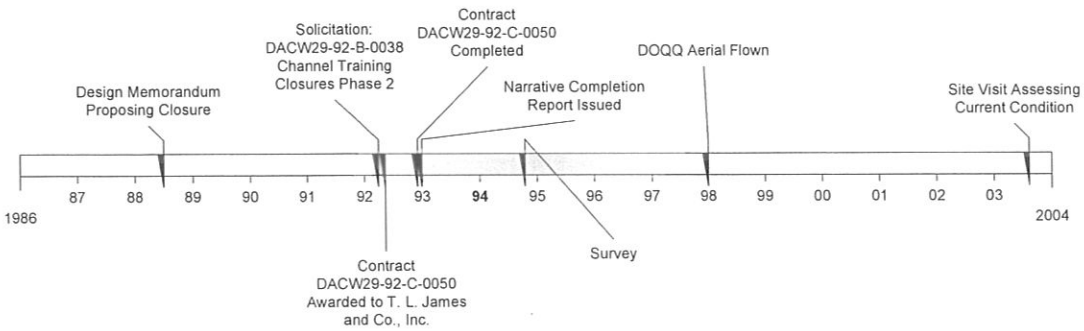
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 13 is presented in Figure 50.

On August 13, 2003, the current conditions of Closure 13 were assessed and documented during a field visit. As shown in Figure 51, this closure was intact and fully functional.

Figure 51. Closure 13, looking east from the Atchafalaya River.

The complete timeline for Closure 13 is presented in Table 14.

Table 14. Closure 13 Timeline



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CLOSURE NO. 13

DATE: 10-22-03

FIGURE 50

Closure 14 at River Mile 93.5

Closure 14 (29°55'13"N; 91°27'36"W), located near River Mile 93.5 on the east bank of the river, was proposed to impede flow from the main channel into a pipeline canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 52 illustrates the existing conditions of the pipeline opening prior to the channel training work.

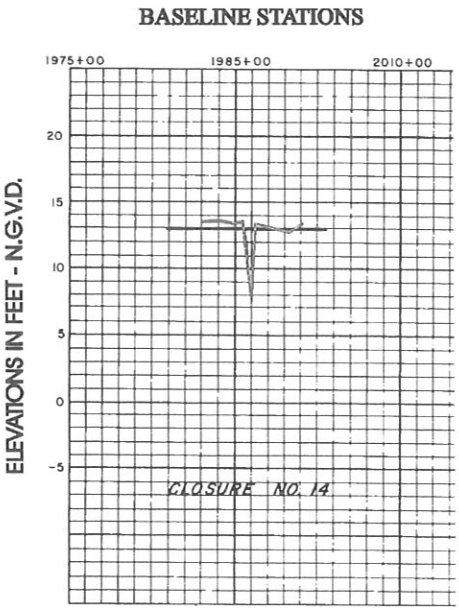


Figure 52. Closure 14 as presented in DM 41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 14 is presented in Figure 53.

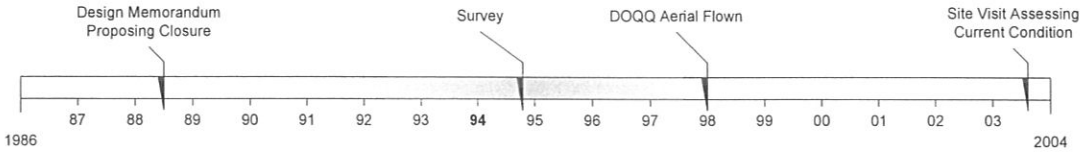
Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure. Some time between 1988 and 2002, a closure was installed by a non-Corps of Engineers party.

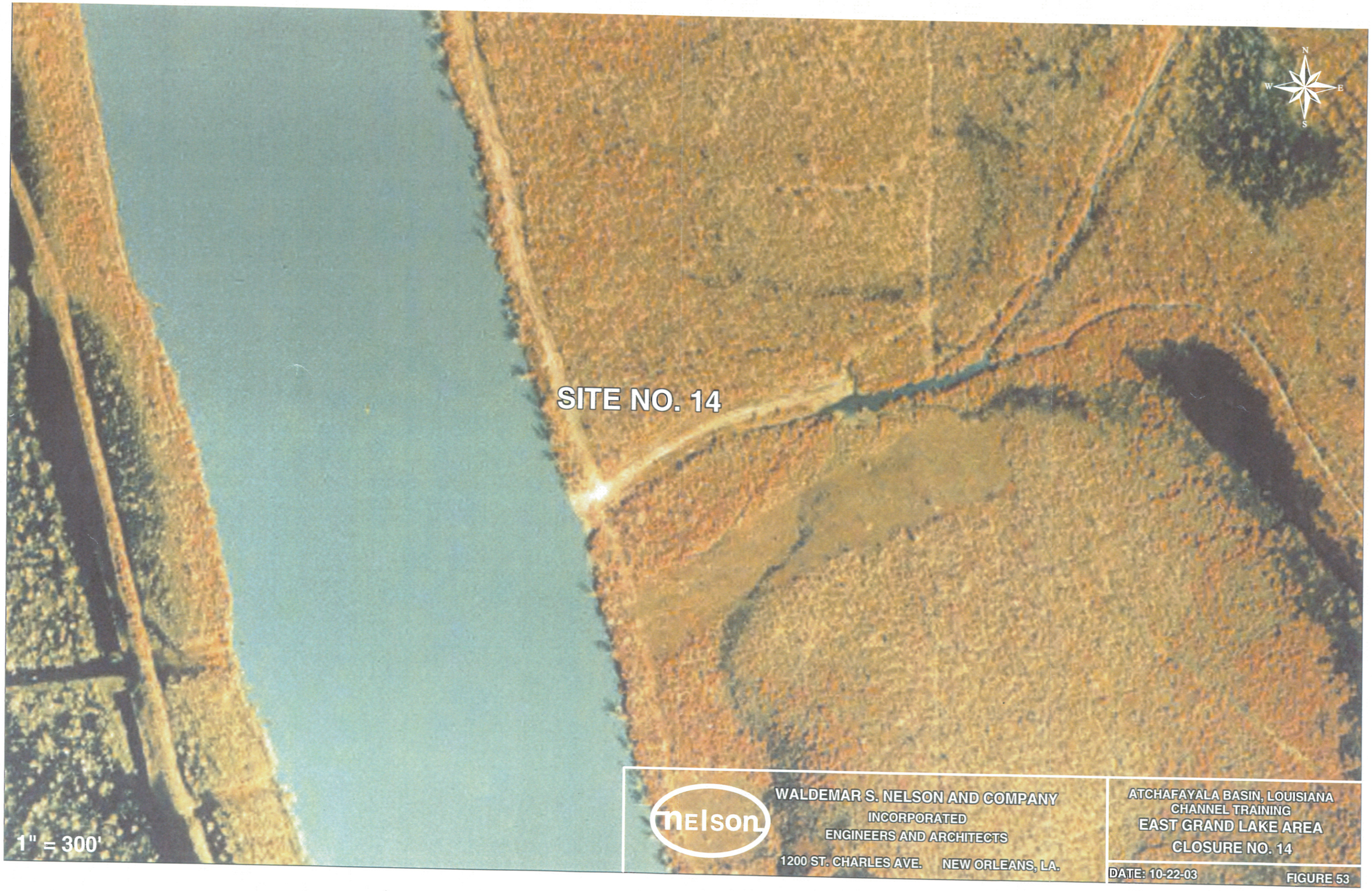
On August 13, 2003, the current conditions of Closure 14 were assessed and documented during a field visit. As shown in Figure 54, this closure was intact and fully functional.

Figure 54. Closure 14, looking east from the Atchafalaya River.

The complete timeline for Closure 14 is presented in Table 15.

Table 15. Closure 14 Timeline

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EAST GRAND LAKE AREA
CLOSURE NO. 14
DATE: 10-22-03
FIGURE 53

Closure 15 Dog Leg Canal at River Mile 94.25

Closure 15, Dog Leg Canal (29°54'41"N; 91°27'22"W), located near River Mile 94.25 on the east bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 55 illustrates the existing conditions of the access canal prior to the channel training work.

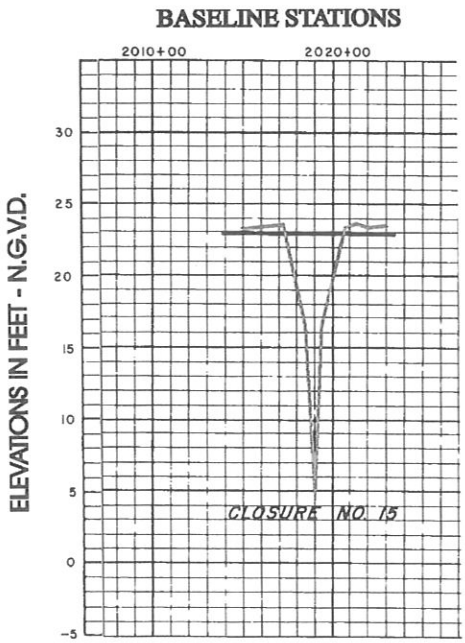


Figure 55. Closure 15 as presented in DM 41.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. T. L. James & Co., Inc. placed approximately 2,598 cy of uncompacted fill in Closure # 15. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

Subsequent to its construction, the Dog Leg Canal was modified twice using the Corps of Engineer's hired labor forces. A request was made by the Louisiana Governor and the Department of Wildlife and Fisheries to reopen Dog Leg Canal to counteract the poor water quality conditions that had developed in portions of East Grand Lake. The Corps responded by partially dredging the closure to allow for some water flow into Grand Lake for less-than-high-water stages. The following year, the degraded closure was armored with rock to prevent the remaining closure from eroding.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 15 is presented in Figure 56.

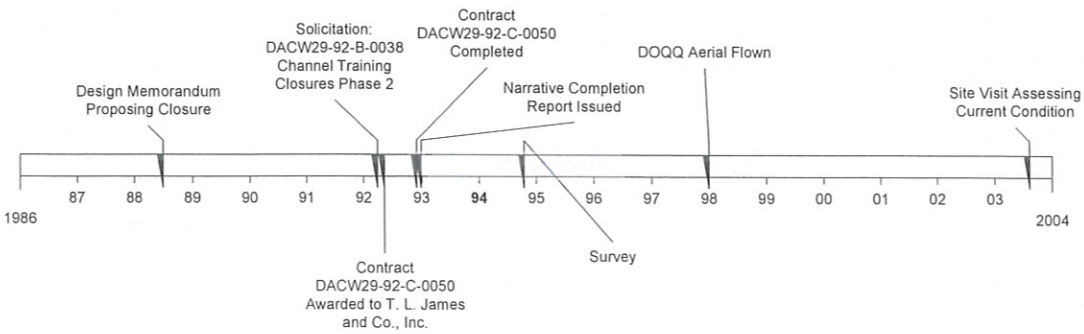
On August 13, 2003, the current conditions of Closure 15 were assessed and documented during a field visit. As shown in Figures 57 and 58, an opening of approximately 15-18 ft at a river stage of 3.70 ft at the Myette Point Gage was present where the closure should have been. Water was not flowing in either direction through the opening.

Figure 57. Dog Leg Canal, looking east from the Atchafalaya River.

Figure 58. Close-up view of Closure 15, looking northeast from the Atchafalaya River.

The complete timeline for Closure 15 is presented in Table 16.

Table 16. Closure 15 Timeline



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CLOSURE NO. 15
DATE: 10-22-03
FIGURE 56

Closure 16 at River Mile 95

Closure 16 (29°54'03"N; 91°27'00"W), located near River Mile 95 on the east bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 59 illustrates the existing conditions of the access canal prior to the channel training work.

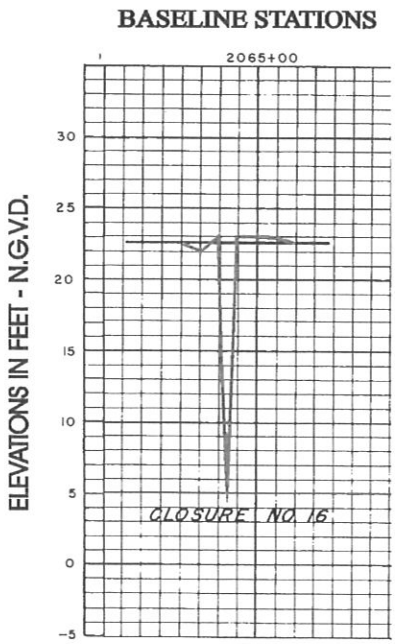

Figure 59. Closure 16 as presented in DM 41.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. T. L. James & Co., Inc. placed approximately 5,687 cy of uncompacted fill in Closure # 16. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 16 is presented in Figure 60.

On August 13, 2003, the current conditions of Closure 16 were assessed and documented during a field visit. As shown in Figures 61 and 62, the closure had a low flow channel approximately 18 inches wide at a river stage of 3.70 at the Myette Point Gage. Water was ponded approximately 2 ft higher than the river stage, but it was not draining to the river through the low flow channel.

Figure 61. Closure 16, looking east from the Atchafalaya River.

Figure 62. Low flow channel eroded through Closure 16.

The complete timeline for Closure 16 is presented in Table 17.

Table 17. Closure 16 Timeline

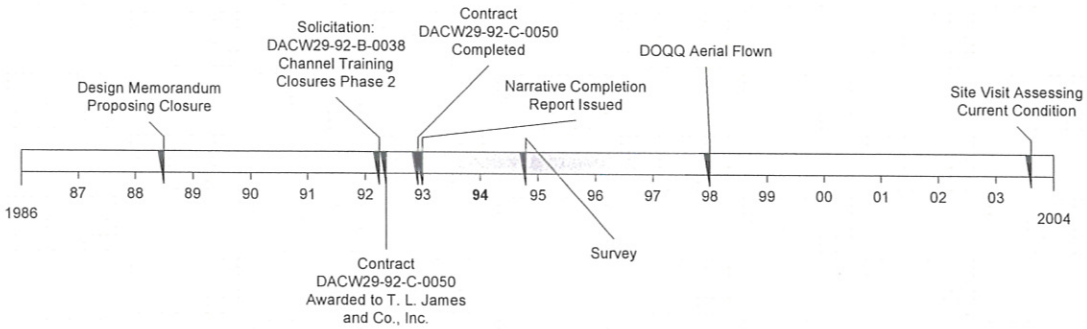

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FIGURE 60

Closure 17 at River Mile 97.5

Closure 17 (29°52'30"N; 91°25'20"W), located near River Mile 97.5 on the east bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included uncompacted earthen fill with side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 63 illustrates the existing conditions of the pipeline opening prior to the channel training work.

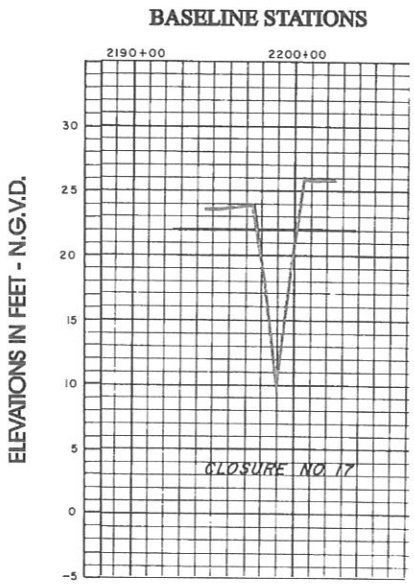


Figure 63. Closure 17 as presented in DM 41.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. T. L. James & Co., Inc. placed approximately 3,947 cy of uncompacted fill in Closure # 4. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 16 is presented in Figure 64.

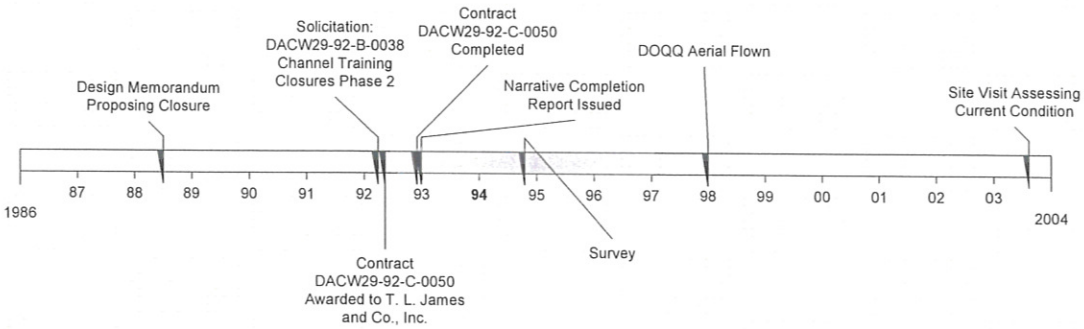
On August 13, 2003, the current conditions of Closure 17 were assessed and documented during a field visit. As shown in Figures 65 and 66, the closure had a low flow channel approximately 18 in wide at a river stage of 3.70 at the Myette Point Gage. Water was ponded approximately 2 ft higher than the river stage, but it was not draining to the river through the low flow channel.

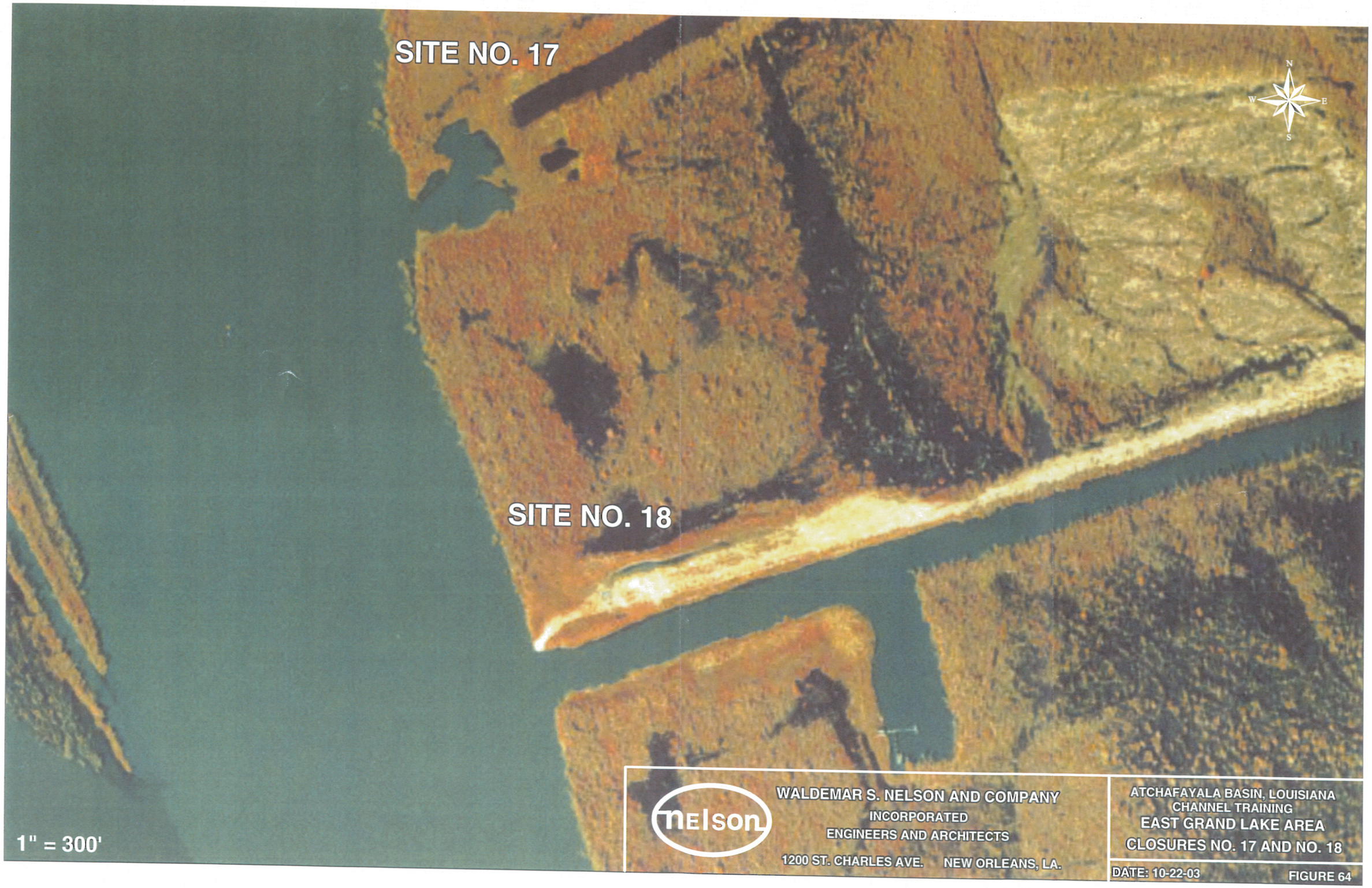
Figure 65. Closure 17, looking east from the Atchafalaya River.

Figure 66. Low flow channel eroded through Closure 17.

The complete timeline for Closure 17 is presented in Table 18.

Table 18. Closure 17 Timeline

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CLOSURES NO. 17 AND NO. 18
DATE: 10-22-03
FIGURE 64

Closure 18 at River Mile 98.9

Closure 18 (29°52'15"N; 91°25'14"W), located near River Mile 98.9 on the east bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 67 illustrates the existing conditions of the access canal prior to the channel training work.

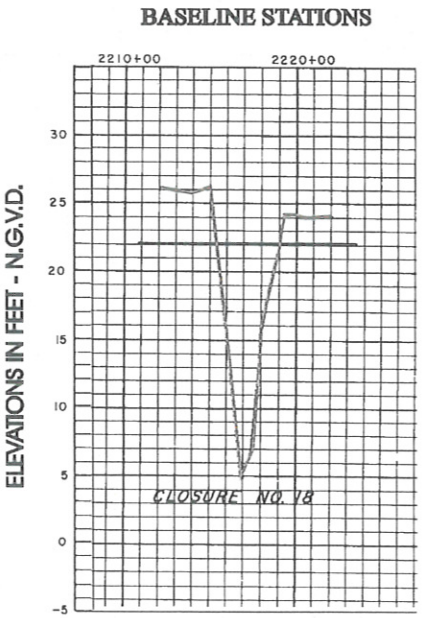


Figure 67. Closure 18 as presented in DM 41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 18 is presented in Figure 64.

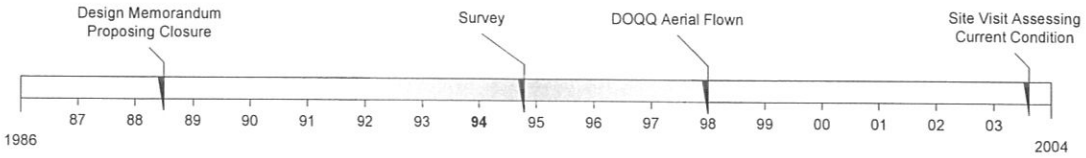
Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure.

On August 13, 2003, the current conditions of Closure 18 were assessed and documented during a field visit. As shown in Figure 68, there was an opening of approximately 15-18 ft at a river stage of 3.70 ft at the Myette Point gage where the closure should have been. The channel through the opening was 6 ft deep at current river stage. Water was not flowing in either direction. It appeared as though this opening may have never been closed.

Figure 68. Complete opening at location of Closure 18.

The complete timeline for Closure 18 is presented in Table 19.

Table 19. Closure 18 Timeline



Closure 19 at River Mile 99.2

Closure 19 (29°51'21"N; 91°24'45"W), located near River Mile 99.2 on the east bank of the river, was proposed to impede flow from the main channel into an access canal during river stages below ordinary high water. The closure design included a shell core covered by uncompacted earthen fill. The core had side slopes of 1V:3H and a top width of 10 feet, and the uncompacted fill had side slopes of 1V:6H and a top width of 10 feet. Its design elevation was that of the existing high bank to prevent flood flow from channelizing and washing out the closure. Figure 69 illustrates the existing conditions of the access canal prior to the channel training work.

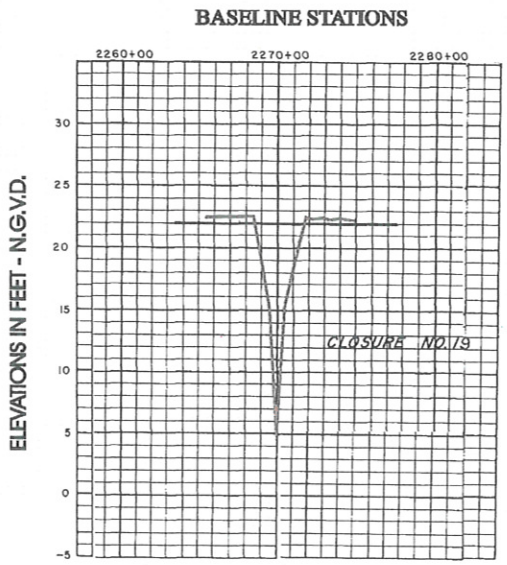


Figure 69. Closure 19 as presented in DM 41.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 19 is presented in Figure 70.

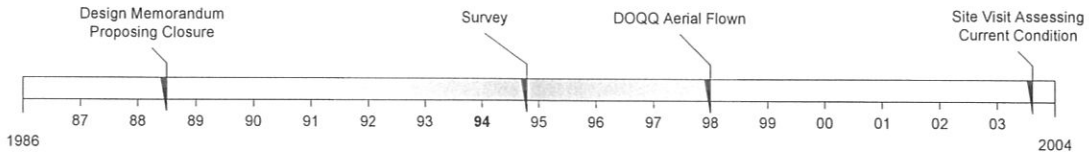
Although this opening was scheduled to be closed in DM 41, no plans and specifications have been produced to formally solicit its closure.

On August 13, 2003, the current conditions of Closure 19 were assessed and documented during a field visit. As shown in Figure 71, the closure was completely open, with a depth of approximately 6 ft for a river stage of 3.70 ft at the Myette Point Gage. Water was flowing into the basin through the opening.

Figure 71. Closure 19, looking east from the Atchafalaya River.

The complete timeline for Closure 19 is presented in Table 20.

Table 20. Closure 19 Timeline



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CLOSURE NO. 19
DATE: 10-22-03
FIGURE 70

Closure 20 at River Mile 99.8

Closure 20 (29°50'54"N; 91°24'02"W) is located near River Mile 99.8 on the east bank of the river, was proposed to impede flow from the main channel into a pipeline canal during river stages below ordinary high water.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

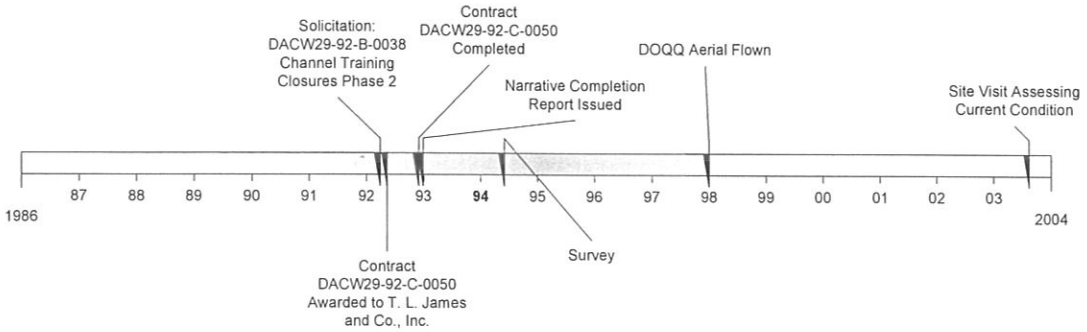
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 20 is presented in Figure 72.

On August 13, 2003, the current conditions of Closure 20 were assessed and documented during a field visit. As shown in Figure 73, this closure was intact and fully functional.

Figure 73. Closure 20, looking east from the Atchafalaya River.

The complete timeline for Closure 20 is presented in Table 21.

Table 21. Closure 20 Timeline



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EAST GRAND LAKE AREA
CLOSURES NO. 20 AND NO. 21

DATE: 10-22-03

FIGURE 72

Closure 21 at River Mile 99.8

Closure 21 (29°50'39"N; 91°24'40"W), located near River Mile 99.8 on the east bank of the river, was proposed to impede flow from the main channel into a pipeline canal during river stages below ordinary high water.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

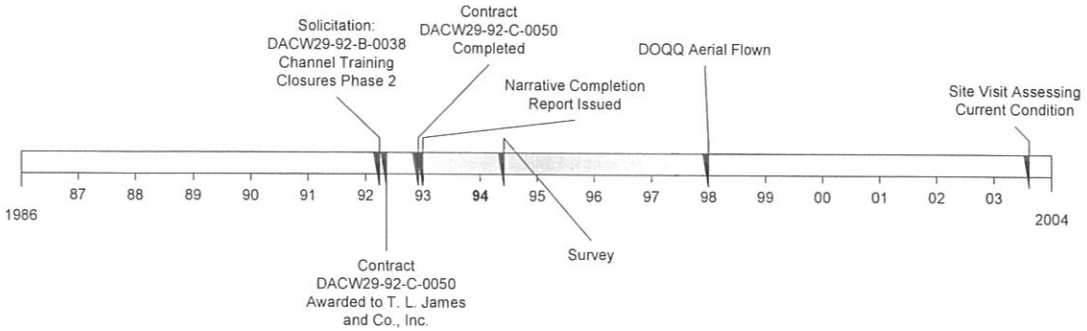
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 21 is presented in Figure 72.

On August 13, 2003, the current conditions of Closure 21 were assessed and documented during a field visit. As shown in Figure 74, Closure 21 had recent activity, as evidenced by the cleared areas around the embankment.

Figure 74. Closure 21, looking east from the Atchafalaya River.

The complete timeline for Closure 21 is presented in Table 22.

Table 22. Closure 21 Timeline



Closure 22 Thibodaux Chute at River Mile 101.25

Closure 22, Thibodaux Chute (29°50'07"N; 91°23'16"W), located near River Mile 101.25 on the east bank of the river, was proposed to impede flow from the main channel into a pipeline canal during river stages below ordinary high water.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of nine (9) closures. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 22 is presented in Figure 75.

Subsequent to construction, the closure became partially open due to natural erosion and vandalism. The Corps of Engineer's hired labor forces rebuilt the closure and armored it with stone.

On August 13, 2003, the current conditions of Thibodaux Chute were assessed and documented during a field visit. As shown in Figure 76, the closure was intact, with a small notch near the center approximately the width of a small fishing boat. Figures 77 and 78 show the effects of water seeping toward the basin from under the weir at a noticeable velocity, although no measurements were taken. A sediment island had formed in the middle of the back side of the weir with a large sediment bar on right side and a smaller one on the left side, when facing east.

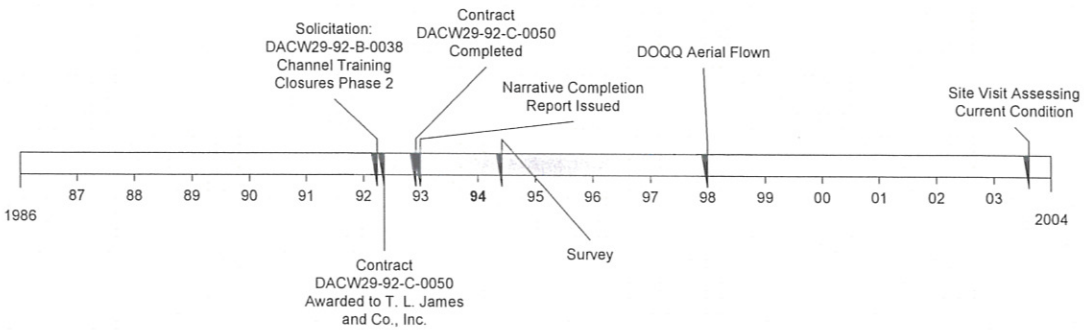
Figure 76. Thibodaux Chute, facing east from the Atchafalaya River.

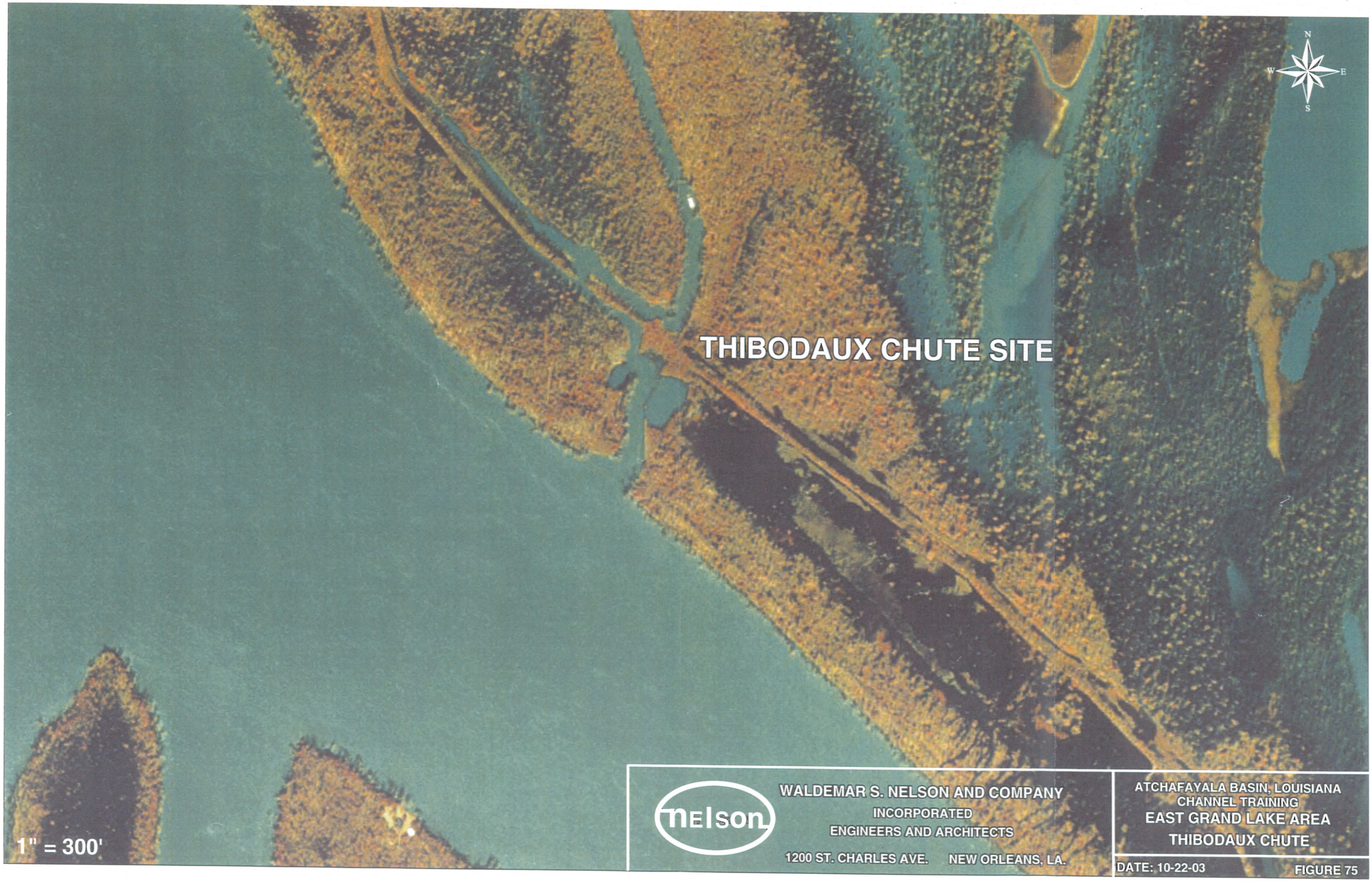
Figure 77. Sediment bar behind Closure 22.

Figure 78. Sediment islands formed behind Thibodaux Chute.

The complete timeline for Thibodaux Chute is presented in Table 23.

Table 23. Thibodaux Chute Timeline




N
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THIBODAUX CHUTE SITE
1" = 300'
nelson
WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
THIBODAUX CHUTE
DATE: 10-22-03
FIGURE 75

Closure 23 at River Mile 105.25

Closure 23 (29°47'08"N; 91°21'21"W), located near River Mile 105.25 on the east bank of the river, was proposed to impede flow from the main channel into a pipeline canal during river stages below ordinary high water.

Solicitation DACW29-92-B-0038 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was issued on March 27, 1992. It called for the construction of nine (9) closures along the Atchafalaya River between River Mile 88.7 and 105.3. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-92-5-0050 for Mississippi River and Tributaries, Atchafalaya Basin, Channel Training, Closures Phase 2, St. Martin, Iberia and St. Mary Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 12, 1992 for a cost of $249,850 for the construction of eight (8) closures. However, nine (9) closures were listed in the Narrative Completion Report, consistent with the solicitation. Closures included on this contract were 1L, 1R, 2, 3, 4, 5, 6, 7, and 8, currently designated as Closures 13, 13b, 15, 16, 17, 20, 21, 22, and 23. The work was completed on July 21, 1992, and the contract was closed out on December 1, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on December 29, 1992.

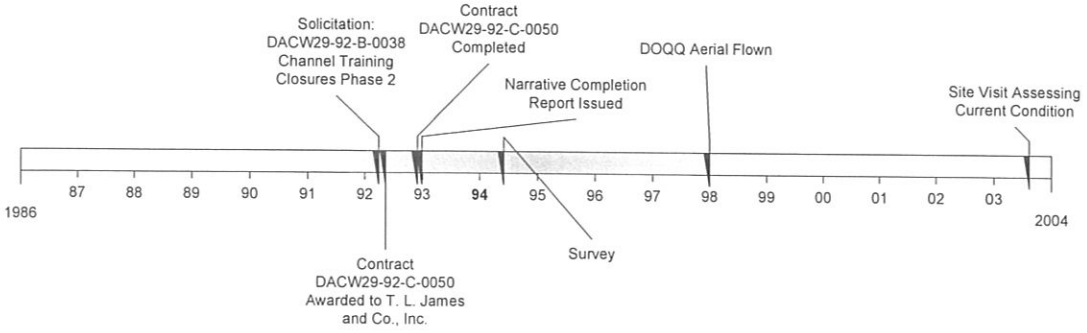
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Closure 23 is presented in Figure 79.

On August 13, 2003, the current conditions of Closure 23 were assessed and documented during a field visit. As shown in Figure 80, no closure was present. Through the canal that was supposed to be blocked with Closure 23, a boat could travel to the intersection of Big Bayou Joe at the backside of American Pass and continue to exit back to the Atchafalaya River through American Pass.

Figure 80. Closure 23, looking east from the Atchafalaya River.

The complete timeline for Closure 23 is presented in Table 24.

Table 24. Closure 23 Timeline



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ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
CLOSURE NO. 23

DATE: 10-22-03 FIGURE 79

Interior Circulation Channel

The Interior Circulation Channel (29°59'09"N; 91°21'59"W) consisted of the construction of a channel with a 70-foot bottom width at elevation -3.5' NGVD between Blue Point Chute and Grand Lake. The channel was to be approximately 3.6 miles long and was to require the removal of approximately 400,000 cy of material which was to be placed on both adjacent banks. This channel was designed to improve circulation and provide access within the Attakapas Wildlife Management Area.

Solicitation DACW29-91-B-0037 for Atchafalaya Basin Floodway, Channel Training, Interior Circulation Channel and Closure/Weir (Vic. Mile 80), St. Martin Parish, Louisiana was issued on July 2, 1991. It called for constructing a circulation channel in Grand Lake off of the Atchafalaya Basin Main Channel and constructing a closure with a diversion weir at approximate River Mile 80 of the Atchafalaya Basin Main Channel.

Contract DACW29-91-C-0109 for Atchafalaya Basin Floodway, Channel Training, Interior Circulation Channel and Closure/Weir (Vic. Mile 80), St. Martin Parish, Louisiana was awarded to T. L. James and Co., Inc. on August 23, 1991 for a cost of $831,300.

In 1994 various parties, including the state Department of Wildlife and Fisheries, recommended the closure of the Interior Circulation Channel. The Corps agreed, deciding to close the channel and perform a one-year study for the area on the east side of the Atchafalaya Basin to address problems encountered due to the construction of the training works. On March 17, 1995, the Corps notification of closure of the channel was issued, and on March 26, 1995, the Interior Circulation Channel closure was completed.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the Interior Circulation Channel is presented in Figure 81.

On August 13, 2003, the current conditions of the Interior Circulation Channel were assessed and documented during a field visit. As shown in Figures 82 and 83, a low flow channel was draining from the basin at a width of approximately 1 ft, expanding to 2 ft; at a river stage of 3.55 ft at the Six Mile Lake above the Rock Dike Gage. A large amount of sediment and debris had accumulated in front of the closure, as shown in Figure 84. However, Figure 85 shows that the backwater was relatively free of sediment and was ponded approximately 5 ft above the current river stage.

Figure 82. Closure of the Interior Circulation Channel, looking north from the channel.

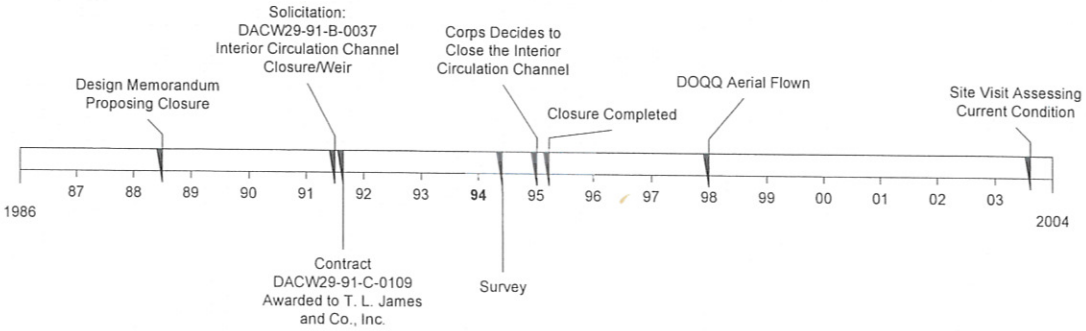
Figure 83. Low flow channel on east side of Interior Circulation Channel Closure.

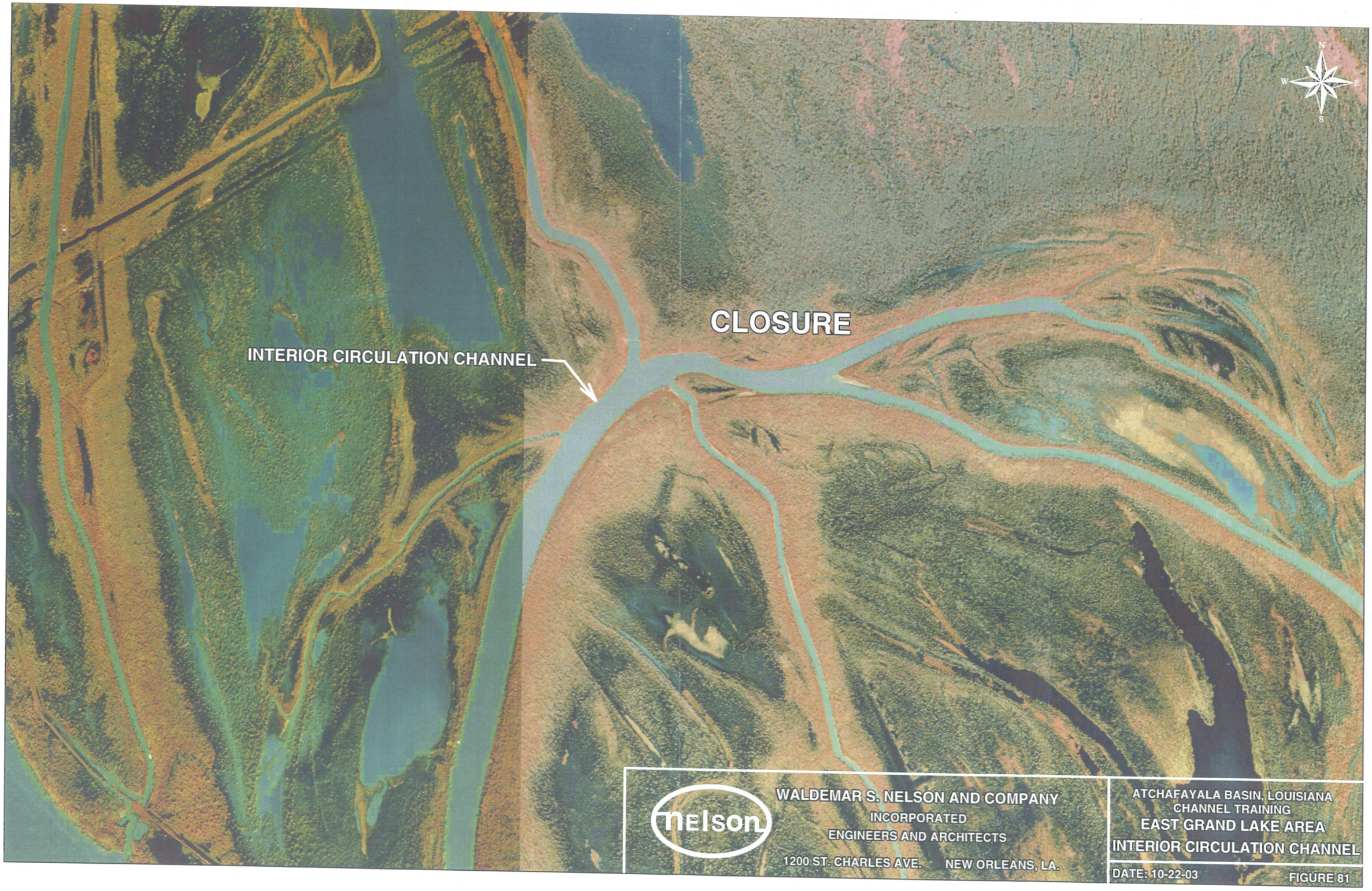
Figure 84. Sediment and debris deposited in front of the Interior Circulation Channel Closure.

Figure 85. Debris-free water ponded behind the Interior Circulation Channel Closure.

The complete timeline for the Interior Circulation Channel is presented in Table 25.

Table 25. Interior Circulation Channel Timeline




CLOSURE
INTERIOR CIRCULATION CHANNEL
N
W
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S
nelson
WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
INTERIOR CIRCULATION CHANNEL
DATE: 10-22-03
FIGURE 81

Blue Point Chute Weir at River Mile 102

Blue Point Chute Weir (29°49'24"N; 91°22'35"W) located near River Mile 102 on the east bank of the river, was proposed to control the flows and sediments and to provide access from the main channel into Blue Point Chute. The weir, including transitions into the bank, was designed to span a length of 365 feet. The sill elevation was designed to be -5.0' NGVD over a length of 80 feet. The remainder of the weir was at elevation +11.1' NGVD. The transition and sides were designed on a 1V:3H slope, and the sill was on a 1V:4H slope. The crown width was to be 10 feet except at the sill where it was 25 feet. Stability berms were required over the length of the weir. Additional rock was required on the downstream side of the sill location to prevent erosion of the channel bottom.

Solicitation DACW29-89-B-0039 for Atchafalaya Basin Floodway, Channel Training Weirs, Blue Point Chute and American Pass, St. Mary and St. Martin Parish, Louisiana was issued in February 1989. It called for the construction of two (2) rock weirs, one at Blue Point Chute, 345 feet long, and one at American Pass, 1300 feet long. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-89-C-0077 for Atchafalaya Basin Floodway, Channel Training Weirs, Blue Point Chute and American Pass, St. Mary and St. Martin Parish, Louisiana was awarded to Anthony J. Bertucci Construction Company Inc. on April 18, 1989, for a cost of $1,827,650 for construction of the two (2) weirs. The Blue Point Chute Weir was constructed by first providing a 1-ft thick clamshell bed along the entire length and width of the weir. The contractor then used types "A" and "B" graded stone to complete the weir. A total of 15,555 cy of clamshell and 120,889 tons of stone were used in the construction of the weirs. The Blue Point Chute Weir was built to elevation +11.1' NGVD and the weir berms varied in with from 200 to 240 feet. The weir opening is 80 feet wide and is built to elevation -5.0' NGVD. The work was completed on August 14, 1989, and the contract was closed out on August 31, 1989. Anthony J. Bertucci Construction Company Inc. submitted the Narrative Completion Report on September 12, 1989.

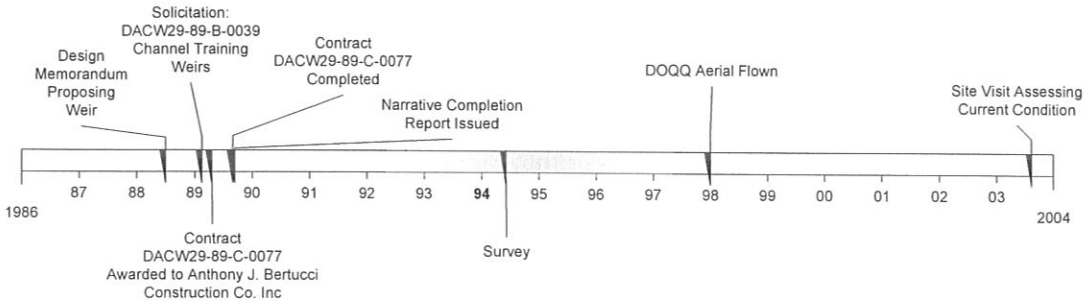
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of Blue Point Chute is presented in Figure 86.

On August 13, 2003, the current conditions of Blue Point Chute were assessed and documented during a field visit. Figure 87 shows Blue Point Chute set back from the Main Channel of the Atchafalaya River. This closure was intact and functional.

The complete timeline for Blue Point Chute is presented in Table 26.

Figure 87. Blue Point Chute, looking east from the Atchafalaya River.

Table 26. Blue Point Chute Timeline



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ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
BLUE POINT CHUTE

DATE: 10-22-03 FIGURE 86

American Pass Weir at River Mile 111

American Pass Weir located near River Mile 111 (29°45'47"N; 91°15'02"W) on the east bank of the river, was proposed to control the flows and sediments and to provide access from the Main Channel into American Pass. The weir, including transitions into the bank, was designed to span a length of 1070 feet. The sill elevation was to be -5.0' NGVD over a length of 250 feet. The remainder of the weir was to be at elevation +7.5' NGVD. The transition and sides were designed on a 1V:3H slope, and the sill was on a 1V:4H slope. The crown width was to be 10 feet, except at the sill where it was to be 25 feet. Stability berms were required over the length of the weir. Additional rock was required on the both sides of the sill location to prevent erosion of the channel bottom.

On March 2, 1989, the design crest of the American Pass Weir was changed from -5' NGVD to -8.5' NGVD. The change was requested by Exxon Company who needed year-round access through American Pass into the backswamp.

Solicitation DACW29-89-B-0039 for Atchafalaya Basin Floodway, Channel Training Weirs, Blue Point Chute and American Pass, St. Mary and St. Martin Parish, Louisiana was issued in February 1989. It called for the construction of two (2) rock weirs, one at Blue Point Chute, 345 feet long, and one at American Pass, 1300 feet long. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-89-C-0077 for Atchafalaya Basin Floodway, Channel Training Weirs, Blue Point Chute and American Pass, St. Mary and St. Martin Parish, Louisiana was awarded to Anthony J. Bertucci Construction Company Inc. on April 18, 1989 for a cost of $1,827,650 for construction of the two (2) weirs. The American Pass Weir was constructed by first providing a 1 ft thick clamshell bed along the entire length and width of the weir. The contractor then used types "A" and "B" graded stone to complete the weir. A total of 15,555 cy of clamshell and 120,889 tons of stone were used in the construction of the weirs. The American Pass Weir was built to elevation +7.5' NGVD, and the weir berms varied in with from 360 to 120 feet. The weir opening was 175 feet wide and was built to elevation -8.5' NGVD. The work was completed on August 14, 1989, and the contract was closed out on August 31, 1989. Anthony J. Bertucci Construction Company Inc. submitted the Narrative Completion Report on September 12, 1989.

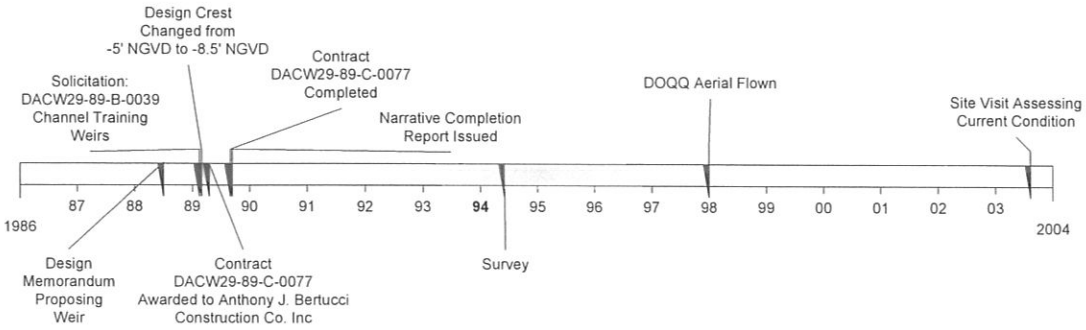
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of American Pass is presented in Figure 88.

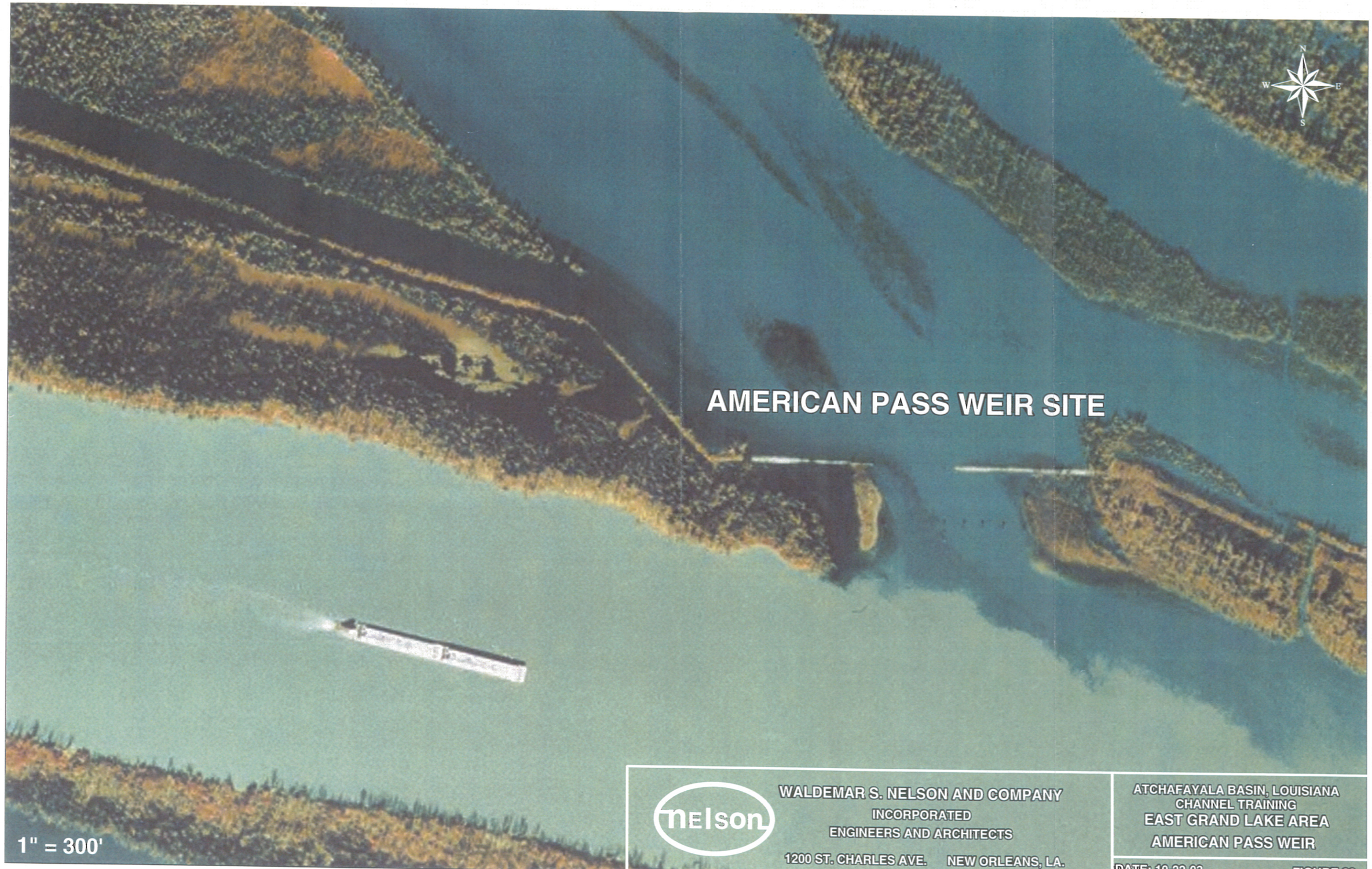
On August 13, 2003, the current conditions of the American Pass Weir were assessed and documented during a field visit. As shown in Figure 89, the pass was completely open with no remnants of closure material in the vicinity. It is possible that the island set back from the Main Channel was formed with washed out closure material.

Figure 89. American Pass Weir, looking north from the Atchafalaya River.

The complete timeline for the American Pass Weir is presented in Table 27.

Table 27. American Pass Timeline





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ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
AMERICAN PASS WEIR

DATE: 10-22-03

FIGURE 88

Left Bank Channel Training from River Mile 99.7 to 113.8

Channel training embankments were to be placed along approximately 15 miles of the left descending bank of the Atchafalaya Basin Main Channel from River Mile 99.0 to 114.0. Construction of the training works was to consist of hydraulically dredging materials from the Main Channel and placing them along the bank, incorporating existing high ground and previously disposed dredged material, to form a continuous line of disposal up to the average annual high water elevation. Side slopes were designed to be 1V:25H. Retaining dikes were to be constructed to confine the dredged material, with the height and location of the dikes adjusting as necessary to achieve design placement of the dredged material for the training works.

Solicitation DACW-90-B-0085 for Atchafalaya Basin Floodway, Channel Training Station 1903+40 to Station 3080+00 (ARMC), St. Mary and St. Martin Parishes, Louisiana was issued on June 28, 1990. It called for building an embankment from landside borrow along the right descending bank of the Atchafalaya River from station 1903+40 (River Mile 92) to station 2077+00 (River Mile 95.5) and station 2300+00 (River Mile 99.7) to station 3080+00 (River Mile 113.8) on the left descending bank.

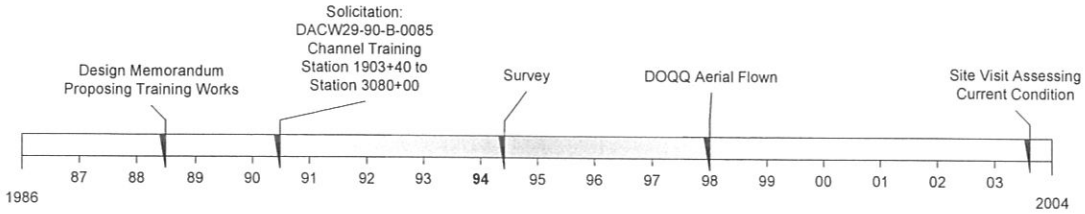
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the left bank channel training works is presented in Figure 90.

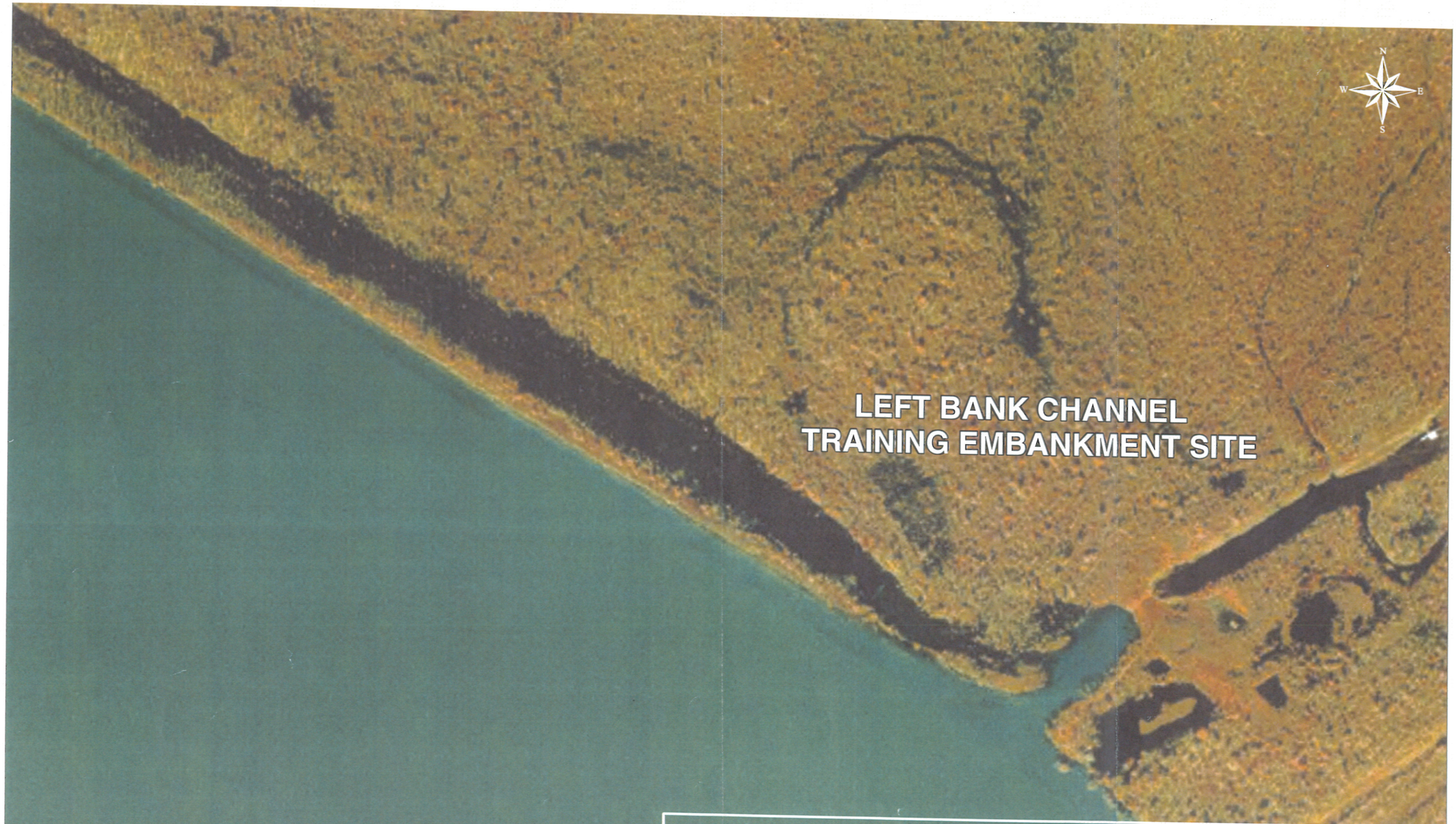
On August 13, 2003, the current conditions of the Left Bank Channel Training Embankment were assessed and documented during a field visit. As shown in Figure 91, the left bank embankment was set back from the bank of the Main Channel. The embankment is the ridge behind the pipeline sign in Figure 91. The channel training embankments were difficult to see from the main channel, except in clearings for access channels and pipeline canals.

Figure 91. Left bank embankment, looking east from the Atchafalaya River.

The complete timeline for the Left Bank Channel Training Embankment is presented in Table 28.

Table 28. Left Bank Channel Training Embankment Timeline





1" = 300'

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1200 ST. CHARLES AVE. NEW ORLEANS, LA.

ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
LEFT BANK CHANNEL
TRAINING EMBANKMENT

DATE: 10-22-03

FIGURE 90

Right Bank Channel Training from River Mile 87.5 to 95.5

Channel training embankments were to be placed along approximately 8 miles of the left descending bank of the Atchafalaya Basin Main Channel from River Mile 87.5 to 95.5. Construction of the training works was to consist of hydraulically dredging materials from the Main Channel and placing them along the bank, incorporating existing high ground and previously disposed dredged material, to form a continuous line of disposal up to the average annual highwater elevation. Side slopes were designed to be 1V:25H. Retaining dikes were to be constructed to confine the dredged material, with the height and location of the dikes adjusting as necessary to achieve design placement of the dredged material for the training works.

Solicitation DACW-90-B-0085 for Atchafalaya Basin Floodway, Channel Training Station 1903+40 to Station 3080+00 (ARMC), St. Mary and St. Martin Parishes, Louisiana was issued on June 28, 1990. It called for building an embankment from landside borrow along the right descending bank of the Atchafalaya River from station 1903+40 (River Mile 92) to station 2077+00 (River Mile 95.5) and station 2300+00 (River Mile 99.7) to station 3080+00 (River Mile 113.8) on the left descending bank.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the right bank channel training works is presented in Figure 92.

On August 13, 2003, the current conditions of the Right Bank Channel Training Embankment were assessed and documented during a field visit. As shown in Figure 93, the second pipeline sign is placed on top of the embankment. The channel training embankments were difficult to see from the main channel, except in clearings for access channels and pipeline canals.

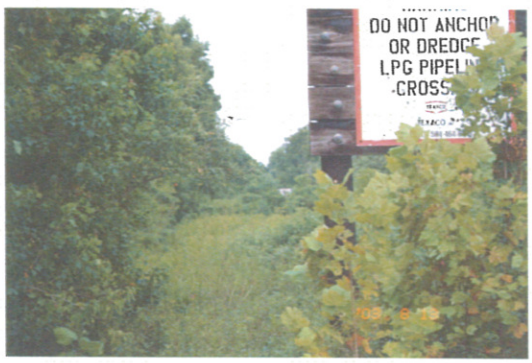
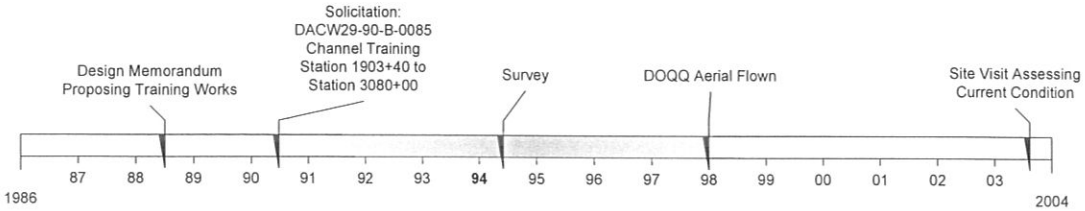


Figure 93. Right bank embankment, looking west from the Atchafalaya River.

The complete timeline for the Right Bank Channel Training Embankment is presented in Table 29.

Table 29. Right Bank Channel Training Embankment Timeline



N
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RIGHT BANK CHANNEL
TRAINING EMBANKMENT SITE
1" = 300'
nelson
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INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
RIGHT BANK CHANNEL
TRAINING EMBANKMENT
DATE: 10-22-03
FIGURE 92

Hog Island Freshwater Diversion

Construction of the Hog Island Diversion Channel was proposed at approximately River Mile 83 of the Main Channel on the east bank. The channel inlet was to be a rock-lined open channel with a bottom width of 28 feet, 1V:3H side slopes, and an invert elevation of 0.0' NGVD. The inlet was to extend for a distance of 100 feet, then transition for 375 feet into a 153-foot bottom width earthen channel with the same side slope and bottom elevation. Rock revetment was to be placed on the river bank in the vicinity of the channel entrance. The channel was to be approximately 1.6 miles long and was to require the removal of 960,000 cy of material. The channel was designed to divert 10,000 cfs, flow not normally available to refresh the Upper Grand Lake area unless the Main Channel flow was over 450,000 cfs.

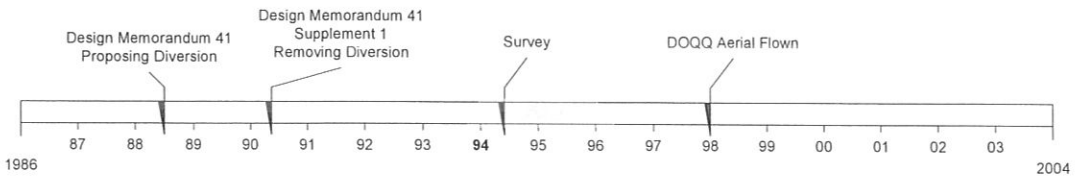
In August 1989 field investigators determined that for a Main Channel flow of 450,000 cfs only 5,000 to 6,000 cfs reached Upper Grand Lake.

In May 1990 a supplement to DM 41 which authorized Hog Island Freshwater Diversion was issued. The supplement downsized the diversion to 5,000 cfs and moved it to the site of Closure 5. The diversion was accomplished by means of the closure previously described for Coon Trap weir.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the intended Hog Island Freshwater Diversion is presented in Figure 94.

The complete timeline for the Hog Island Freshwater Diversion is presented in Table 30.

Table 30. Hog Island Freshwater Diversion Timeline



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HOG ISLAND FRESHWATER
DIVERSION PROPOSED SITE
1" = 300'
nelson
WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
HOG ISLAND FRESHWATER
DIVERSION PROPOSED SITE
DATE: 10-22-03
FIGURE 94

East Freshwater Distribution Channel at River Mile 68.7

The East Freshwater Distribution Channel (30°14'09"N; 91°33'35"W) was built as a feature of the Cross Basin Channel Realignment program (U.S. Army Corps of Engineers 1989). Solicitation DACW29-91-B-0033 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, East Freshwater Distribution Channel and Little Bayou Tensas Closure, Iberville and St. Martin Parishes, Louisiana was issued on March 25, 1991. It called for dredging a new channel entrance to the East Freshwater Distribution Channel at approximately River Mile 68.7 and the closing of Little Bayou Tensas at approximately River Mile 71.5 on the east bank. The new channel entrance was design at an optimum angle to maintain the appropriate flow of water while minimizing sedimentation of the back swamp. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0070 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, East Freshwater Distribution Channel and Little Bayou Tensas Closure, Iberville and St. Martin Parishes, Louisiana was awarded to T. L. James & Co., Inc. on May 6, 1991 for a cost of $2,417,500 for the construction of a freshwater distribution channel and a closure at Little Bayou Tensas. The channel was dredged to a depth of -7.0' NGVD and a width of 80 to 140 feet. The drawings showed a channel bottom of 80 feet with a 1V:4H slope; however, due to an excessive amount of yardage in the upper slopes, the dredge excavated a 140-foot box cut. Approximately 1,835,000 cy were dredged from station -0+50, Atchafalaya River to station 110+21, the intersection of the Upper Grand River and Little Tensas Bayou. The work was completed on February 9, 1992, and the contract was closed out on February 10, 1992. T. L. James & Co., Inc. submitted the Narrative Completion Report on June 18, 1992.

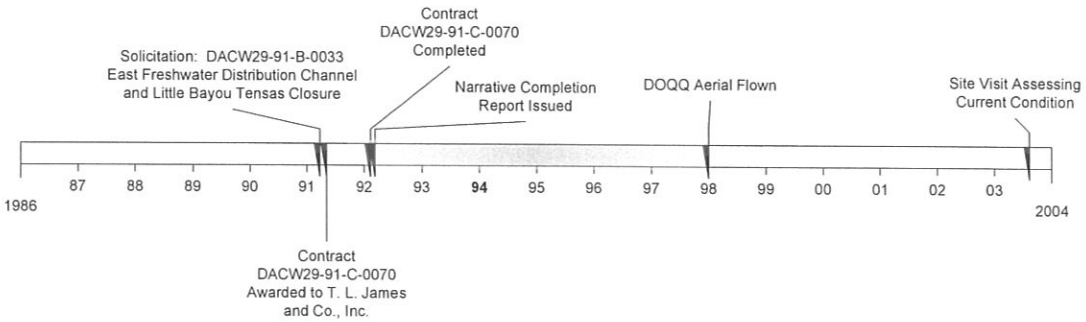
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the East Freshwater Distribution Channel is presented in Figure 95.

On August 12, 2003, the current conditions of the East Freshwater Distribution Channel were assessed and documented during a field visit. As shown in Figure 96, this channel was open and water was flowing freely. The depth of channel entrance from the Atchafalaya River was 21.3 ft at a river stage of 4.35 ft at the Bayou Sorrel Gage.

Figure 96. The East Freshwater Distribution Channel, looking east from the Atchafalaya River.

The complete timeline for the East Freshwater Distribution Channel is presented in Table 31.

Table 31. East Freshwater Distribution Channel Timeline



N
W
E
S
EAST FRESHWATER DISTRIBUTION
CHANNEL SITE
EAST FRESHWATER DISTRIBUTION CHANNEL
1" = 300'
nelson
WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS
1200 ST. CHARLES AVE. NEW ORLEANS, LA.
ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
EAST FRESHWATER
DISTRIBUTION CHANNEL
DATE: 10-22-03
FIGURE 95

West Access Channel at River Mile 75

The West Access Channel (30°09'19"N; 91°31'27"W) was built as a feature of the Cross Basin Channel Realignment program (U.S. Army Corps of Engineers 1989). Solicitation DACW29-91-B-0013 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, West Access Channel and Bayou Chene Closure, St. Martin Parish, Louisiana was issued on January 31, 1991. It called for dredging of a new entrance to the West Access Channel at approximately River Mile 75 and the closing of Bayou Chene at approximately River Mile 77.7 on the west bank. The new channel entrance was design at an optimum angle to maintain the appropriate flow of water while minimizing sedimentation of the back swamp. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0042 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, West Access Channel and Bayou Chene Closure, St. Martin and Iberia Parishes, Louisiana was awarded to Pine Bluff Sand and Gravel Company in April 1991 for a cost of $837,300 for dredging of a new West Access Channel and the closing of Bayou Chene. The dredge excavated from station -0+60 to 67+00. The channel was box cut and approximately 642,111 cy were excavated. The contract was closed out on August 14, 1991. Pine Bluff Sand and Gravel Company submitted the Narrative Completion Report on August 31, 1991.

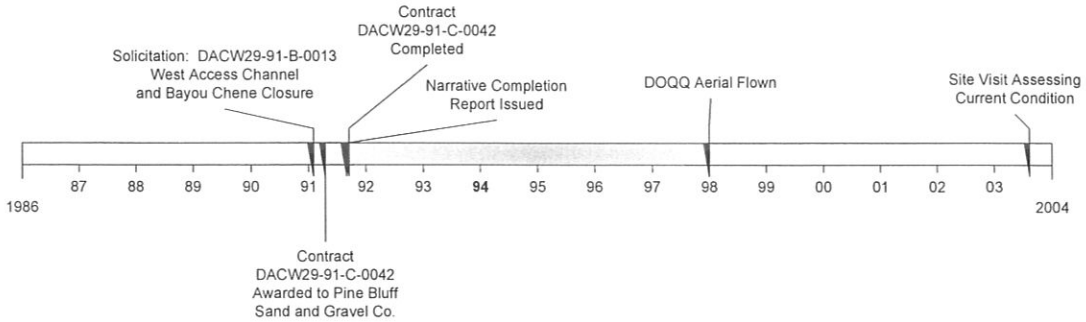
In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the West Access Channel is presented in Figure 97.

On August 12, 2003, the current conditions of the West Access Channel were assessed and documented during a field visit. As shown in Figure 98, the West Access Channel was completely open and water was flowing freely.

Figure 98. West Access Channel, looking west from the Atchafalaya River.

The complete timeline for the West Access Channel is presented in Table 32.

Table 32. West Access Channel Timeline



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1200 ST. CHARLES AVE. NEW ORLEANS, LA.

ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
WEST ACCESS CHANNEL

DATE: 10-22-03

FIGURE 97

Bayou Chene Closure at River Mile 77.7

The Bayou Chene Closure (30°07'30"N; 91°29'51"W) was built as a feature of the Cross Basin Channel Realignment program (U.S. Army Corps of Engineers 1989). Solicitation DACW29-91-B-0013 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, West Access Channel and Bayou Chene Closure, St. Martin Parish, Louisiana was issued on January 31, 1991. It called for dredging of a new West Access Channel at approximately River Mile 75 and the closing of Bayou Chene at approximately River Mile 77.7 on the west bank. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-91-C-0042 for Mississippi River and Tributaries, Atchafalaya Basin Floodway, West Access Channel and Bayou Chene Closure, St. Martin and Iberia Parishes, Louisiana was awarded to Pine Bluff Sand and Gravel Company in April 1991 for a cost of $837,300 for dredging of a new West Access Channel and the closing of Bayou Chene. Approximately 46,000 cy of uncompacted fill was placed in Bayou Chene for the closure. The contract was closed out on August 14, 1991. Pine Bluff Sand and Gravel Company submitted the Narrative Completion Report on August 31, 1991.

In 1998 a digital image database was developed for the State of Louisiana and divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the Bayou Chene Closure is presented in Figure 99.

On August 12, 2003, the current conditions of the Bayou Chene Closure were assessed and documented during a field visit. As shown in Figures 100 and 101, this closure had a small approximately 2 ft wide low flow channel at a river stage of 4.35 ft at the Bayou Sorrel Gage. The low flow channel was draining from the Basin toward the river. Figure 102 shows that water was ponded behind the closure. Evidence of a shell cap on the embankment was present as exposed shell on the backside of closure.

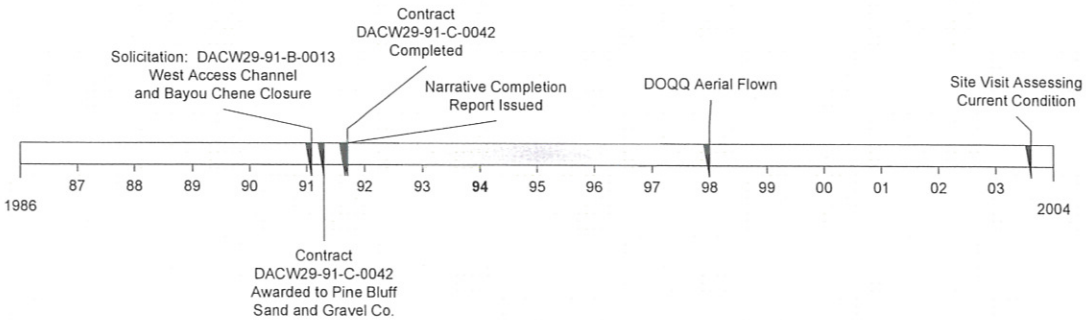
Figure 100. Bayou Chene Closure, looking west from the Atchafalaya River.

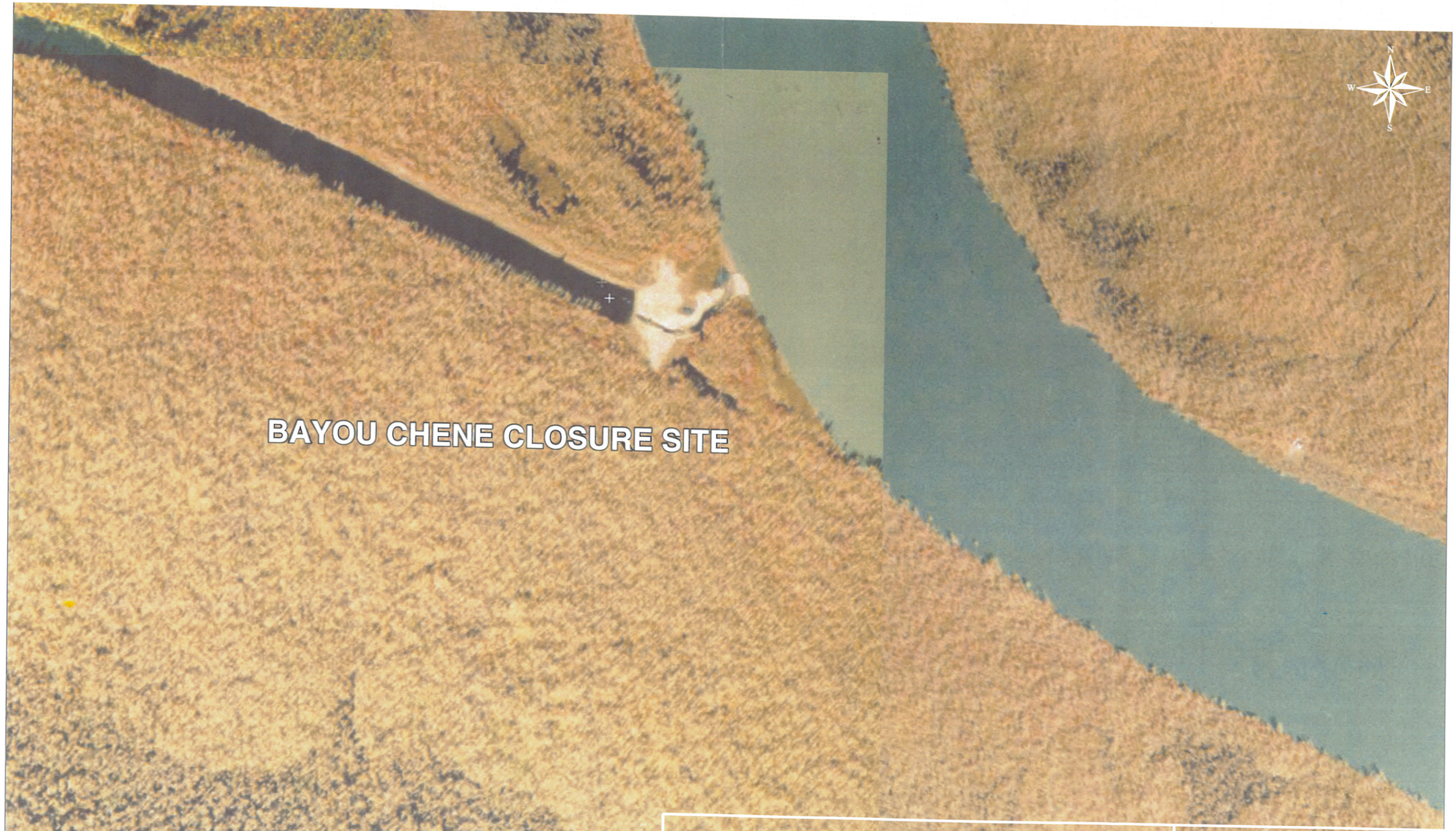
Figure 101. Low flow channel eroded through the Bayou Chene Closure.

Figure 102. Ponded water behind the Bayou Chene Closure.

The complete timeline for the Bayou Chene Closure is presented in Table 33.

Table 33. Bayou Chene Closure Timeline





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INCORPORATED
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1200 ST. CHARLES AVE. NEW ORLEANS, LA.

ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
BAYOU CHENE CLOSURE

DATE: 10-22-03

FIGURE 99

Wax Lake Outlet Control

The Wax Lake Outlet Weir site is located at 29°47'49"N; 91°24'03"W. Solicitation DACW29-87-B-0058 for Atchafalaya Basin Floodway, Wax Lake Outlet Control, Station 0+00 to Station 447+07, St. Mary and St. Martin Parishes, Louisiana was issued on May 11, 1987. It called for clearing and grubbing, placing embankment, uncompacted fill, fertilizing and seeding, and placing shell, graded stone C, and rock (Types 1, 2, and 3) across Grand Lake, placing rock slope protection, and other incidental work. The plans provided with the solicitation are included in Appendix A.

Contract DACW29-87-C-0163 for Atchafalaya Basin Floodway, Wax Lake Outlet Control, Station 0+00 to Station 447+07, St. Mary and St. Martin Parishes, Louisiana was awarded to Luhr Brothers Incorporated on July 7, 1987 for a cost of $13,531,460 for Wax Lake Outlet Control. The project constructed a 3,065 foot rock weir across Grand Lake with a new levee on each side of the weir adjoining it with the existing West Atchafalaya Basin Protection Levees. A total of 6.2 miles of new levee was constructed. The top elevation of the weir and project levee was no higher that +13.3' NGVD. A total of 115,158 cy of clamshell and 449,376 tons of stone were used to construct the weir. The weir was constructed by first laying a 12" thick layer of clam shells as the base followed by 18" of graded stone C. Finally, Types 1, 2 and 3 stone were placed on top of the previous layers to the desired height. An additional 19,718 cy of clamshell was used for the core of one of the eastern channel closures, and approximately 350,000 cy of uncompacted fill were used for levee construction. The contract was closed out on August 16, 1988. Luhr Brothers Incorporated submitted the Narrative Completion Report on August 23, 1988.

Contract DACW29-94C-0054 for modification of the weir was awarded on May 3, 1994, and was completed on August 18, 1994, at a total cost of approximately $748,000. Under this contract, the central portion of the weir was removed. The bulk of the rock was taken to Grand Isle, where the locals used the material to build hurricane protection jetties and dikes.

Solicitation DACW29-94-B-0067 for Atchafalaya Basin Floodway, Wax Lake Outlet Control, Rock Weir Modification Phase 2, St. Mary, St. Martin and Vermilion Parishes, Louisiana was issued on August 18, 1994. It called for removing existing rock and degrading existing earth levee at the Wax Lake Outlet Control Weir. Removed rock was to be transported to and placed at selected sites in St. Mary, St. Martin and Vermilion Parishes. The plans provided with the solicitation are included in Appendix A. Contract DACW29-94C-0095 for Atchafalaya Basin Floodway, Wax Lake Outlet Control, Rock Weir Modification Phase 2, St. Mary, St. Martin and Vermilion Parishes, Louisiana was awarded on August 29, 1994, and was completed on March 25, 1995, at a cost of $6,085,167.38.

In 1998 a digital image database was developed for the State of Louisiana and

divided into Digital Orthophoto Quarter Quadrangles (DOQQ). The DOQQ of the former Wax Lake Outlet Control is presented in Figure 103.

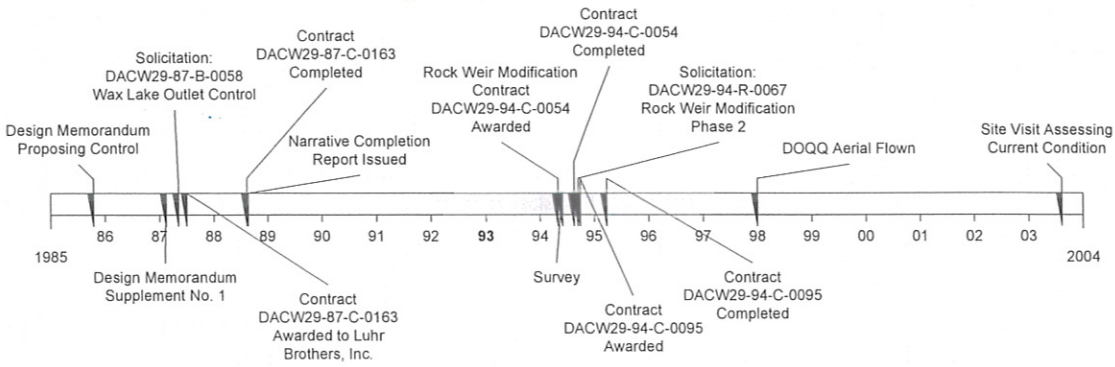
On August 13, 2003, the current conditions of the Wax Lake Outlet Control were assessed and documented during a field visit. Figures 104 and 105 show the remnants of the rock weir.

The complete timeline for the Wax Lake Outlet Control is presented in Table 34.

Figure 104. Remnants of Wax Lake Outlet Weir, looking west from Wax Lake Outlet.

Figure 105. Remnants of Wax Lake Outlet Weir, looking east from Wax Lake Outlet.

Table 34. Wax Lake Outlet Control Structure Timeline



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ATCHAFAYALA BASIN, LOUISIANA
CHANNEL TRAINING
EAST GRAND LAKE AREA
FORMER WAX LAKE
OUTLET CONTROL SITE

DATE: 10-22-03 FIGURE 103

Chapter Four: References

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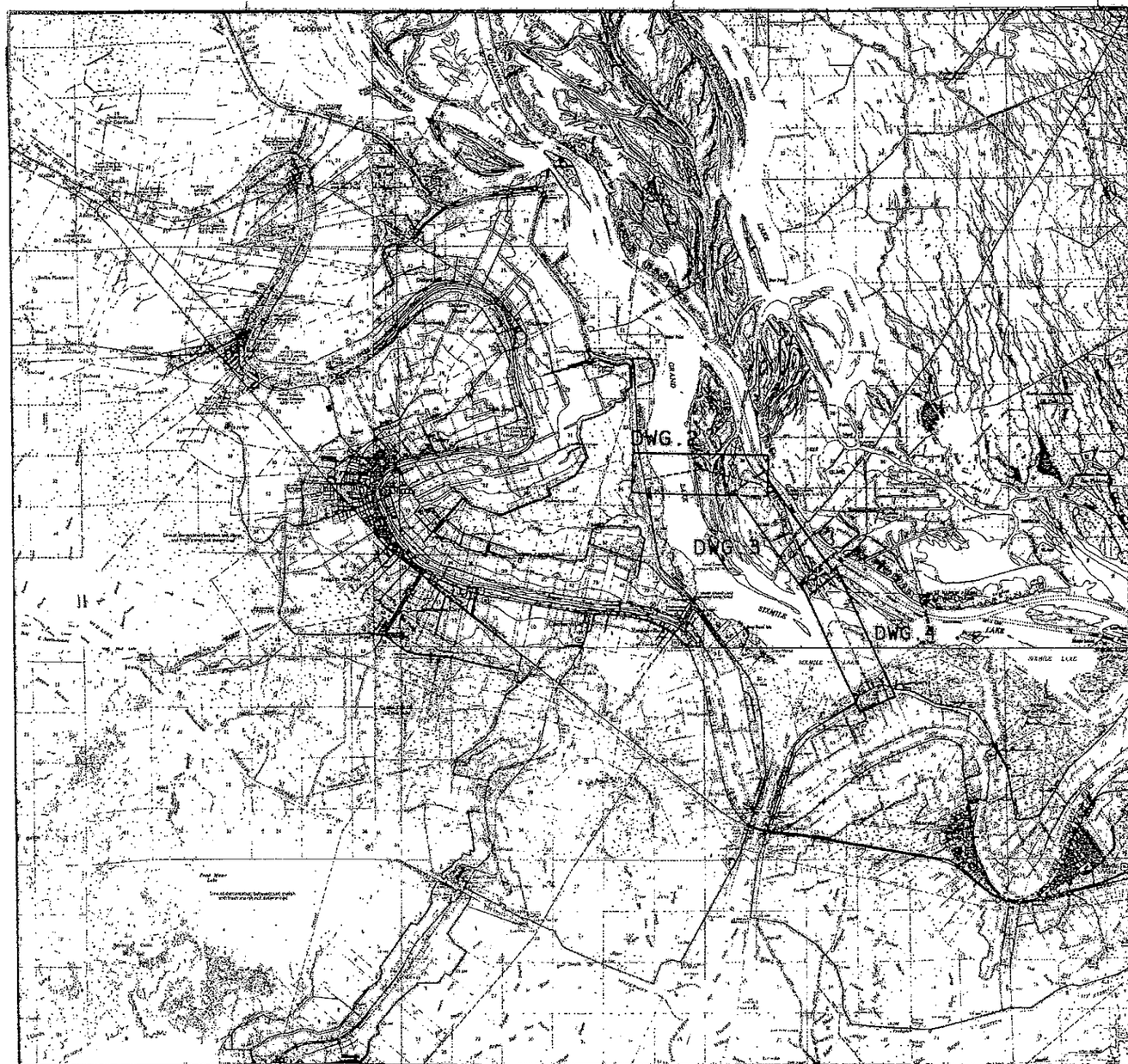
U.S. Army Corps of Engineers, MVN (1990). "Mississippi River and Tributaries Atchafalaya Basin Floodway, LA Channel Training Above the Latitude of Morgan City." *41, Supplement 1*, U.S. Army Corps of Engineers, New Orleans.

U.S. Army Corps of Engineers, W. E. S. (1973). "Report of Model Study, Effects of Ultimate Channel Development in the Atchafalaya Basin." *81-5*, Waterways Experiment Station, Corps of Engineers, Vicksburg.

vanBeek, J. L. (1979). "Hydraulics of the Atchafalaya Basin Main Channel System: Considerations from a Multiuse Management Standpoint." *EPA-600/4-79-036*, U.S. Environmental Protection Agency, Las Vegas.

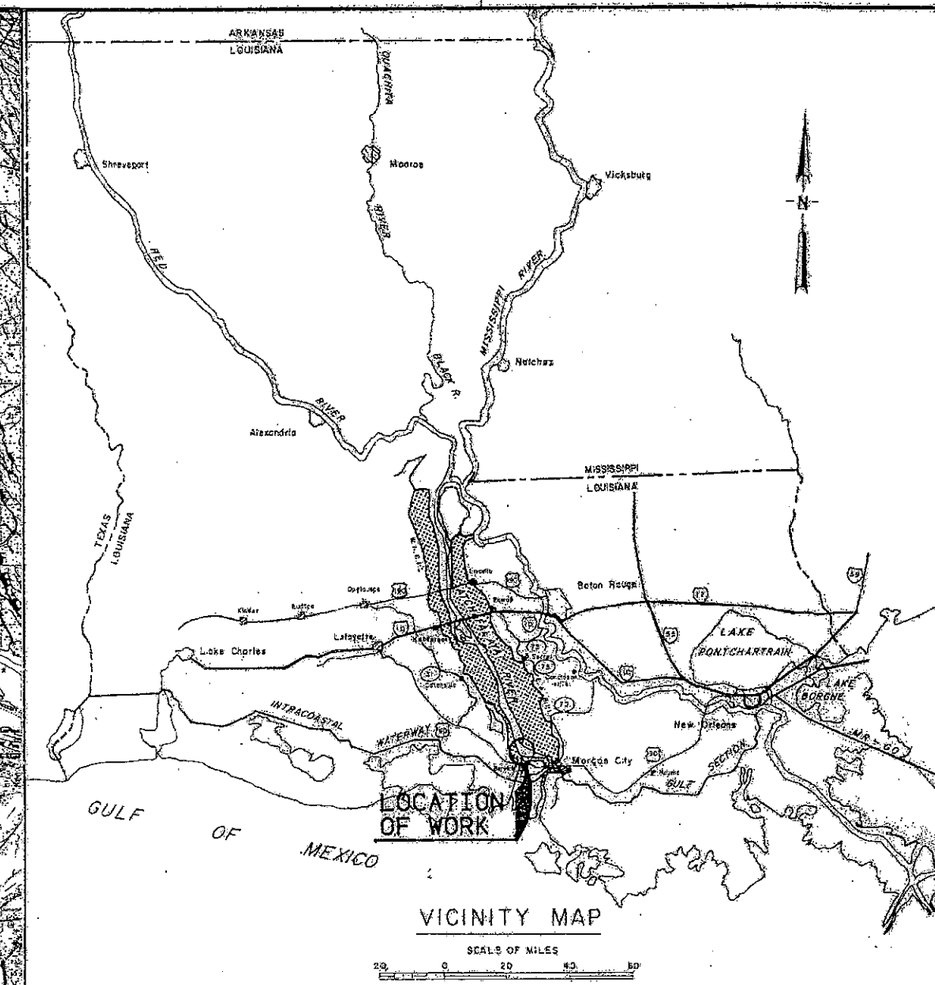
Appendix A: Channel Training Element Plans

The following plates are the plans associated with solicitations for work on channel training elements.



LOCATION MAP

SCALE OF MILES



VICINITY MAP

SCALE OF MILES

INDEX TO DRAWINGS

DWG	DESCRIPTION
1.	LOCATION MAP, VICINITY MAP AND INDEX
2	PLAN AND PROFILE
3.	PLAN AND PROFILE
4.	PLAN AND PROFILE
5.	ROCK WEIR PLAN AND PROFILE
6.	ROCK WEIR TYPICAL SECTIONS
7.	ROCK WEIR TYPICAL SECTIONS
8.	LEVEE-ROCK WEIR TIE-INS
9.	LEVEE TYPICAL SECTIONS
10.	LEVEE TYPICAL SECTIONS
11.	LEVEE TYPICAL SECTIONS AND CHANNEL CLOSURE SECTIONS
12	LEVEE SLOPE PROTECTION AND MISC. DESIGN DETAILS
13.	HYDROGRAPHS
14.	HYDROGRAPHS
15.	GENERAL BORINGS
16.	GENERAL BORINGS
17.	GENERAL BORINGS
18.	UNDISTURBED BORINGS
19.	UNDISTURBED BORINGS
20.	BORROW BORINGS
21.	BORING LEGEND
20A.	BORROW BORINGS

NOTE:
DRAWINGS IN THIS FOLIO HAVE BEEN REDUCED ONE HALF THE ORIGINAL SCALE

REVISION	DATE	DESCRIPTION	BY
1	MAY 87	ADDED NEW DRAWING 20A. AMEND. NO. 1	S.A.E.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

LOCATION MAP, VICINITY MAP AND INDEX

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.I.P.	L.E.D.	MAY 1987	AS SHOWN	H-8-30225

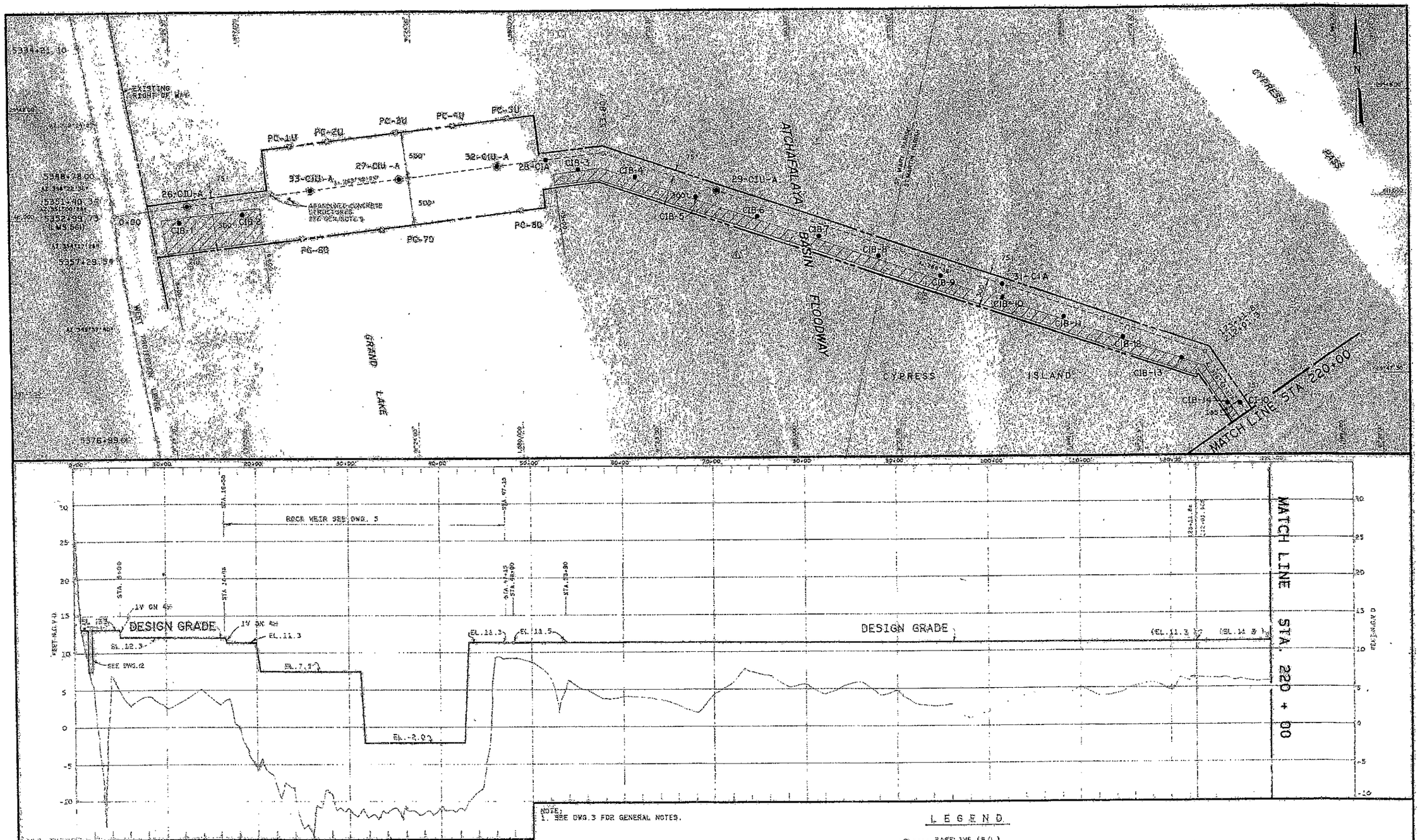
SUBMITTED: DACW29-87-B-0058 — DWG. 1 OF 21

ATCHAFALAYA BASIN FLOODWAY, LA.

WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07

ST. MARY AND ST. MARTIN PARISHES, LA.

Safety is a Part of Your Contract



NOTE:
1. SEE DWG. 3 FOR GENERAL NOTES.

RIGHT OF WAY

STATION TO STATION	DISTANCE TO B/L (FT) CYPRESS PASS (NORTH) SIDE	GRAND LAKE (SOUTH) SIDE
0+00	75'	500'
17+00	75' TO 500'	500'
47+00	500' TO 75'	500' TO 300'
123+11.8	75'	300' TO 185'
212+01.3		
231+00	75'	185' TO 415'

ALL B/L DISTANCES ARE MEASURED ALONG THE TRAVERSE PERPENDICULAR TO THE BACK TANGENT EXCEPT WHERE OTHERWISE INDICATED.

PILE CLUMP DESIGNATION	B/L STATION	OFFSET	TIP ELEVATION (SEE NOTE 5)	WARNING SIGN
PC-1U	20+00	500' UPSTREAM	-30	YES
PC-2U	24+00	500' UPSTREAM	-30	NO
PC-3U	31+50	500' UPSTREAM	-32	YES
PC-4U	37+75	500' UPSTREAM	-32	NO
PC-5U	54+00	500' UPSTREAM	-30	YES
PC-6D	20+00	500' DOWNSTREAM	-24	YES
PC-7D	30+00	500' DOWNSTREAM	-32	YES
PC-8D	44+00	500' DOWNSTREAM	-30	YES

NOTES:
1. TOP ELEVATION OF PILE = EL. 28
2. LOCATION OF THE PILE CLUMPS SHOWN ON PLAN VIEW.
3. WARNING SIGNS SHALL BE ATTACHED TO SIX OF THE PILE CLUMPS AS INDICATED ON THE ABOVE TABLE.
4. SEE DWG. 12 FOR PILE CLUMP AND WARNING SIGN DESIGN DETAILS.
5. PILE PENETRATION SHALL BE TO THE TIP ELEVATION SHOWN ABOVE OR 20 FEET BELOW THE CHANNEL BOTTOM AT THE TIME OF DRIVING, WHICHEVER IS THE LOWEST.

SCALE IN FEET
400 0 400 800 1200

NOTES:
INSIDE THE PLAN AREA, POLYCONIC PROJECTION 1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY DASHED TICKS.
PREPARED FROM AERIAL PHOTOS FLOWN NOV. 84.

LEGEND

- BASELINE (B/L)
- GROUND LINE PROFILE ALONG B/L
- RIGHT OF WAY
- UNDISTURBED BORING LOCATION
- GENERAL OR BORROW BORING LOCATION
- BORROW AREA
- PILE CLUMP

REVISION	DATE	DESCRIPTION	BY
A	MAY 87	ADDED BORROW BORINGS. AMEND. NO. 1	S.A.E.

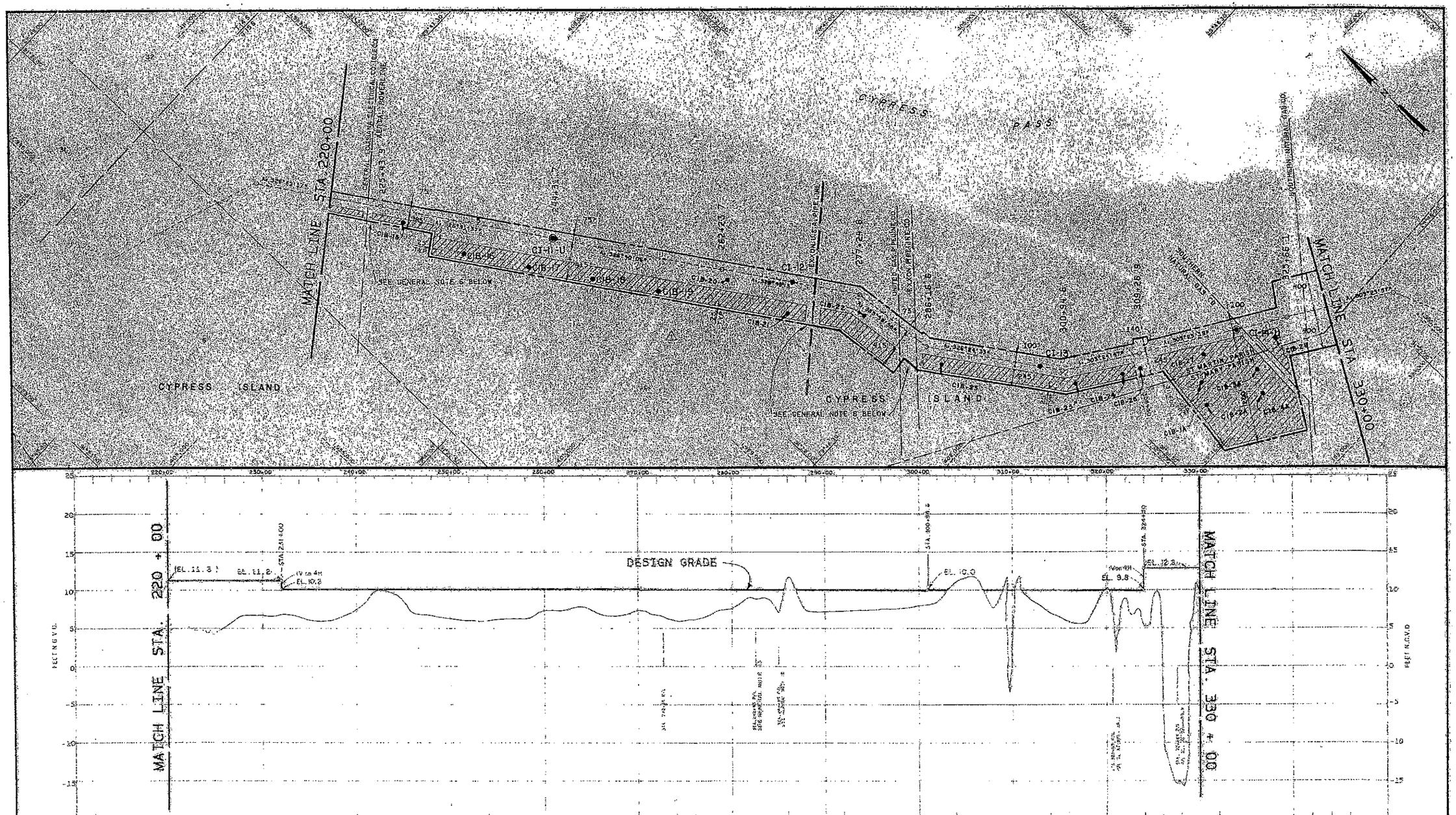
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN AND PROFILE

DESIGNED	DRAWN	CHECKED	DATE	SCALE	SHEET NO.
S.A.E.	M.I.P.	L.S.D.	MAY 1987		H-8-30225

SUBMITTED: [signature] SPEC. NO. DACW29-87-B-0058 Sheet 2 of 21



RIGHT OF WAY

STATION TO STATION	DISTANCE TO B/L (FT.) CYPRESS PASS SIDE	GRAND LAKE SIDE
233+00	75'	185' TO 415'
285+00	75' TO 100'	415' TO 245'
309+00	100' TO 140'	245'
320+00	100' TO 100'	245'
321+00	100'	245'
325+00	100'	120'
325+00	100' TO 400'	120' TO 400'
330+00	400' TO 100'	400' TO 245'

ALL R/W DISTANCES ARE MEASURED ALONG THE TRAVERSE PERPENDICULAR TO THE BACK TANGENT EXCEPT WHERE OTHERWISE INDICATED.

GENERAL NOTES:

1. SEE DWG. 2 FOR LEGEND.
2. SEE DWG. 12 FOR BENCH MARK DATA.
3. SEE DWGS. 15 THRU 20 FOR BORING LOGS.
4. SEE DWG. 21 FOR BORING LEGEND.
5. DESIGN SECTIONS, NATURAL GROUND LINE IS TYPICAL. ACTUAL GROUND ELEVATIONS MAY VARY FROM THAT SHOWN.
6. NO BORROW TO BE TAKEN WITHIN 50 FT. OF PIPELINES OR POWERLINES.
7. BORROW AREA LIMITS SHOWN ON DWGS. 2, 3, AND 4 ARE APPROXIMATE. ACTUAL LIMITS ARE SHOWN ON TYPICAL SECTIONS.
8. FERTILIZE AND SEED ALL NEW UNCOMPACTED FILL PLACED IN EMBANKMENT THAT WILL NOT BE COVERED BY SHELL, STONE, OR MUCK IN THE COMPLETED CROSS SECTION.
9. ABANDONED CONCRETE STRUCTURES TO BE REMOVED BY CONTRACTOR.
10. EXCAVATION IN NO-BORROW AREAS FOR DRAINAGE OR FLOTATION MUST BE APPROVED BY THE CONTRACTING OFFICER, AND MUST BE SUBMITTED AS PART OF THE CONTRACTOR'S EXCAVATION PLAN.
11. SEE DWG. 2 FOR POLE CLIMB AND WARNING SIGN INSTALLATION.
12. PERMIT FROM THE OP. HAS INDICATED THAT THERE EXISTS AT LEAST 10 FT. OF COVER ON THESE PIPELINES IN THE VICINITY OF THE BASELINE.
13. UNITED GAS PIPELINE CO. HAS INDICATED THAT THERE EXISTS APPROXIMATELY 10 FT. OF COVER ON THEIR PIPELINE IN THE VICINITY OF THE BASELINE.

SCALE IN FEET

NOTES:

HORIZ. THE PLAN GRID POLYCONIC PROJECTION 1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY SHADED TICKS.
PREPARED FROM AERIAL PHOTOS FLOWN NOV 84

MARK	BY	REVISION	DATE
1	MED BY	ADDED BORROW BORINGS, SHEET NO. 1	

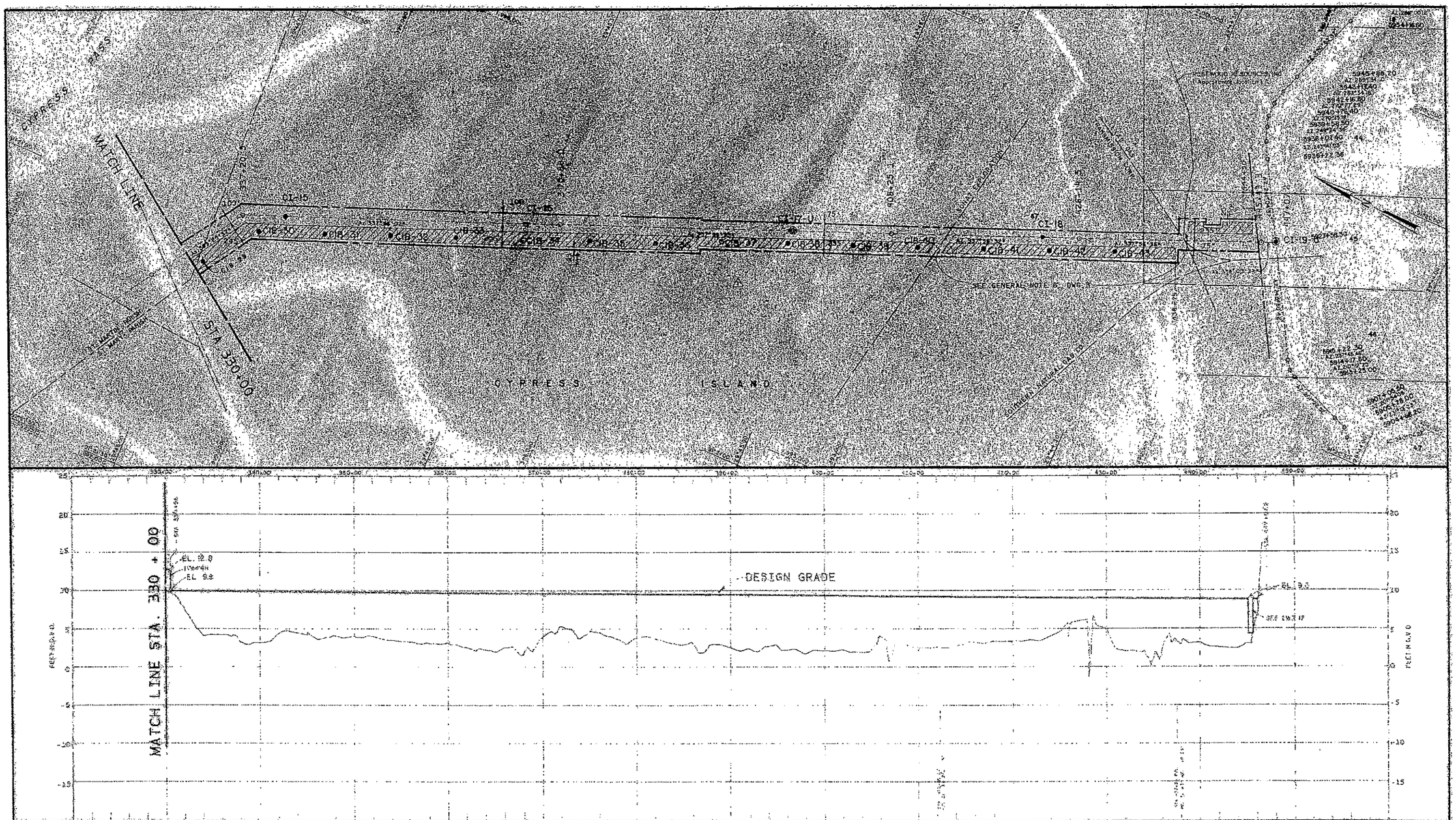
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTEN PARISHES, LA.

PLAN AND PROFILE

SAE W.E.F. L.E.D. MAY 1983 NO. H-8-30225

DACW29-87-B-0056 3 21



RIGHT OF WAY

STATION TO STATION	DISTANCE TO B/L (FT.) CYPRESS PASS SIDE	GRAND LAKE SIDE
330+00	450' TO 200'	400' TO 245'
335+00	100' TO 75'	245' TO 235'
337+00	75' TO 235'	235' TO 75'
343+97.44	235' TO 150'	75'
444+00.44	150' TO 236'	75'

ALL R/W DISTANCES ARE MEASURED ALONG TRAVERSE PERPENDICULAR TO THE BASE TANGENT EXCEPT WHERE OTHERWISE INDICATED

NOTES:
1. SEE DWG. 2 FOR LEGEND
2. SEE DWG. 3 FOR GENERAL NOTES.

SCALE IN FEET

NOTES:
INSIDE THE PLAN AREA, POLYCONIC PROJECTION (1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY DASHED TICKS
PREPARED FROM AERIAL PHOTOS FLOWN NOV 84

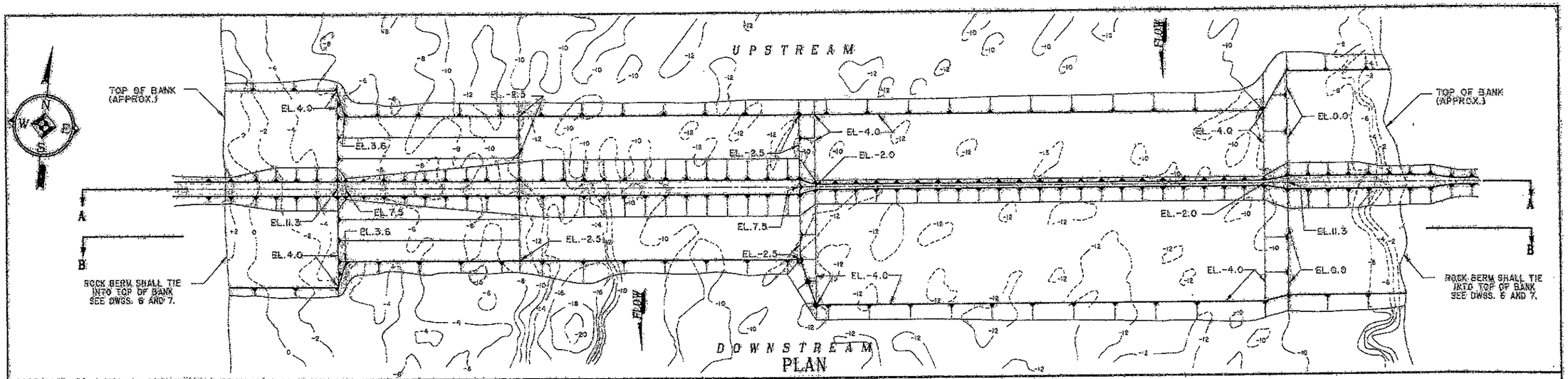
REVISION	DATE	DESCRIPTION	BY
2	MAY 87	REVISED BORROW PONDS AND RESERVOIR RESOURCES, INC. PLAN-VIT. AMEND. NO.	E.A.D.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

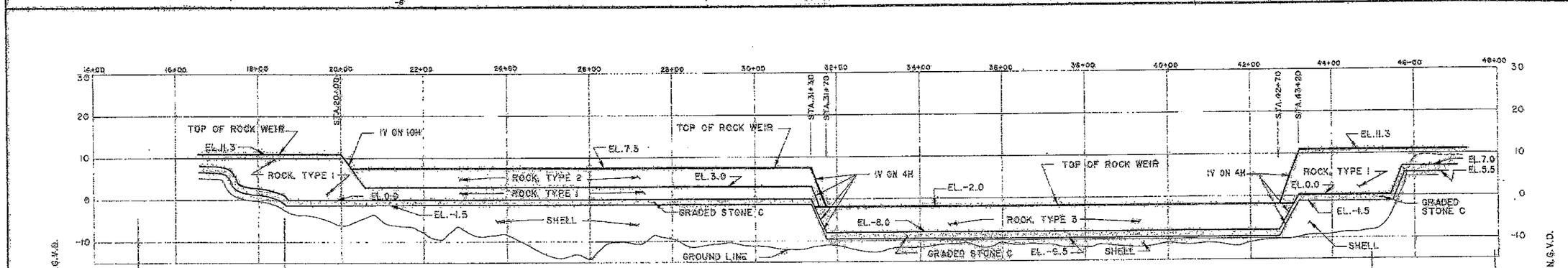
ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN AND PROFILE

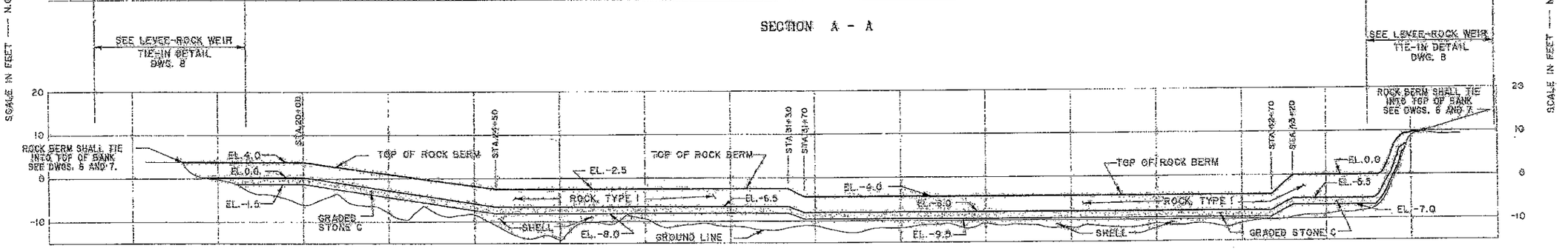
DATE PREPARED: MAY 1987
H-8-30225
DACW29-82-B-0053
4 of 21



PLAN



SECTION A - A



SECTION B - B

PROFILES

ROCK WEIR

STA. 16+50 TO STA. 47+15

Computer Aided Design Drafting

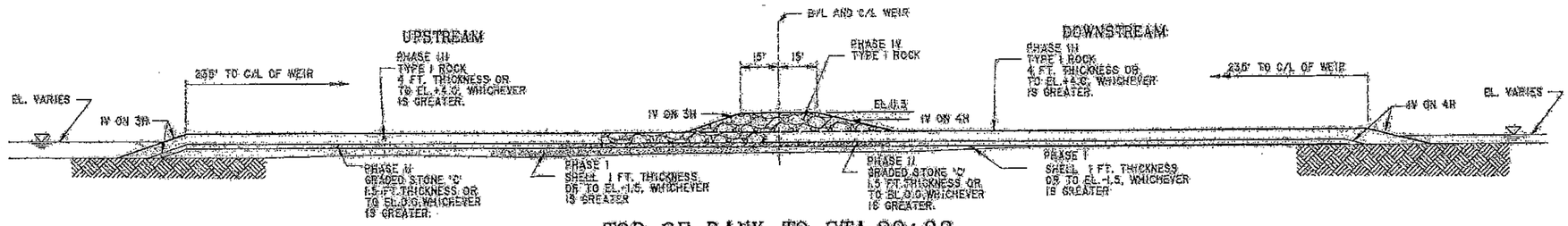
REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.
ROCK WEIR
PLAN AND PROFILE

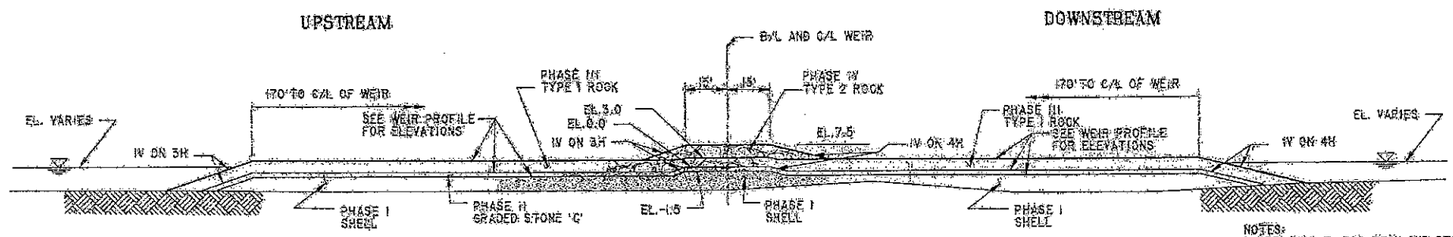
DESIGNED BY: S.A.S. DRAWN BY: M.I.P. CHECKED BY: L.E.D.	DATE: MAY 1987	SCALE: AS SHOWN	FILE NO. H-8-30225
SUBMITTED:	SPEC. NO. DACW29-87-B-0058		DWG. 5 OF 21

PART NAME: NOD.P-S-WL.O.C.D-5
DRAWING ACT DRA 1
SCALE: FULL
PLOT: STANDARD



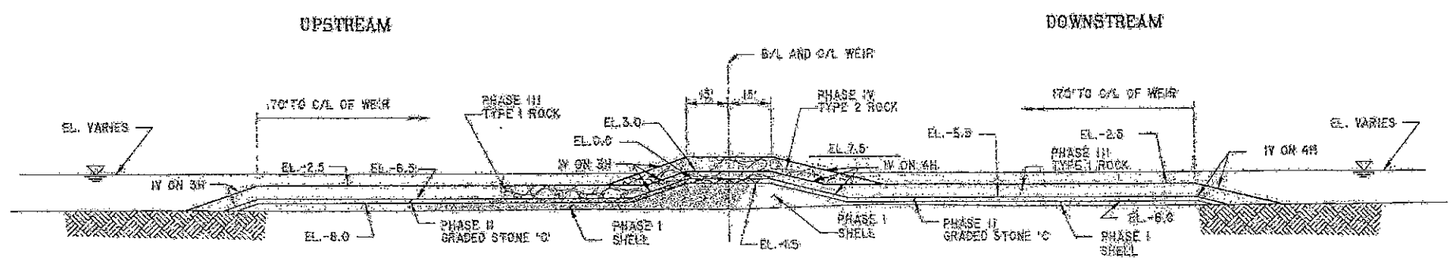
TOP OF BANK TO STA.20+00

TRANSITION FROM STA.20+00 TO STA.20+38



STA.20+38 TO STA.24+50

NOTES:
1. SEE DWG. 7 FOR ROCK AND STONE GRADATION
2. SEE DWG. 5 FOR WEIR PLAN AND PROFILE.
3. SEE DWG. 8 FOR LEVEE-ROCK WEIR TIE-IN.



STA.24+50 TO STA.31+30

TRANSITION FROM STA.31+30 TO STA.31+70

REVISION	DATE	DESCRIPTION	BY

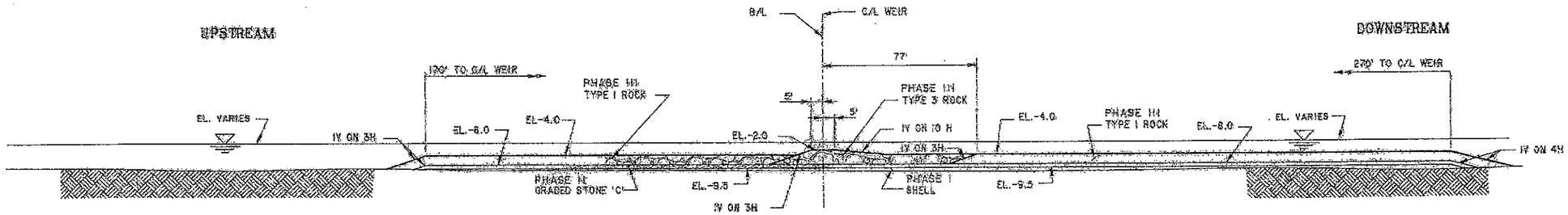
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.
ROCK WEIR
TYPICAL SECTIONS

DESIGNED BY: G.A.E.	DATE: MAY 1987	SCALE: AS SHOWN	FILE NO. H-8-30225
DRAWN BY: M.L.P.			
CHECKED BY: L.E.D.			
SUBMITTED:	SPEC. NO. DACW29-87-B-0066		SHT. 6 OF 21

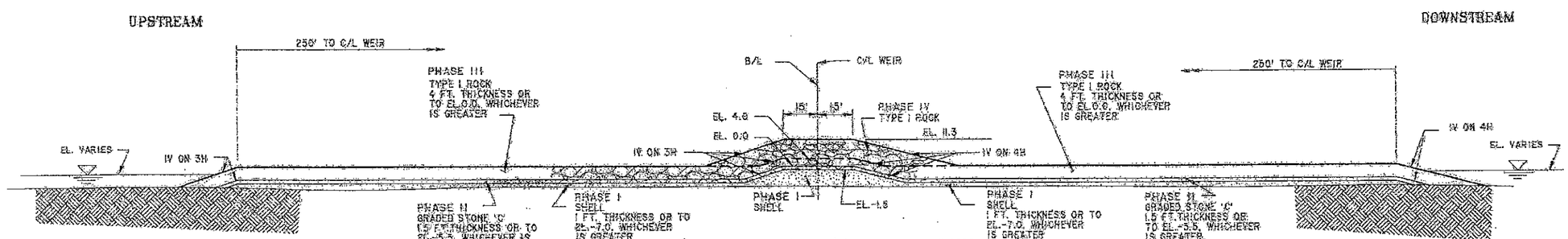
Computer Aided Design Drafting

PART NAME: NOD-25-WLOCD-5
DRAWING NO.: ACT-D1A 1
SCALE: 1" = 1'-0"
FORMAT: STANDARD



STA.31+70 TO STA.42+70

TRANSITION FROM STA.42+70 TO STA.43+20



STA.43+20 TO TOP OF BANK

NOTES:
1. SEE DWG. 5 FOR LEVEE-ROCK WEIR TIE-IN.

% LIGHTER BY WEIGHT	ROCK GRADATION (LBS.)		
	TYPE 1	TYPE 2	TYPE 3
100	1500-600	3500-1400	5000-2000
50	650-300	1500-700	2250-1000
15	330-100	700-200	1100-350

NOTES:
5% OF THE MATERIAL MAY WEIGH LESS THAN THE LOWEST SPECIFIED WEIGHT, HOWEVER, NO PIECE SHALL WEIGH LESS THAN 10 LBS.

STONE GRADATION	
GRADED STONE 'C'	
CUMULATIVE % FINER BY WGT.	STONE WGT. (LBS.)
100	400
70-100	250
50-59	100
32-58	30
15-32	5
2-28	1
0-5	1/2 MAX. DIM.

NOTE: 5% OF THE MATERIAL MAY WEIGH MORE THAN 400 LBS. HOWEVER, NO PIECE SHALL WEIGH MORE THAN 500 LBS.

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REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
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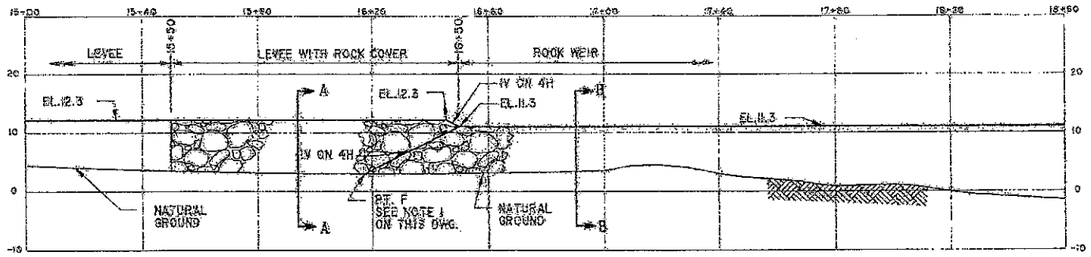
NEW ORLEANS, LOUISIANA

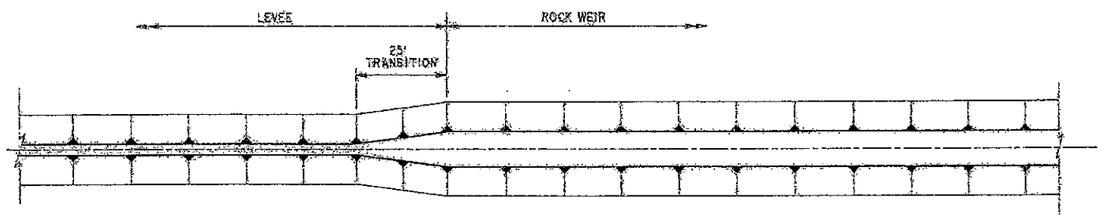
ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+97.2
ST. MARY AND ST. MARTIN PARISHES, LA.
ROCK WEIR
TYPICAL SECTIONS

DESIGNED BY: S.S.C.
DRAWN BY: M.T.C.
CHECKED BY: T.O.
DATE: MAY 1987
SCALE:
TITLE NO. H-8-30225
SPECIFICATION: DACW29-87-B-0058
DWG. 7 of 21

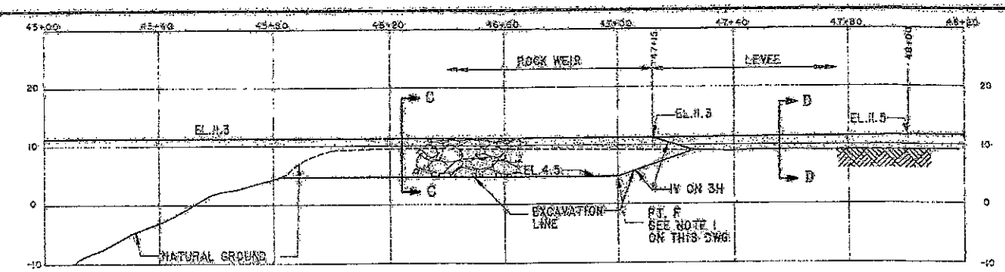
PART NAME: NOD.R.S-WLO.CD-7
DRAW NO.: NOT-DRA-1
SCALE: FULL
PLOT: STANDARD



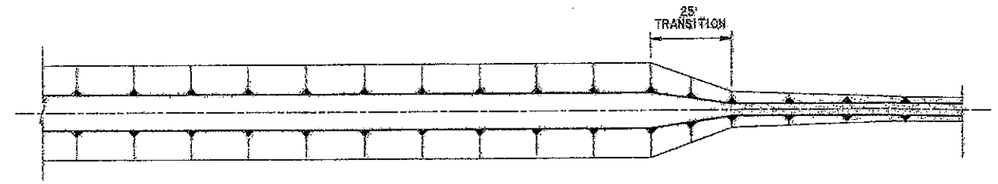
PROFILE



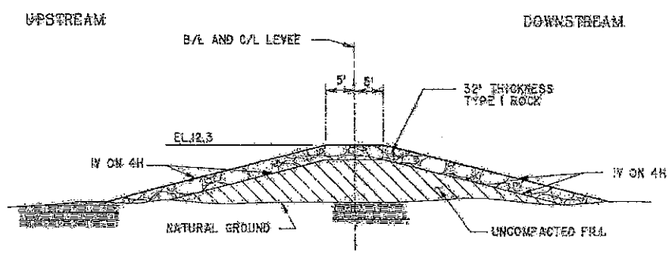
PLAN



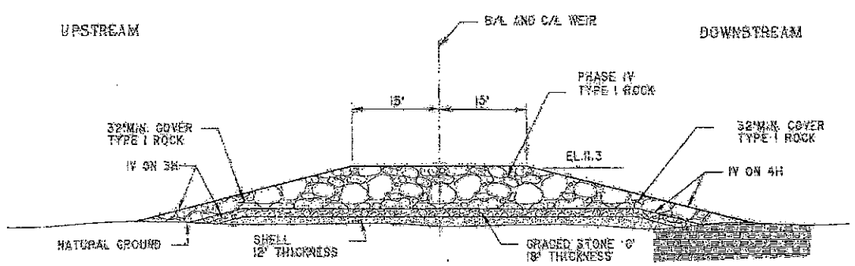
PROFILE



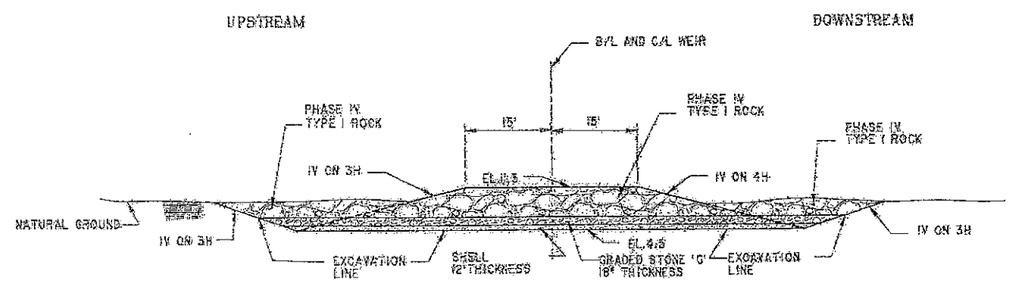
PLAN



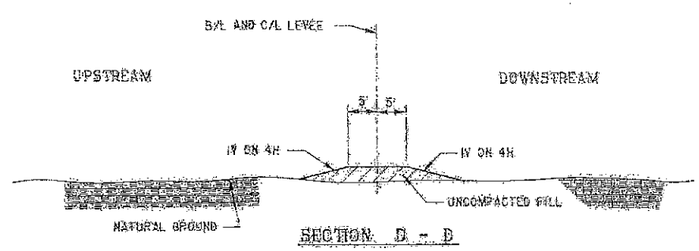
SECTION A - A



SECTION B - B
STA.16+50 TO TOP OF BANK



SECTION C - C



SECTION D - D

NOTES:
1. SHELL AND GRADED STONE C SHOWN ON SECTIONS B-B AND C-C SHALL EXTEND TO PT. F ON THE ABOVE PROFILES.
2. SMOOTH TRANSITIONS SHALL BE MADE BETWEEN DESIGN SECTIONS WITHIN THE 125 FOOT TRANSITION SHOWN ON THE ABOVE PLANS.

Computer Aided Design Drafting

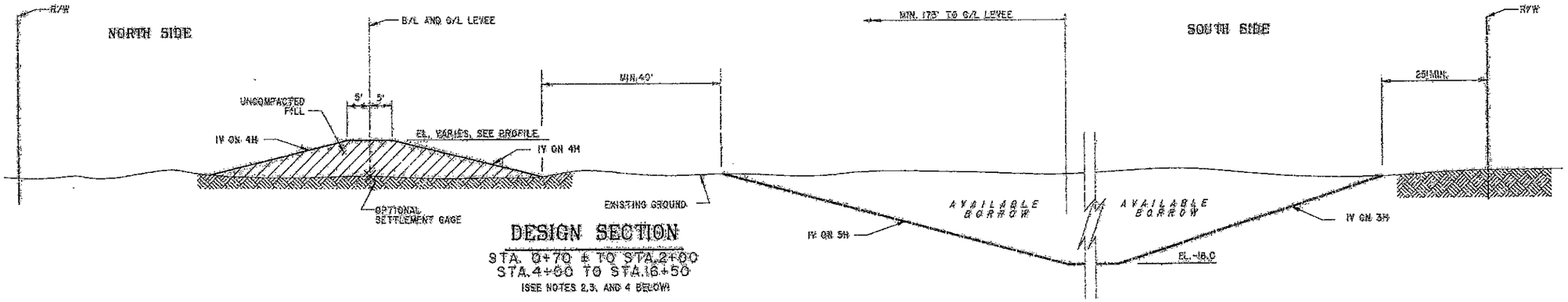
REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.
LEVEE - ROCK WEIR
TIE INS.

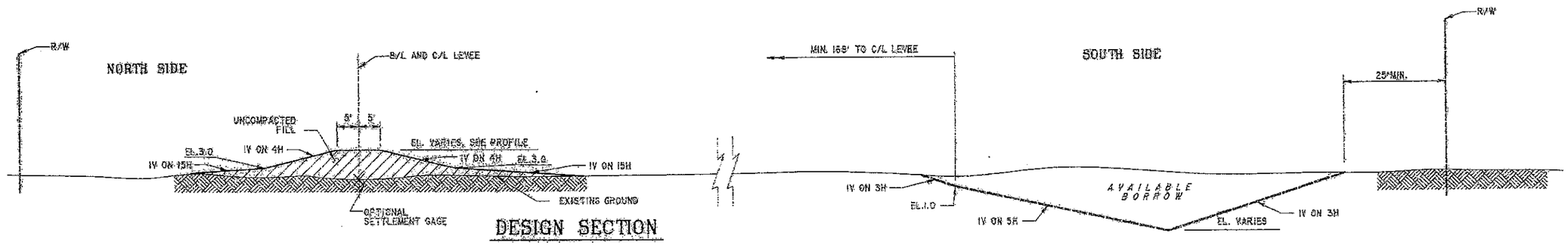
DESIGNED BY: S.A.E. / DRAWN BY: M.T.C. / CHECKED BY: L.E.D.	DATE: MAY 1987 / SCALE: AS SHOWN	FILE NO. H-8-38225	
SUBMITTED: [signature]	CONTRACT NO. DACW29-87-B-0068	DWG. 8 OF 21	

PLOT STANDARD
SCALE: FULL
DRAWN: NOV 2, 1987 1:29 PM
FILE NAME: NOD_R-S-WLO_C_D-8



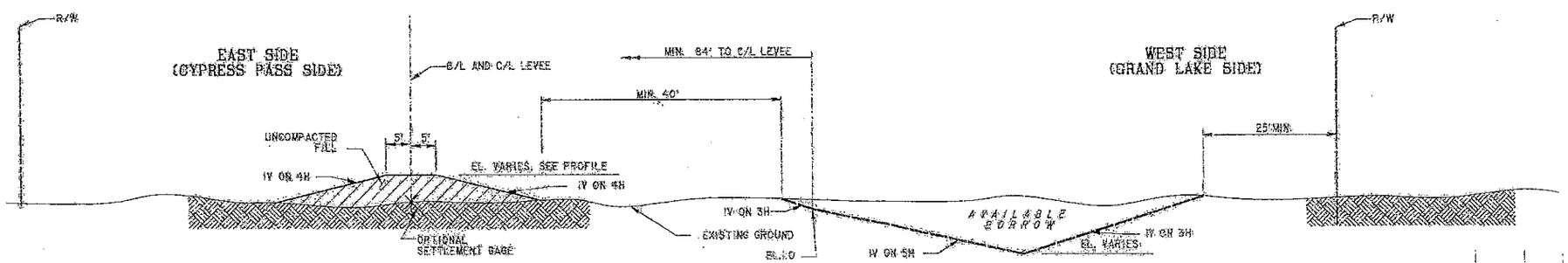
DESIGN SECTION

STA. 0+70 ± TO STA. 2+00
STA. 4+00 TO STA. 16+50
(SEE NOTES 2, 3, AND 4 BELOW)



DESIGN SECTION

STA. 47+15 TO STA. 123+11.8=212+01.3
(SEE NOTE 5 BELOW)



DESIGN SECTION

STA. 123+11.8=212+01.30 TO STA. 231+00

NOTES:
1. SEE DWGS. 2, 3, AND 4 FOR STATION LIMITS OF AVAILABLE BORROW AND RIGHT OF WAY (R/W) DISTANCES.
2. SEE DWG. 11 FOR CHANNEL CLOSURE DESIGN SECTION FROM STA. 2+00 TO STA. 4+00.
3. SEE DWG. 8 FOR LEVEE-ROCK WEIR TIE-INS.
4. SEE DWG. 12 FOR LEVEE SLOPE PROTECTION DETAIL.
5. STOCKPILING OF MATERIAL IS PERMITTED BETWEEN STATIONS 47+15 AND 123+11.8=212+01.3. STOCKPILE MUST BE A MINIMUM OF 40 FT. FROM THE TOE OF OUT OF THE BORROW PIT, WITH A MAXIMUM ELEVATION OF +7.0 FT.

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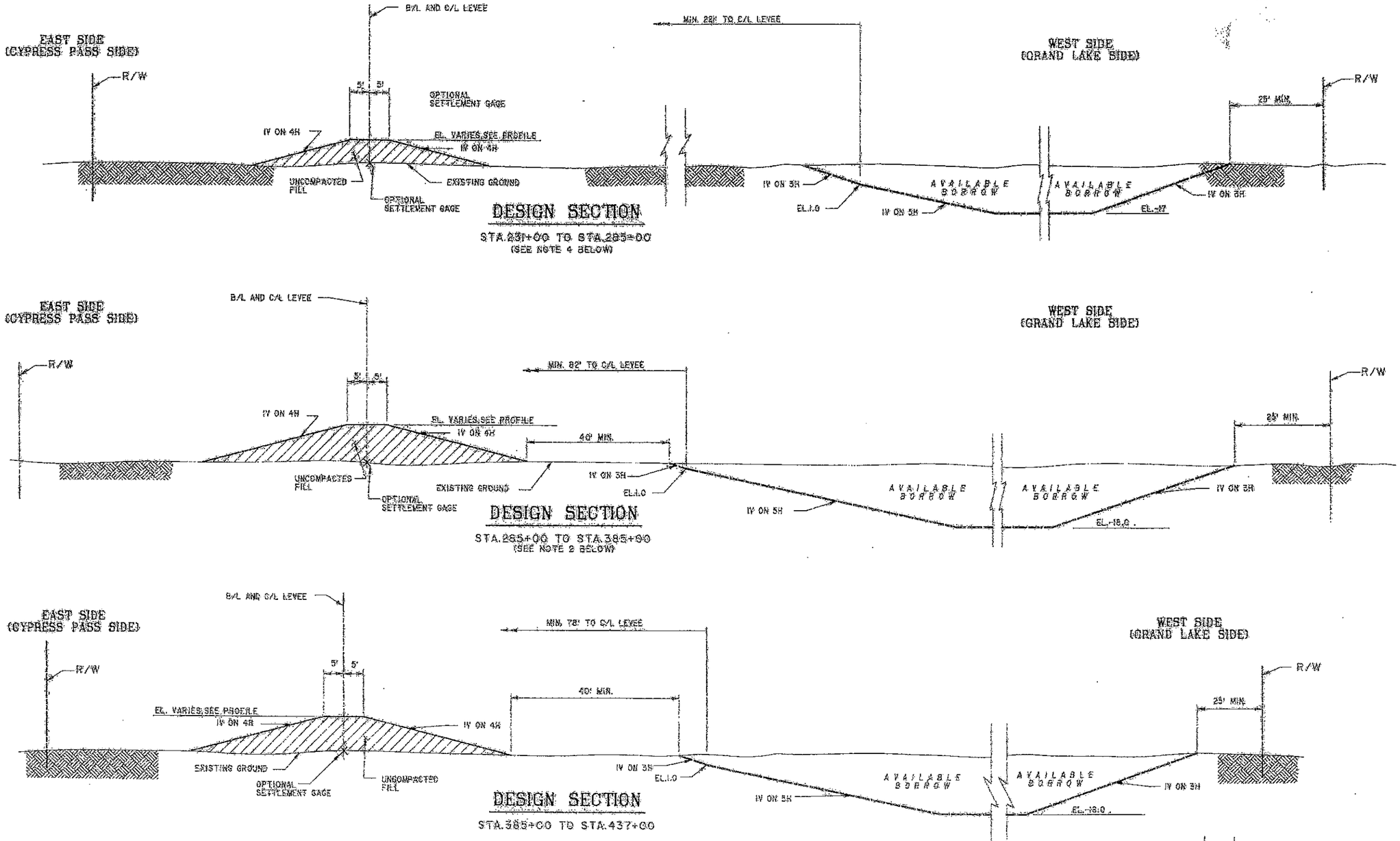
REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.
LEVEE
TYPICAL SECTIONS

DESIGNED BY: S.A.E.	DATE: MAY 1987	SCALE: AS SHOWN	FILE NO. H-8-30225
DRAWN BY: M.J.P.			
CHECKED BY: L.E.D.			
SUBMITTED:	DACW29-87-B-0058		DWG. 9 OF 21

PART NAME: NOD.P-S-W.L.0.0.0-9
ACT DRAWN: ACT DRAFT
SCALE: FULL
PLOT: STANDARD



DESIGN SECTION

STA.231+00 TO STA.285+00
(SEE NOTE 4 BELOW)

DESIGN SECTION

STA.285+00 TO STA.385+00
(SEE NOTE 2 BELOW)

DESIGN SECTION

STA.385+00 TO STA.437+00

NOTES:
1. SEE DWGS. 2, 3, AND 4 FOR STATION LIMITS OF AVAILABLE BORROW AND RIGHT OF WAY (R/W) DISTANCES.
2. SEE DWG. 11 FOR CHANNEL CLOSURE DESIGN SECTIONS FROM STA.308+50 TO STA.311+00 AND FROM STA.324+50 TO STA.330+50.
3. PROVIDE 50' SMOOTH TRANSITIONS BETWEEN DESIGN SECTIONS AND CHANNEL CLOSURE SECTIONS.
4. STOCKPILING OF FILL MATERIAL IS PERMITTED BETWEEN STATIONS 231+00 AND 285+00. STOCKPILE MUST BE A MINIMUM OF 70 FT. FROM THE TOP OF CUT OF THE BORROW PIT, WITH A MAXIMUM ELEVATION OF +7.0 FT.

Computer Aided Design Drafting

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

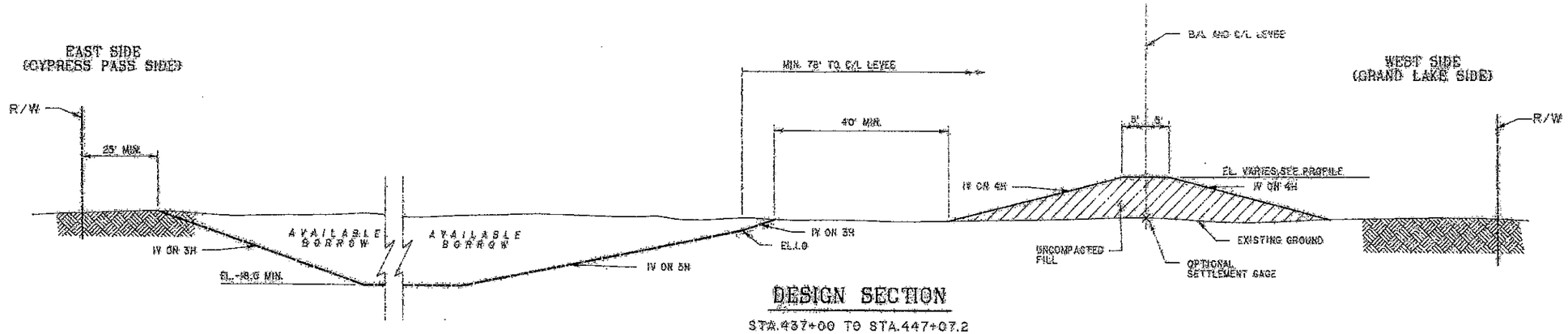
ATCHAFALAYA BASIN FLOODWAY, LA.

WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.

LEVEE
TYPICAL SECTIONS

DESIGNED BY: S.A.E.	DATE: MAY 1987	SCALE: AS SHOWN	FILE NO. H-8-30225
DRAWN BY: M.I.P.			
CHECKED BY: L.E.D.	SPEC. NO. DACW29-87-B-0058		DWG. 10 OF 21
SUBMITTED: [signature]			

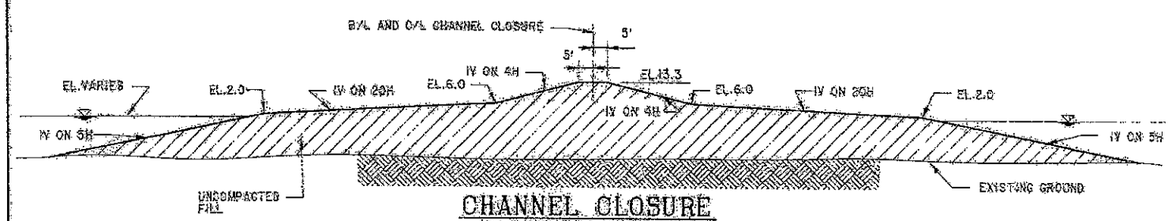
PART NAME: NOD_P-S-W_L_O_C_D-10
DRAW-NO-NOT DRAFT
SCALE: FULL
PLOT: STANDARD



DESIGN SECTION

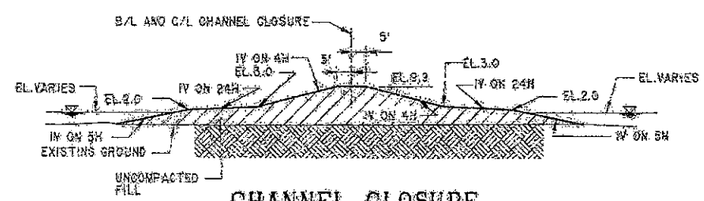
STA.437+00 TO STA.447+07.2

(SEE NOTE 1 BELOW)



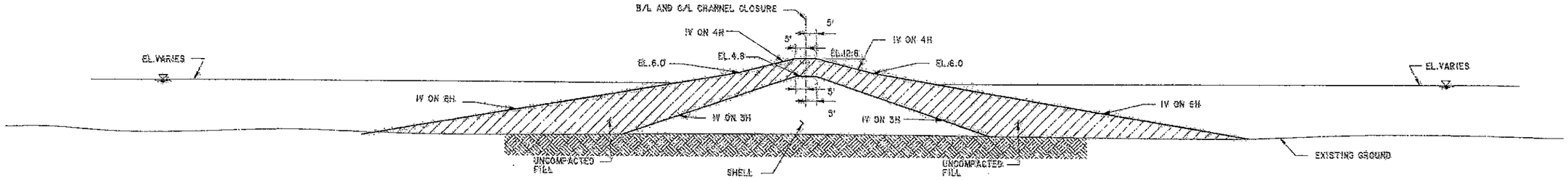
CHANNEL CLOSURE

STA.2+00 TO STA.4+00



CHANNEL CLOSURE

STA.308+50 TO STA.311+00



CHANNEL CLOSURE

STA.324+50 TO STA.330+50

NOTES:
1. SEE DWG. 12 FOR LEVEE SLOPE PROTECTION DETAIL.

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

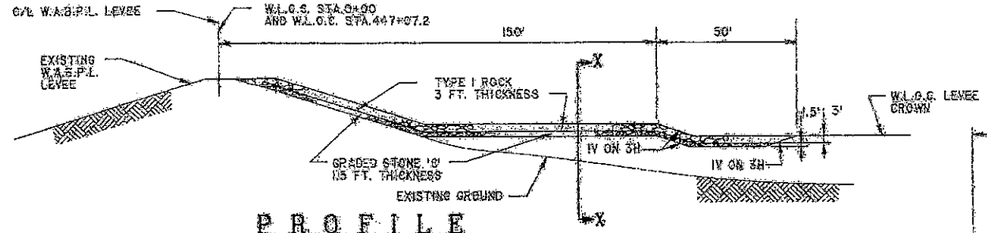
ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.

LEVEE TYPICAL SECTION AND CHANNEL CLOSURE SECTIONS

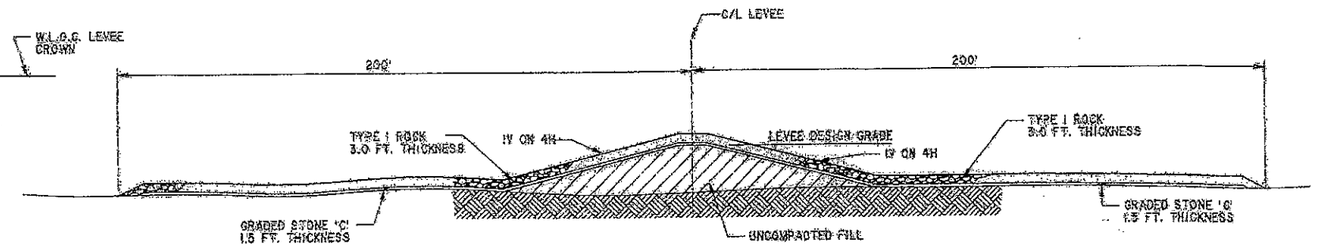
DESIGNED BY: S.A.E.	DATE: MAY 1987	SCALE: AS SHOWN	FILE NO: H-8-30225
DRAWN BY: M.P.B.			
CHECKED BY: L.E.D.			
SUBMITTED:	CONTR. NO: DACW29-87-B-0058		DWG. 11 OF 21

Computer Aided Design Drafting

PART NAME: NOD.P-S-WLOCD-11
DRAWING: ROLL AGT DRAFT
SCALE: FULL
PLOT: STANDARD



PROFILE

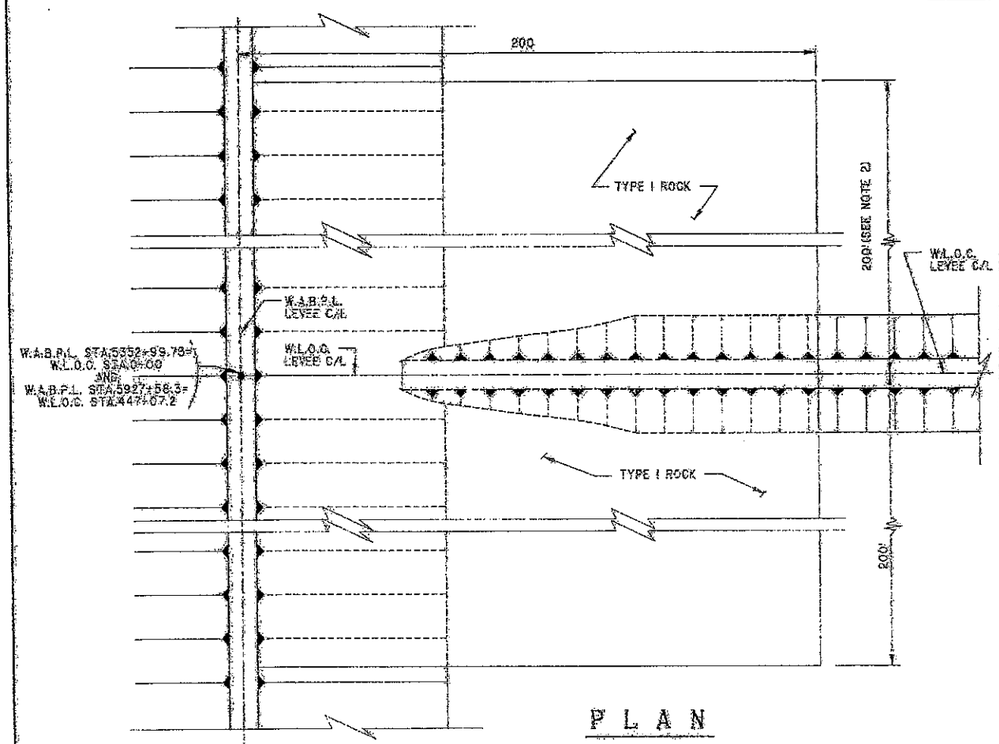


SECTION X - X

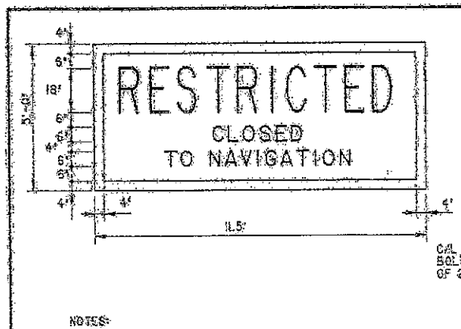
NOTES:
1. SLOPE PROTECTION TO BE CONSTRUCTED AT THE W.A.B.P.L. LEVEE-W.L.O.C. LEVEE TIE-INS AT BOTH ENDS OF THE PROJECT.
2. AT THE LOWER END OF THE PROJECT (W.L.O.C. STA.447+07.2) LIMIT OF ROCK PROTECTION IS 25 FT. FROM THE TOP OF BANK OF THE PIPELINE CANAL.

LEVEE SLOPE PROTECTION

NOT TO SCALE



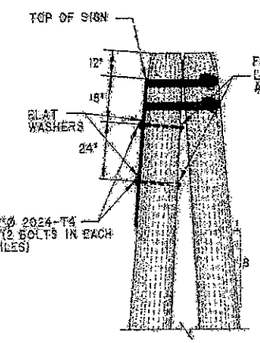
PLAN



NOTES:
1. LETTERING SHALL BE BLOCK STYLE AND BLACK WITH 2" STROKE FOR 18" HIGH LETTERS AND 1" STROKE FOR 6" HIGH LETTERS.
2. BACKGROUND AND ALL EXPOSED SURFACES OF PLATE SHALL BE WHITE.
3. BORDER SHALL BE INTERNATIONAL ORANGE.
4. SIGN SHALL BE ALUMINUM 6061-T6 WITH A MINIMUM THICKNESS OF 0.35 INCH.

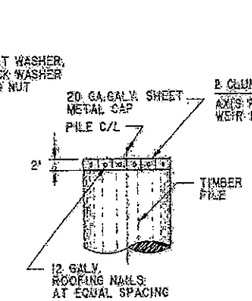
NAVIGATION WARNING SIGN DETAIL

NOT TO SCALE



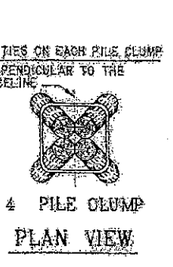
SIGN MOUNTING DETAIL

NOT TO SCALE



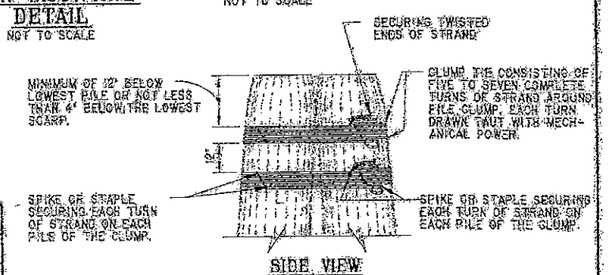
TYPICAL PILE CAP

NOT TO SCALE



4 PILE CLUMP

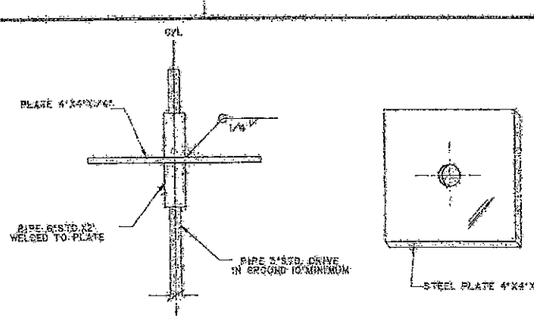
PLAN VIEW



SIDE VIEW

PILE CLUMP DETAIL

NOT TO SCALE



OPTIONAL SETTLEMENT GAGES

NOT TO SCALE

SHOULD THE CONTRACTOR DESIRE PAYMENT FOR PLACING ADDITIONAL FILL DUE TO FOUNDATION SETTLEMENT DURING CONSTRUCTION, HE SHALL FURNISH AND INSTALL SETTLEMENT GAGES AT LOCATIONS SHOWN ON THE DESIGN SECTION AND AS SPECIFIED IN THE CONTRACT SPECIFICATIONS. THE SETTLEMENT MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 150 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE MEASURED ALONG THE CENTERLINE OF THE LEVEE SECTION EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THAN 300 FOOT INTERVALS, IN WHICH CASE, THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT 1/2 THE DISTANCE BETWEEN SETTLEMENT GAGES. RISER PIPES ARE PERMITTED ON SETTLEMENT GAGES. LOCATION OF SETTLEMENT GAGES MAY BE MOVED HORIZONTALLY ON THE EXISTING LEVEE (SOUTH AT CONTRACTOR'S OPTION WITH THE APPROVAL OF THE CONTRACTING OFFICER.

BENCH MARK INFORMATION

BENCH MARKS	ELEVATION (NGVD)	DESCRIPTION
WABPL Y-8 U.S.E.	9.763	IT IS LOCATED ALONG THE W.A.B.P.L. 10.5 MILES SOUTHEAST OF LOCK 1 U.S.E. NEAR CHARENTON; AT LEVEE STA. 5239+43, 175 FEET SOUTHWEST OF THE CENTERLINE OF THE LEVEE, 72.5 FEET SOUTHWEST OF THE SHELL ROAD WHICH FOLLOWS THE LEVEE, 32 FEET NORTHEAST OF A BORROW PIT. IT IS A STAINLESS STEEL DOME CAP CRIMPED ON A 9/16-INCH STAINLESS STEEL ROD DRIVEN TO THE DEPTH OF 68 FEET, PROTECTED BY A 6-INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE THE GROUND. ACCESS IS THROUGH THE ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOME CAP ARE STAMPED Y-8 WABPL 1968. THE MARK IS CENTERED IN THE TRIANGLE, FORMED BY THREE 2-INCH DIAMETER, 4 FEET TALL PIPES PAINTED YELLOW.
WABPL Y-10 U.S.E.	9.596	IT IS LOCATED ALONG THE W.A.B.P.L. 13.0 MILES SOUTHEAST OF LOCK 1 U.S.E. NEAR CHARENTON AT LEVEE STA. 5365+93, 170.5 FEET WEST OF THE CENTERLINE OF THE LEVEE, 63 FEET WEST OF THE CENTERLINE OF THE SHELL ROAD WHICH FOLLOWS THE LEVEE, 89 FEET EAST OF A BORROW PIT. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 9/16-INCH STAINLESS STEEL ROD DRIVEN TO A DEPTH OF 80 FEET PROTECTED BY A 6-INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE THE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED Y-10 WABPL 1968. THE MARK IS CENTERED IN THE TRIANGLE FORMED BY THREE, 2-INCH DIAMETER, 4 FEET TALL PIPES PAINTED YELLOW.
A 201	10.531	IT IS LOCATED 3.6 MILES NORTHWEST ALONG STATE HIGHWAY 182 FROM THE UNITED METHODIST CHURCH, 0.5 MILE NORTHEAST OF THE NORTHEAST DRIVE TO THE WILLIAMS MEMORIAL AIRPORT AT THE NORTH CORNER OF THE AIRPORT, 36 FT. SOUTH OF THE CENTER OF THE GRAVELED ROAD LEADING SOUTHEAST, 49.5 FT. SOUTHEAST OF THE CENTERLINE OF THE HIGHWAY, 20 FT. SOUTHWEST OF THE CENTERLINE OF THE ROAD, 32 FT. NORTHEAST OF A 2-INCH IRON VENT PIPE WHICH PROJECTS 4 FT. ABOVE THE GROUND. A DISK SET IN THE TOP OF A CONCRETE POST PROJECTING +4 INCHES, ABOUT LEVEL WITH HIGHWAY.
Z 200	8.629	IT IS LOCATED ABOUT 3.4 MILES WEST ALONG OLD U.S. HWY 90 FROM THE POST OFFICE AT PATTERSON; IN S 46, T 13 S, R 11 E (17) FEET NORTHEAST OF THE CENTER OF THE JUNCTION OF A DRIVE LEADING SOUTHEAST TO A GAS WELL, 66 FEET SOUTH OF THE SOUTHWEST END OF A LOUISIANA AGRICULTURE CO-OP STORAGE TANK, 40 FEET NORTHWEST OF THE CENTER LINE OF THE HIGHWAY, 6.3 FEET SOUTHWEST OF A FENCE CORNER, 1.5 FT. SOUTHEAST OF A FENCE LINE, 1.3 FEET SOUTHWEST OF AMETAL WITNESS POST, ABOUT LEVEL WITH THE HIGHWAY, AND SET IN THE TOP OF A CONCRETE POST PROJECTING 5 INCHES.

Computer Aided Design Drafting

REVISION	DATE	DESCRIPTION	BY

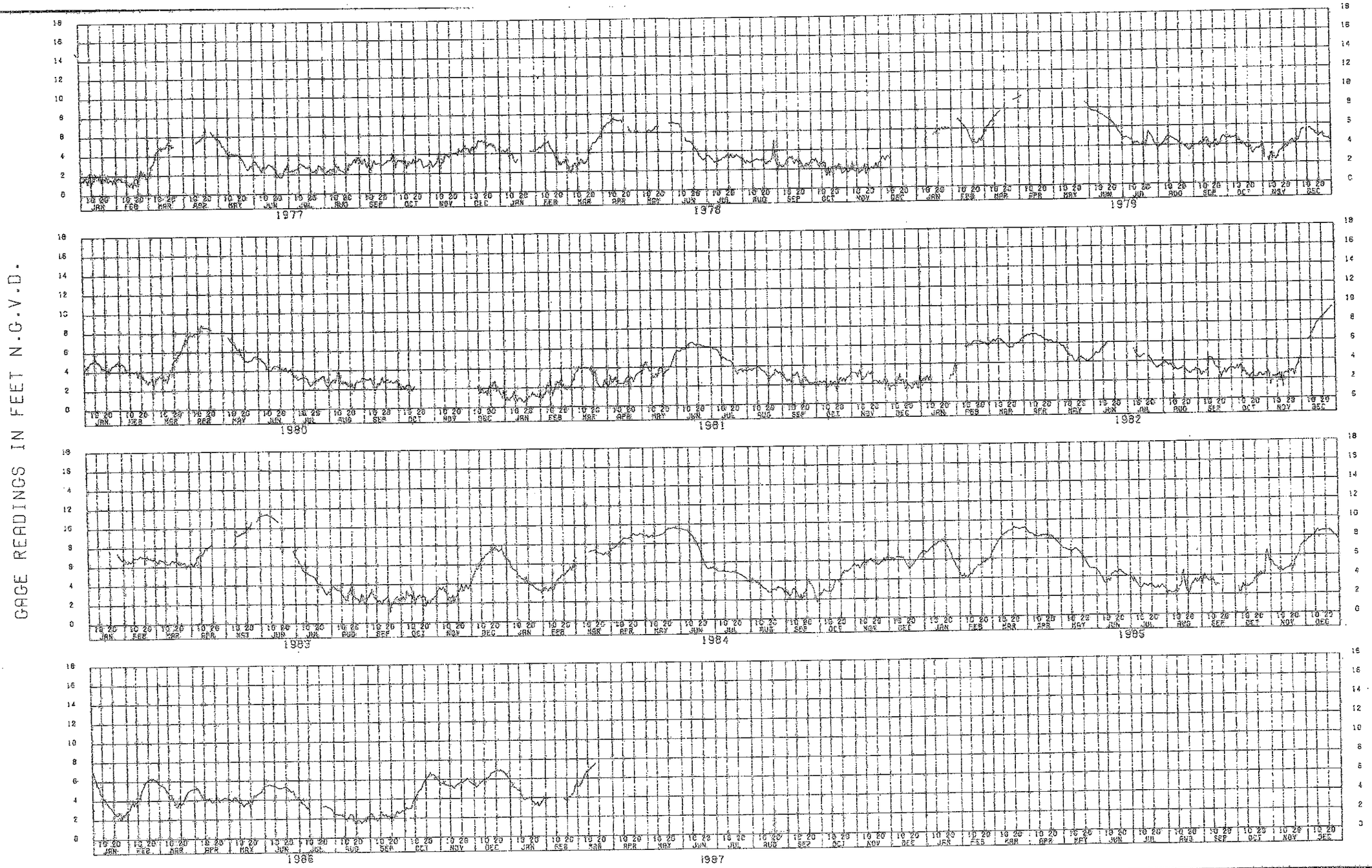
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.0+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.

LEVEE SLOPE PROTECTION AND MISCELLANEOUS DESIGN DETAILS

DESIGNED BY: S.A.E.	DATE: MAY 1987	SCALE: AS SHOWN	FILE NO. H-8-30225
DRAWN BY: M.L.P.			
CHECKED BY: L.E.O.	SPEC. NO. DACW29-87-B-0058		SHEET 12 OF 21
SUBMITTED:			

PART NAME: NOD_P-S-W_L.O.C.D-12
DRAW. NOTE: ACT DRA 1
SCALE: 2 FULL
PLOT: STANDARD



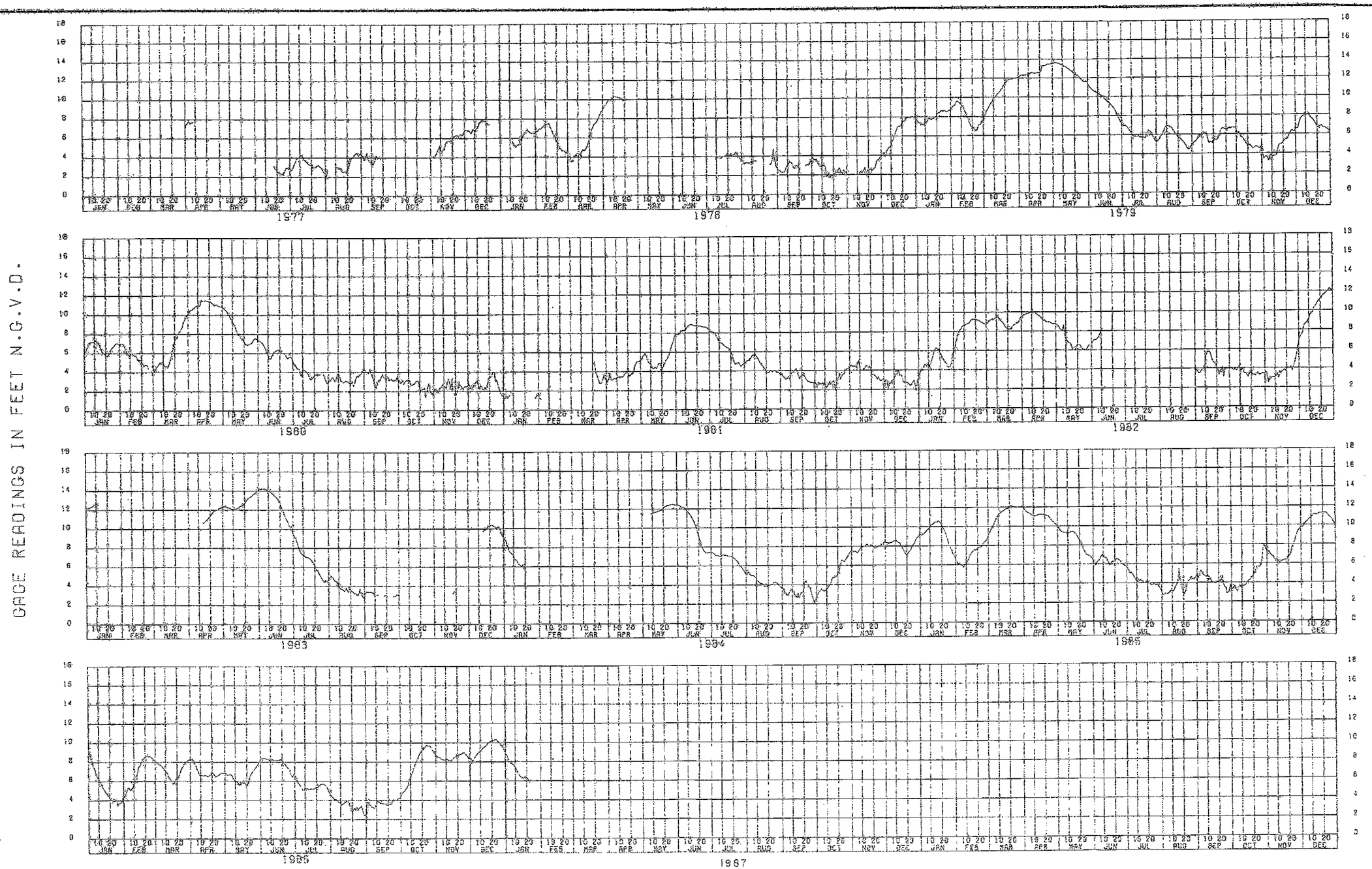
NOTE:
SIX MILE LAKE NEAR VERDUNVILLE, LA.
GAGE ZERO, N.G.V.D.
STATION 03645

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

HYDROGRAPH

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.I.P.	L.E.D.	MAY 1987	AS SHOWN	H-8-30225
SUBMITTED			CONTRACT NO.	SHEET NO.	
			DACW29-87-B-0058	13	21



NOTE:
CHICOT PASS NEAR MYRTLE POINT (LA.)
GAGE ZERO, N.G.V.D.
STATION 03540

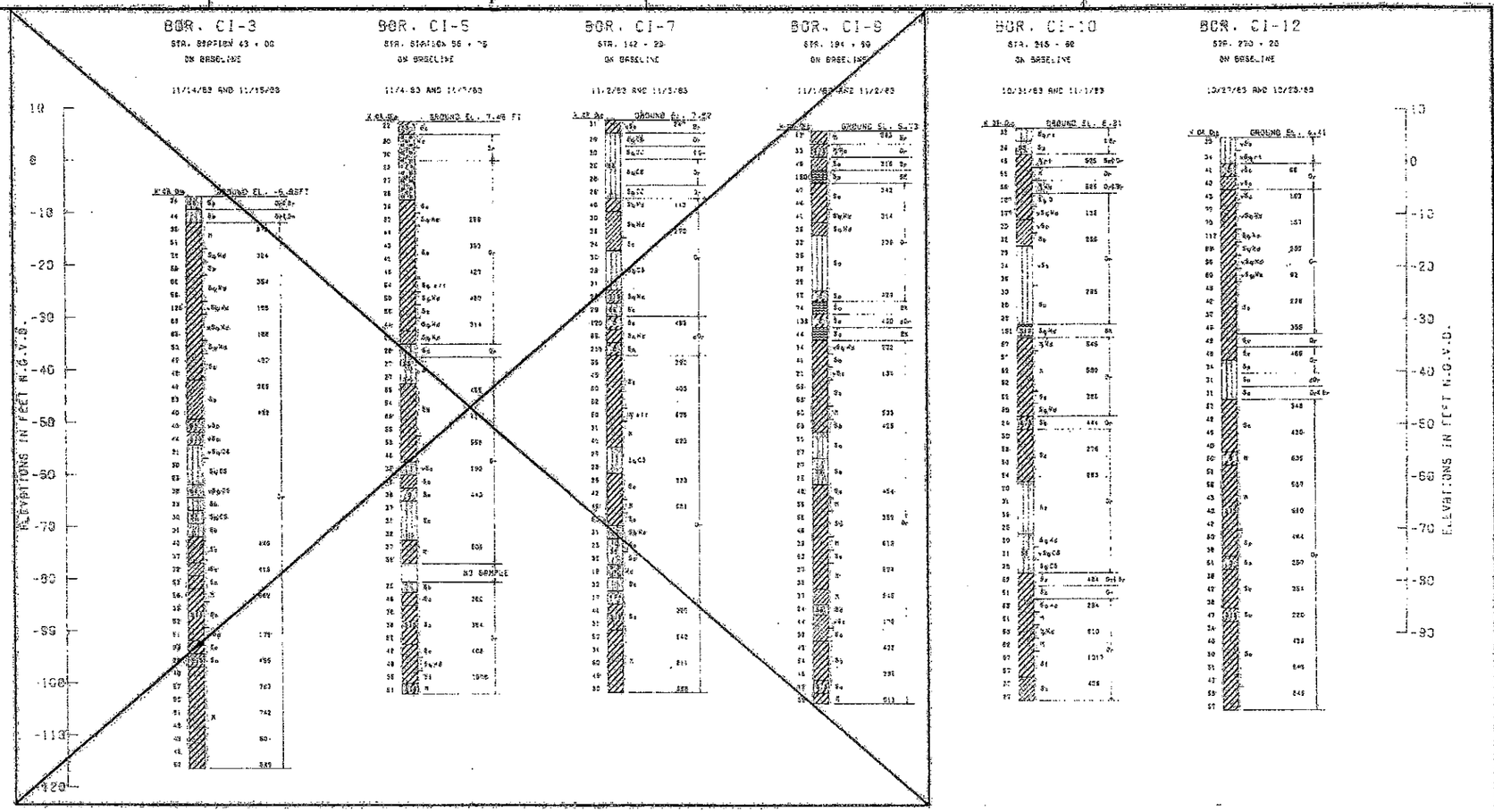
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.E.P.	L.E.D.	MAY 1967		H-8-30225
APPROVED			DESIG. NO.		
			BACW25-87-B-0058		14 of 21

SAFETY IS A PART OF YOUR CONTRACT



NOT APPLICABLE

NOTES:

1. FOR BORING LEGEND SEE DWG. 21.
2. GENERAL BORINGS TAKEN WITH A 2 7/8" DIAMETER CORE SAMPLER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

GENERAL BORINGS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.I.P.	L.E.C.	MAY 1967	AS SHOWN	H-8-30225

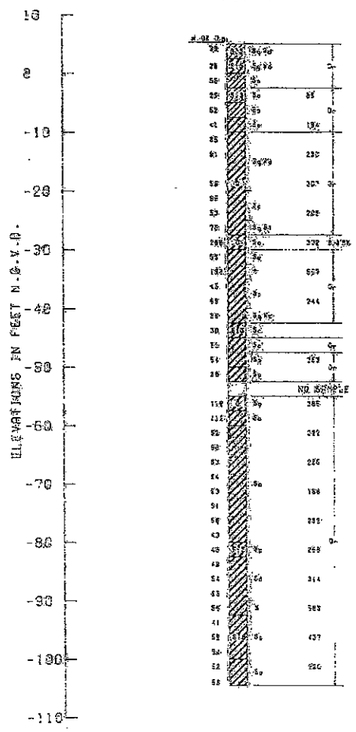
SUBMITTED: [signature] APPROVED: DACW29-67-B-0058 DWG. 15 OF 21

VALUE ENGINEERING — YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT

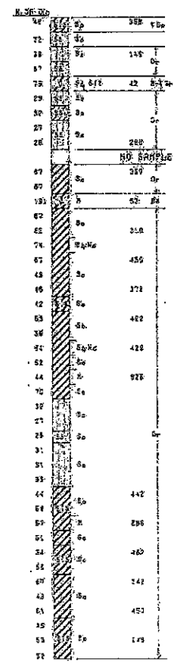
BOR. CI-13

STA. 285+50 ON BASELINE
10/28/82 THRU 10/29/82
GROUND EL. 5.02



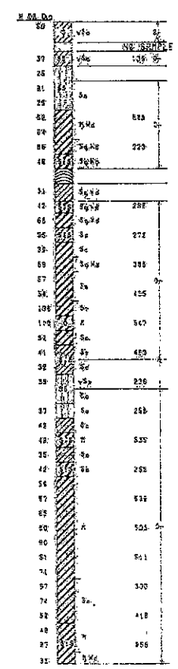
BOR. CI-15

STA. 341+70 ON BASELINE
10/24/82 & 10/25/82
GROUND EL. 3.72



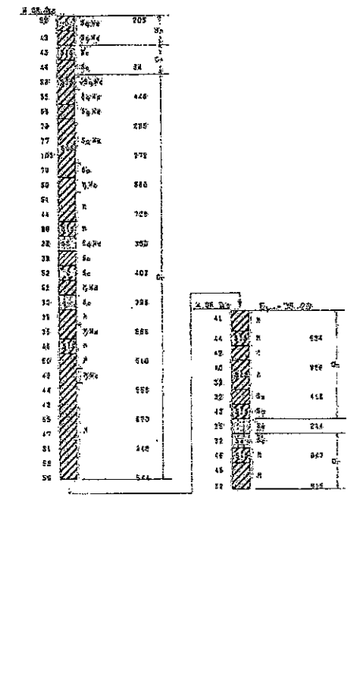
BOR. CI-16

STA. 367+20 ON BASELINE
10/15/82 THRU 10/22/82
GROUND EL. 2.88



BOR. CI-18

STA. 422+20 ON BASELINE
10/14/82 THRU 10/18/82
GROUND EL. 3.78



NOTES:

1. FOR BORING LEGEND SEE DWG. 21.
2. GENERAL BORINGS TAKEN WITH A 2 7/8" DIAMETER CORE SAMPLER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

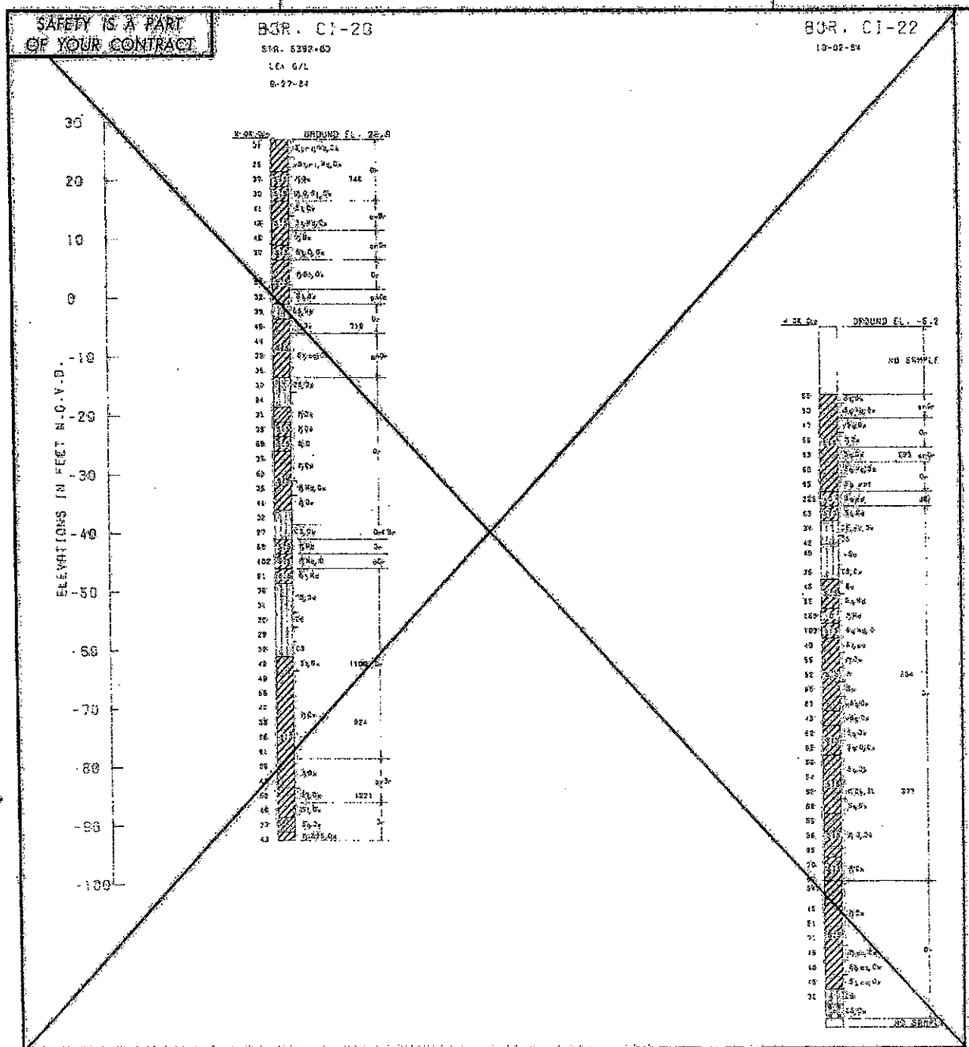
GENERAL BORINGS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
E.A.E.	M.L.P.	L.E.D.	MAY 1987	AS SHOWN	H-8-30225

DACW29-87-B-0068 DWG. 16 of 21

VALUE ENGINEERING "YOUR KEY TO HIGHER PROFITS"

SAFETY IS A PART OF YOUR CONTRACT



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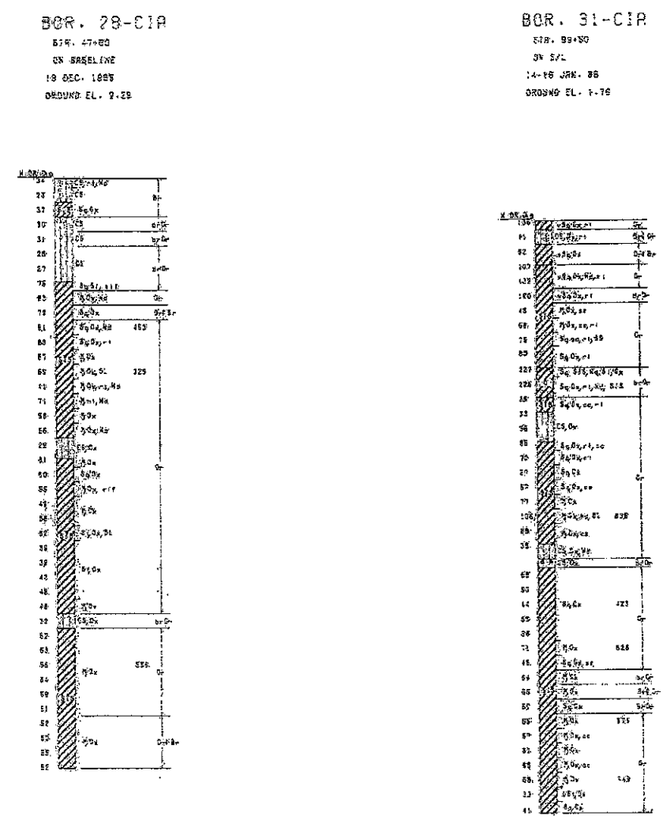


NOTES:

1. FOR BORING LEGEND SEE DWG. 21.
2. GENERAL BORINGS TAKEN WITH A 2 7/8" DIAMETER CORE SAMPLER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

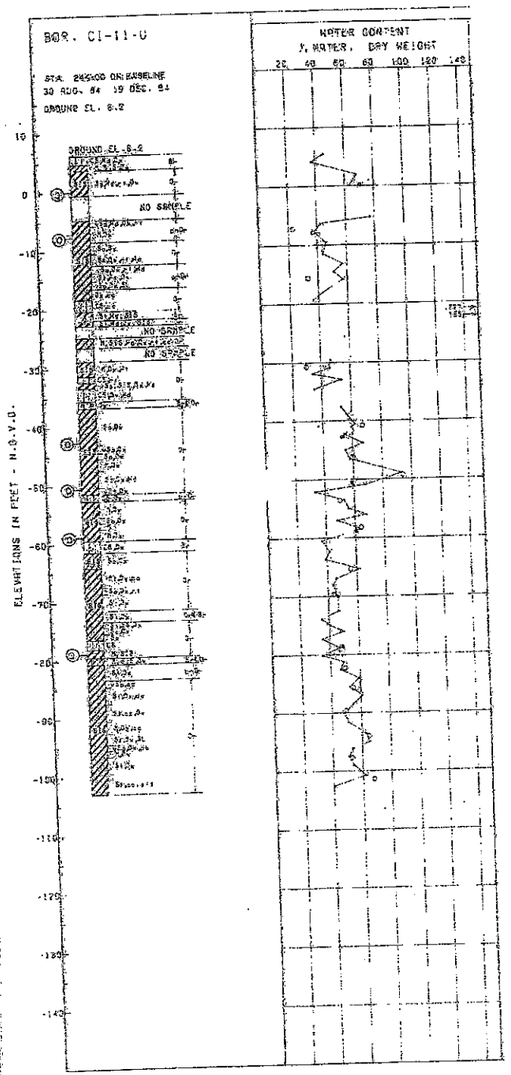
GENERAL BORINGS

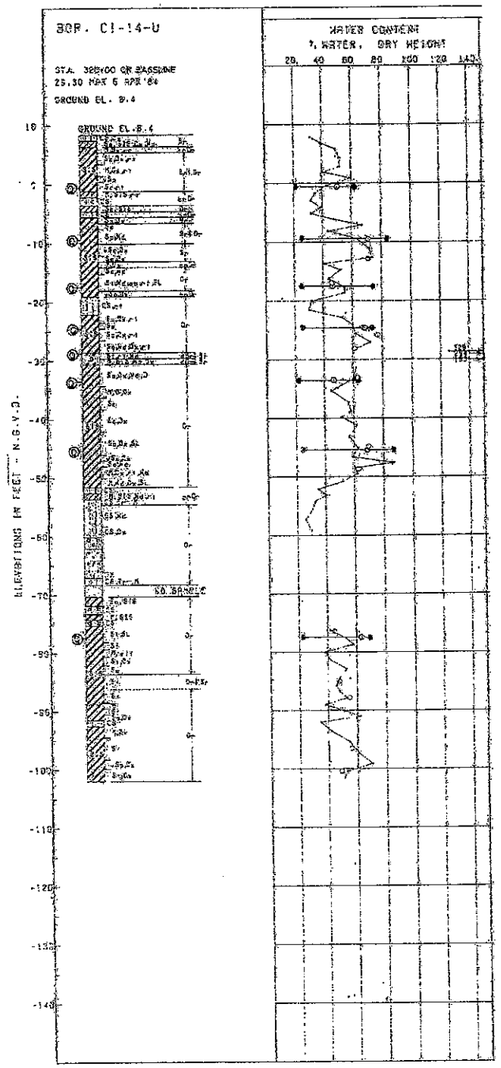
DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.I.P.	L.E.D.	MAY 1982	AS SHOWN	H-8-30225

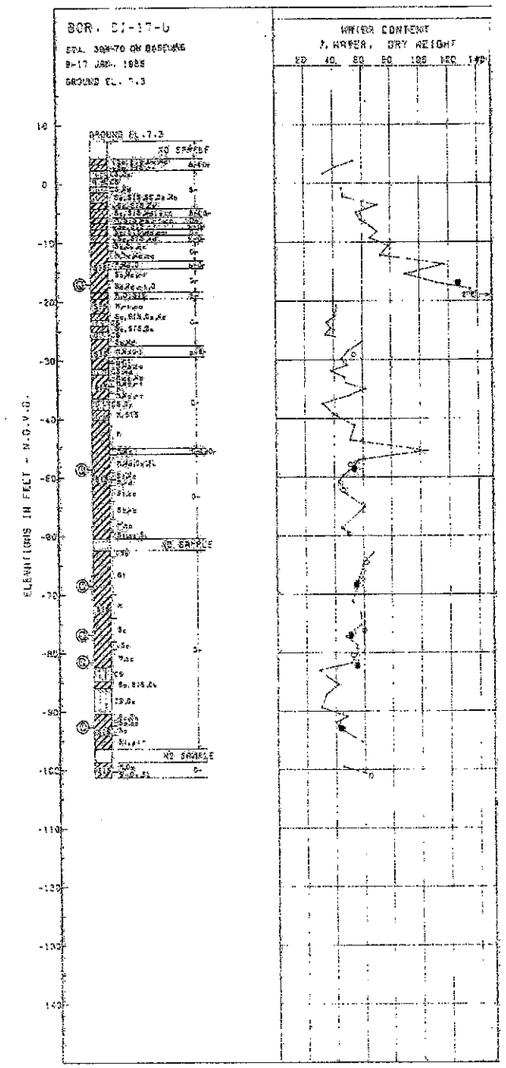
SUBMITTED: [signature] SPEC. NO. DACW29-87-B-0058 DWG. 17 of 21

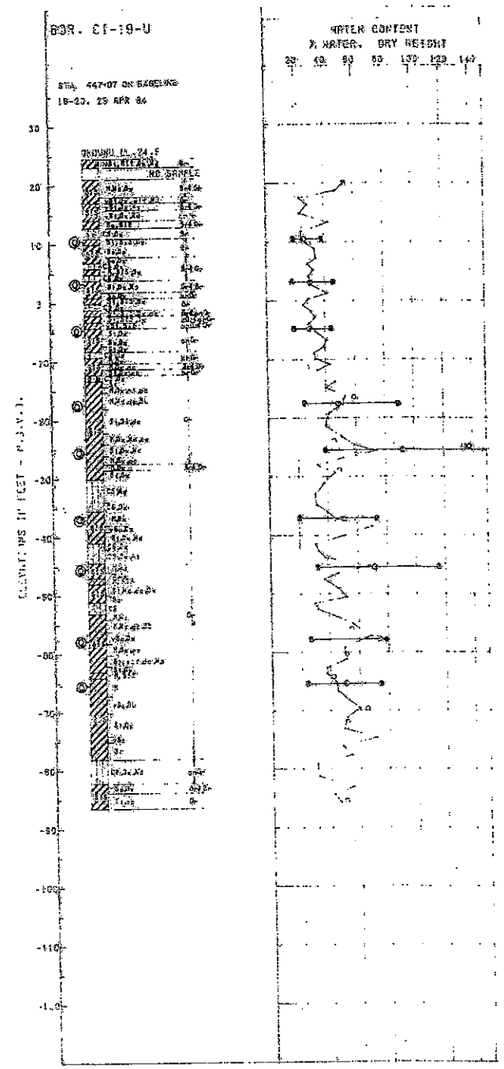
YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT









NOTES:

1. FOR BORING LEGEND SEE DWG. 21.
2. UNDISTURBED BORINGS TAKEN WITH A 5" I.D. FIXED PISTON SAMPLER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

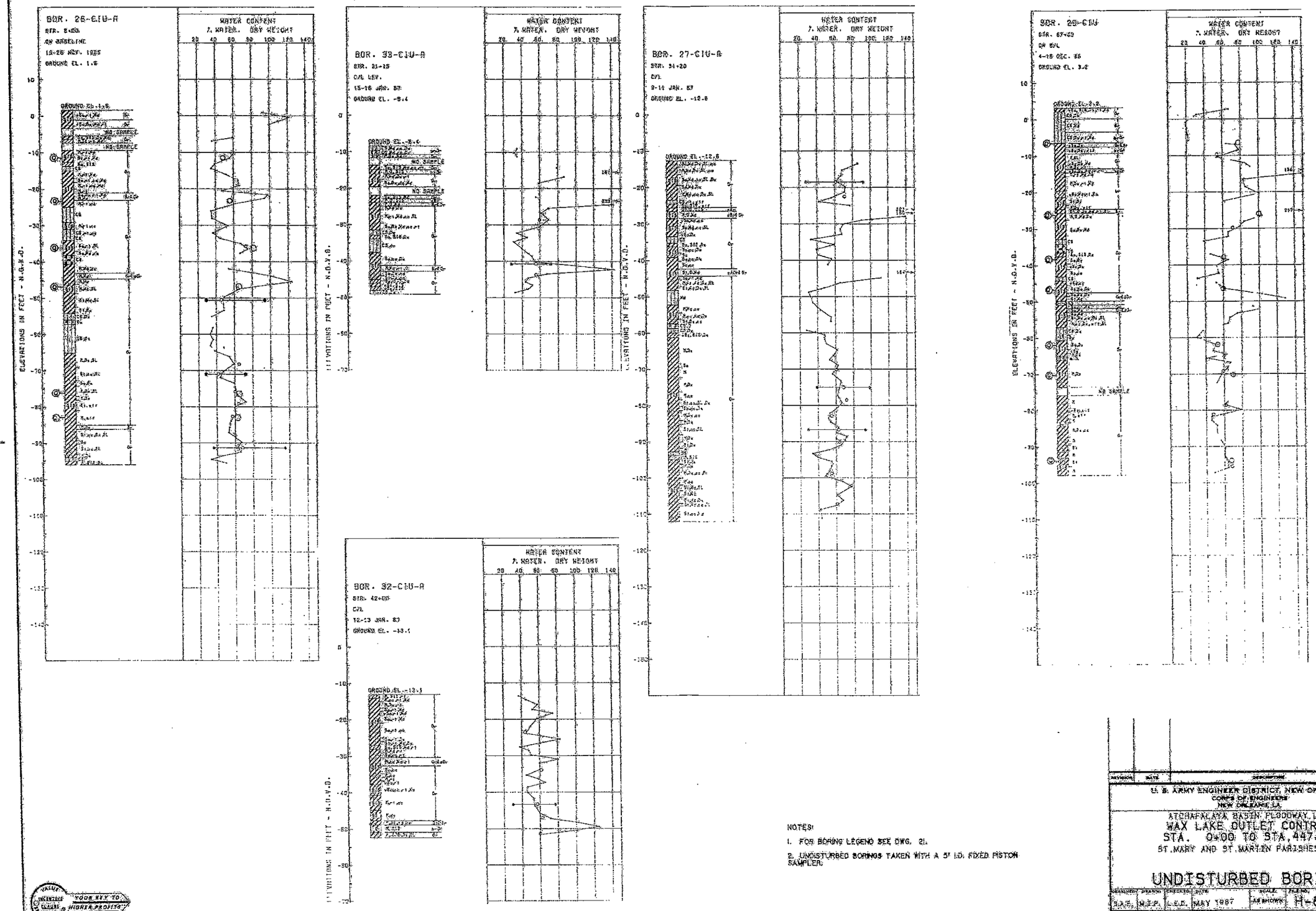
UNDISTURBED BORINGS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.F.	M.I.P.	L.E.G.	MAY 1987	AS SHOWN	H-8-30225

SUBMITTED: [signature] SPEC. NO. DACW29-87-B-0058 DWG. 18 OF 21

VALUE INCENTIVE CLAUSE ENGINEERING YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT



NOTES:

1. FOR BORING LEGEND SEE DWG. 21.
2. UNDISTURBED BORINGS TAKEN WITH A 5" I.D. FIXED PISTON SAMPLER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

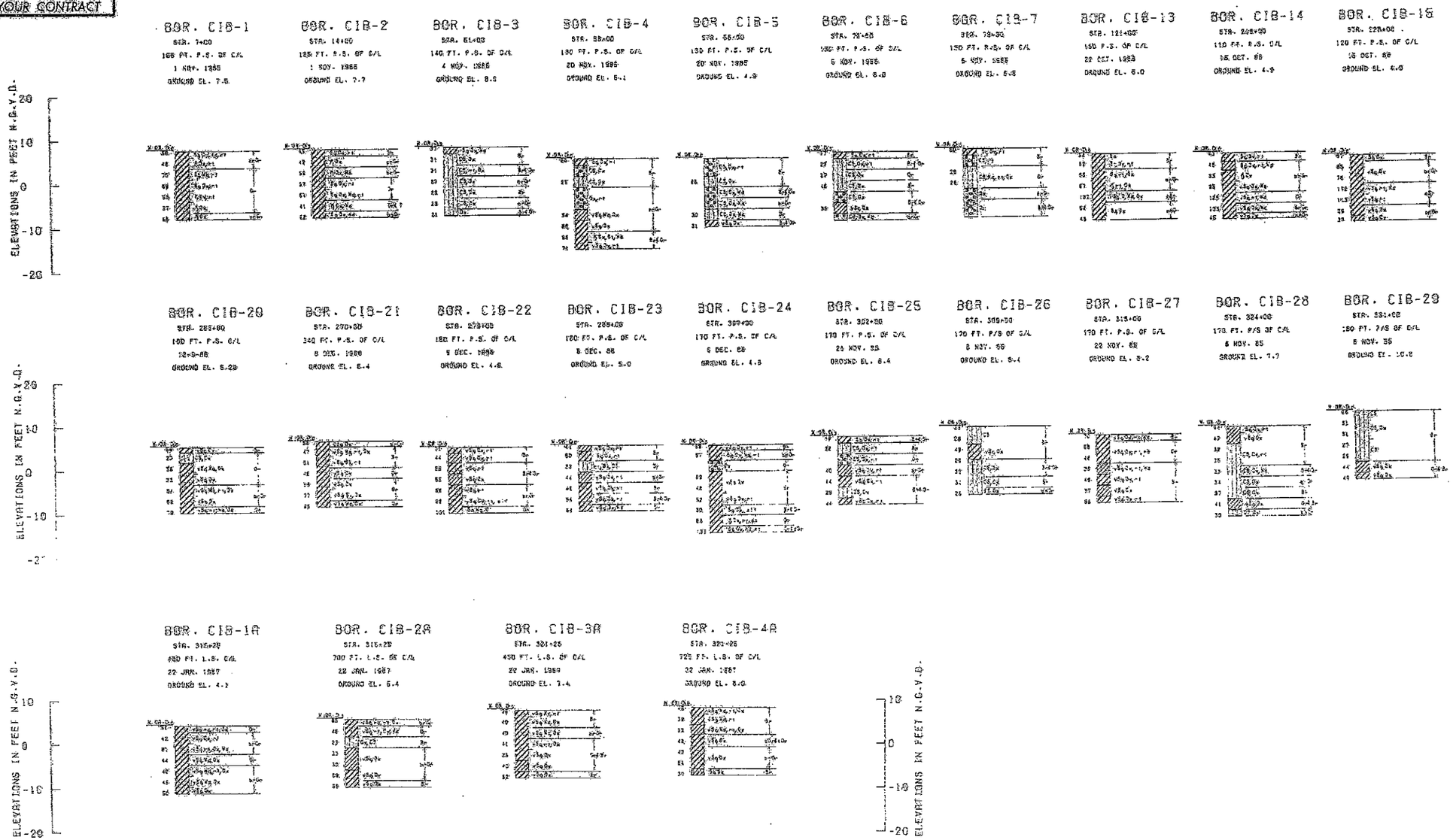
ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

UNDISTURBED BORINGS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.I.P.	L.E.D.	MAY 1987	AS SHOWN	H-8-30225
SUBMITTED			SPEC. NO. DACW29-87-B-0056		DWG. 19 OF 21

VALUE INCENTIVE CLAUSE ENGINEERING — YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT



NOTES:
1. FOR BORING LEGEND, SEE DWG. 21.
2. BORROW BORINGS TAKEN WITH A HAND AUGER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.

WAX LAKE OUTLET CONTROL
STA.00+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.

BORROW BORINGS

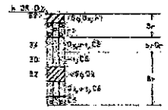
DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	[illegible]	[illegible]	MAY 1987	AS SHOWN	H-8-30225
SUBMITTED			SPEC. NO. DACW29-87-B-0058		DWG. 20 OF 21

VALUE INSTITUTE CLEARE ENGINEERING — YOUR KEY TO HIGHER PROFITS

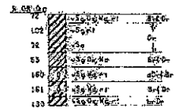
SAFETY IS A PART OF YOUR CONTRACT

BOR. CIB-8
STA. 85+00
130 FT. P.S. OF C/L
11 MAY 87
GROUND EL. 6.4

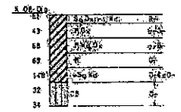
BOR. CIB-9
STA. 93+00
130 FT. P.S. OF C/L
11 MAY '87
GROUND EL. 3.3



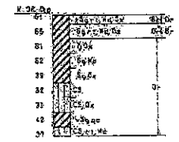
BOR. CIB-10
STA. 100+00
130 FT. P.S. OF C/L
11 MAY 87
GROUND EL. 3.2



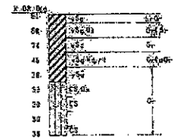
BOR. CIB-11
STA. 107+00
130 FT. P.S. OF C/L
12 MAY 87
GROUND EL. 3.8



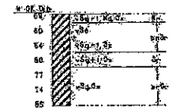
BOR. CIB-12
STA. 114+00
140 FT. P.S. OF C/L
12 MAY 1987
GROUND EL. 3.6



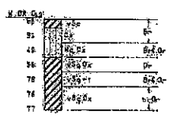
BOR. CIB-16
STA. 235+00
330 FT. P.S. OF C/L
12 MAY 1987
GROUND EL. 3.5



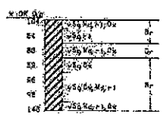
BOR. CIB-17
STA. 242+00
340 FT. P.S. OF C/L
12 MAY 87
GROUND EL. 5.4



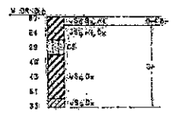
BOR. CIB-18
STA. 249+00
340 FT. P.S. OF C/L
12 MAY 87
GROUND EL. 3.5



BOR. CIB-19
STA. 258+00
340 FT. P.S. OF C/L
12 MAY 87
GROUND EL. 3.4

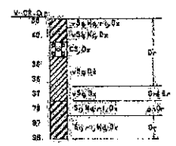


BOR. CIB-30
STA. 339+00
180 FT. P.S. OF C/L
9 APR. 87
GROUND EL. 5.6

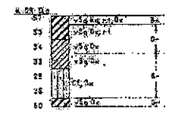


BOR. CIB-31
STA. 346+00
180 FT. P.S. OF C/L
9 APR. 87
GROUND EL. 5.6

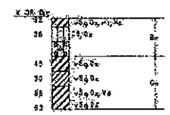
BOR. CIB-32
STA. 353+00
170 FT. P.S. OF C/L
14 APR. 87
GROUND EL. 5.1



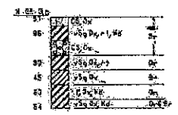
BOR. CIB-33
STA. 360+00
170 FT. P.S. OF C/L
9 APR. 87
GROUND EL. 4.8



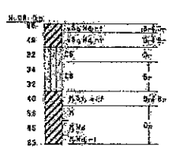
BOR. CIB-34
STA. 367+00
170 FT. P.S. OF C/L
12 MAY 1987
GROUND EL. 1.8



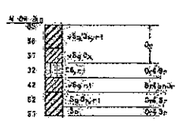
BOR. CIB-35
STA. 374+00
170 FT. P.S. OF C/L
12 MAY 1987
GROUND EL. 3.1



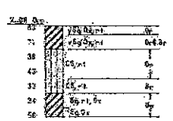
BOR. CIB-36
STA. 381+00
170 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 3.8



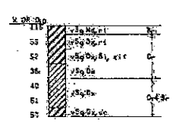
BOR. CIB-37
STA. 388+00
140 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 2.7



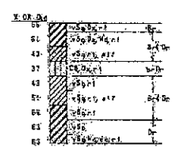
BOR. CIB-38
STA. 395+00
140 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 2.7



BOR. CIB-39
STA. 402+00
140 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 2.8



BOR. CIB-40
STA. 409+00
140 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 3.3



BOR. CIB-41
STA. 416+00
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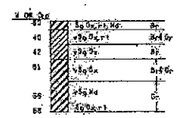
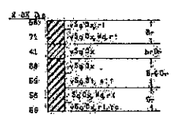
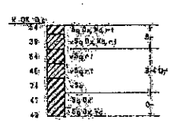
14 MAY '87
GROUND EL. 3.7



BOR. CIB-42
STA. 423+00
140 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 3.7



BOR. CIB-43
STA. 430+00
140 FT. P.S. OF C/L
14 MAY '87
GROUND EL. 6.3



ELEVATIONS IN FEET N.G.V.D.
10
0
-10
-20

NOTES:
1. FOR BORING LEGEND, SEE DWG. 21.
2. BORROW BORINGS TAKEN WITH A HAND AUGER

REVISION	DATE	DESCRIPTION	BY
1	MAY 87	ADDED NEW DRAWING. AMEND. NO. 1	S.A.E.

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA.00+00 TO STA.447+07.2
ST. MARY AND ST. MARTIN PARISHES, LA.

BORROW BORINGS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	R.J.G.	L.E.D.	MAY 1987	AS SHOWN	H-8-30225

SUBMITTED: Louis E. Delaney
SPEC. NO. DACW29-87-B-0058 DWG. 20A OF 21

VALUE ENGINEERING CLAUSE — YOUR KEY TO HIGHER PROFITS

UNIFIED SOIL CLASSIFICATION

MAJOR DIVISION		TYPE	LETTER SYMBOL	SYMBOL	TYPICAL NAMES
COARSE - GRAINED SOILS (More than half of material is larger than No. 200 sieve size.)	GRAVELS (More than half of coarse fraction is larger than No. 4 sieve size.)	CLEAN GRAVEL (Little or no fines)	GW		GRAVEL, Well Graded, gravel-sand mixtures, little or no fines
			GP		GRAVEL, Poorly Graded, gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)	GM		SILTY GRAVEL, gravel-sand-silt mixtures
			GC		CLAYEY GRAVEL, gravel-sand-clay mixtures
	SANDS (More than half of coarse fraction is smaller than No. 4 sieve size.)	CLEAN SAND (Little or no fines)	SW		SAND, Well-Graded, gravelly sands
			SP		SAND, Poorly-Graded, gravelly sands
		SANDS WITH FINES (Appreciable amount of fines)	SM		SILTY SAND, sand-silt mixtures
			SC		CLAYEY SAND, sand-clay mixtures
FINE - GRAINED SOILS (More than half the material is smaller than No. 200 sieve size.)		SILTS AND CLAYS (Liquid limit < 50)	ML		SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity
			CL		CLAY, Sandy Clay, Silty Clay, of low to medium plasticity
			OL		ORGANIC SILTS and organic silty clays of low plasticity
		SILTS AND CLAYS (Liquid limit > 50)	MH		SILT, fine sandy or silty soil with high plasticity
			CH		FAT CLAY, inorganic clay of high plasticity
			OH		ORGANIC CLAYS of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt		PEAT, and other highly organic soil
WOOD			Wd		WOOD
SHELLS			Sl		SHELLS
NO SAMPLE					

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols

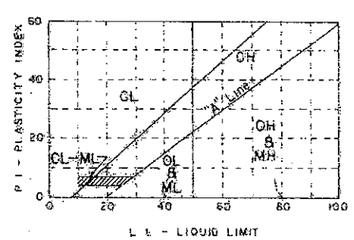
DESCRIPTIVE SYMBOLS

COLOR

COLOR	SYMBOL
TAN	T
YELLOW	Y
RED	R
BLACK	BK
GRAY	Gr
LIGHT GRAY	lGr
DARK GRAY	dGr
BROWN	Br
LIGHT BROWN	lBr
DARK BROWN	dBr
BROWNISH-GRAY	br Gr
GRAYISH-BROWN	gy Br
GREENISH-GRAY	gn Gr
GRAYISH-GREEN	gy Gn
GREEN	Gn
BLUE	Bl
BLUE-GREEN	Bl Gn
WHITE	Wh
MOTTLED	Mot

CONSISTENCY FOR COHESIVE SOILS

CONSISTENCY	COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST	SYMBOL
VERY SOFT	< 250	vSo
SOFT	250 - 500	So
MEDIUM	500 - 1000	M
STIFF	1000 - 2000	St
VERY STIFF	2000 - 4000	vSt
HARD	> 4000	H



PLASTICITY CHART
For classification of fine-grained soils

MODIFICATIONS

MODIFICATION	SYMBOL
Traces	Tr-
Fine	F
Medium	M
Coarse	C
Concretions	cc
Rootlets	rt
Lignite fragments	lg
Shale fragments	sh
Sandstone fragments	sds
Shell fragments	slf
Organic matter	O
Clay strata or lenses	CS
Silt strata or lenses	SIS
Sand strata or lenses	SS
Sandy	S
Gravelly	G
Boulders	B
Slickensides	Sl
Wood	Wd
Oxidized	Ox

NOTES:

FIGURES TO LEFT OF BORING UNDER COLUMN "W OR D_{10}"

Are natural water contents in percent dry weight

When underlined denotes D_{10} size in m.m.*

FIGURES TO LEFT OF BORING UNDER COLUMNS "LL" AND "PL"

Are liquid and plastic limits, respectively

SYMBOLS TO LEFT OF BORING

▽ Ground-water surface and date observed

Ⓒ Denotes location of consolidation test**

Ⓢ Denotes location of consolidated-drained direct shear test**

Ⓡ Denotes location of consolidated-undrained triaxial compression test**

Ⓠ Denotes location of unconsolidated-undrained triaxial compression test**

Ⓣ Denotes location of sample subjected to consolidation test and each of the above three types of shear tests**

FW Denotes free water encountered in boring or sample

FIGURES TO RIGHT OF BORING

Are values of cohesion in lbs./sq.ft. from unconfined compression tests

In parenthesis are driving resistances in blows per foot determined with a standard split spoon sampler (1 3/8" I.D., 2" O.D.) and a 140 lb. driving hammer with a 30" drop.

Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample

Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio

*The D_{10} size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D_{10}

**Results of these tests are available for inspection in the U. S. Army Engineer District Office, if these symbols appear beside the boring logs on the drawings

TYPICAL NOTES:

While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of clause 4 of the contract.

Ground-water elevations shown on the boring logs represents ground-water surfaces encountered in such borings on the dates shown. Absence of water surface data on certain borings indicates that no ground water data are available from the boring but does not necessarily mean that ground water will not be encountered at the locations or within the vertical reaches of such borings.

Consistency of cohesive soils shown on the boring logs is based on driller's log and visual examination and is approximate, except within those vertical reaches of the borings where shear strengths from unconfined compression tests are shown.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY, LA.
WAX LAKE OUTLET CONTROL
STA. 0+00 TO STA. 447+07
ST. MARY AND ST. MARTIN PARISHES, LA.

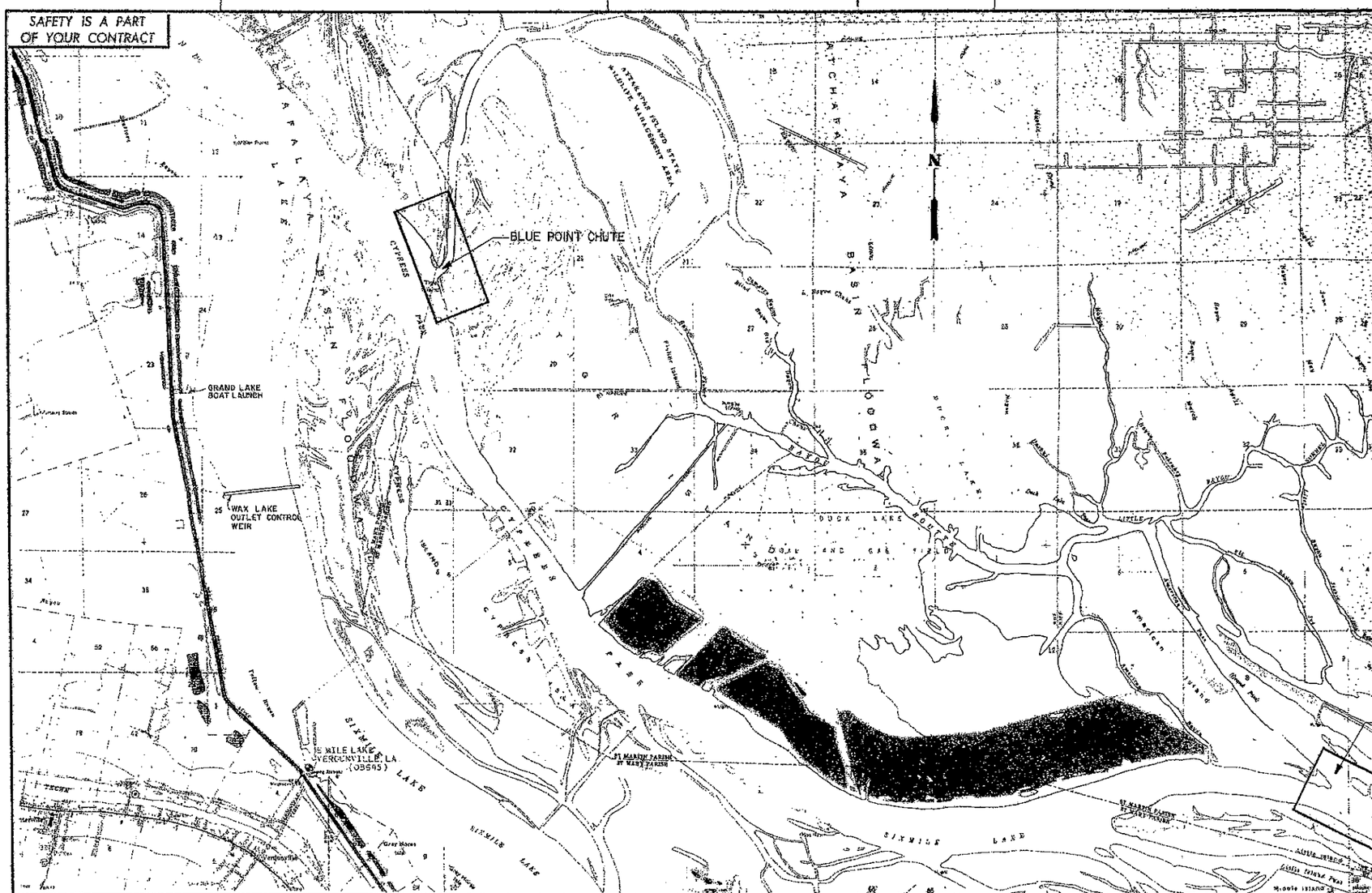
SOIL BORING LEGEND

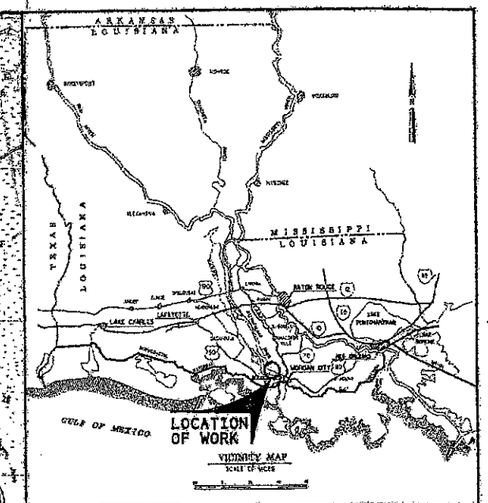
DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
E.A.E.	M.I.P.	L.E.G.	MAY 1987	AS SHOWN	H-8-30225
SUBMITTED			SPEC. NO.		
			DACW29-87-B-0058	21 of 21	

Safety is a Part of Your Contract

NATIONAL SECURITY INDUSTRY ASSOCIATION — YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT





INDEX

DWG.	DESCRIPTION
1	LOCATION, VICINITY MAPS, AND INDEX
2	PLAN AND WEIR ℄ ALINEMENT
3	BLUE POINT CHUTE WEIR PLAN AND PROFILE
4	AMERICAN PASS WEIR PLAN AND PROFILE
5	BLUE POINT CHUTE WEIR DESIGN SECTIONS
6	AMERICAN PASS WEIR DESIGN SECTIONS
7	STAGE HYDROGRAPHS
8	STAGE HYDROGRAPHS
9	STAGE HYDROGRAPHS

ATCHAFALAYA BASIN FLOODWAY

CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND AMERICAN PASS

ST. MARY AND ST. MARTIN PARISHES, LA.

VALUE ENGINEERING INCENTIVES "YOUR KEY TO HIGHER PROFITS"

REVISION	DATE	DESCRIPTION	BY

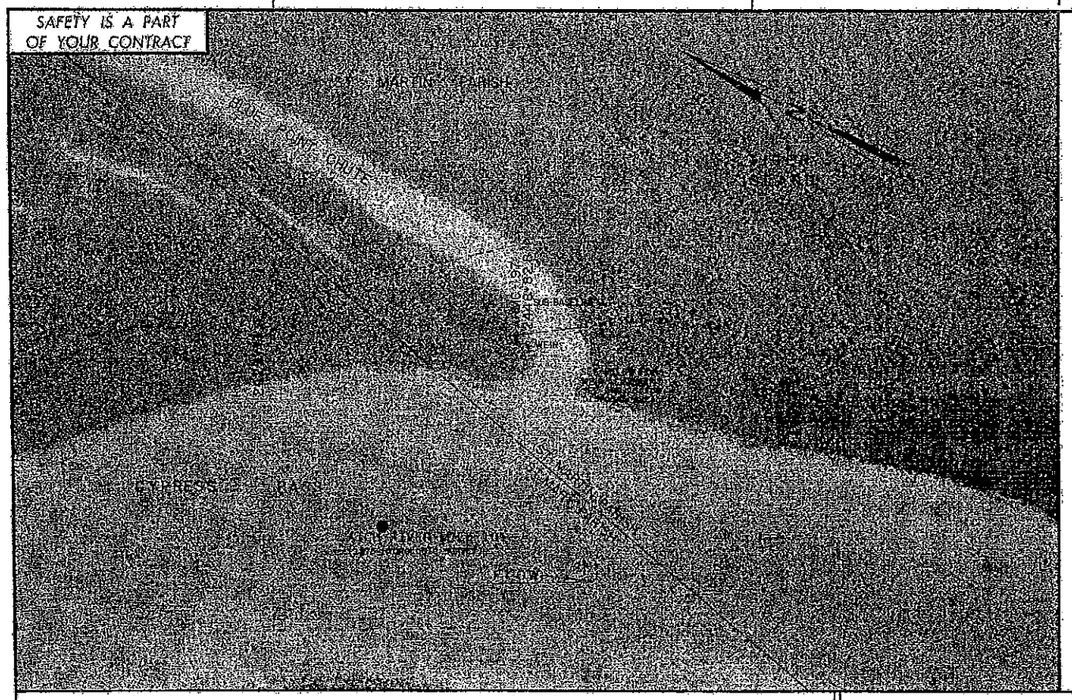
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

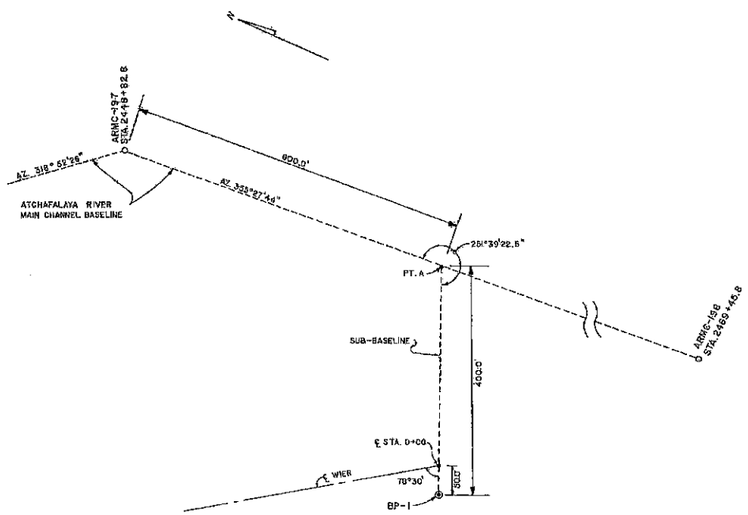
SUBMITTED: CHIEF, DESIGN BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
APPROVED: SECTION, C.E. DESIGN ENGINEER

ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE
AND
AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES, LA
LOCATION AND VICINITY
MAPS AND INDEX

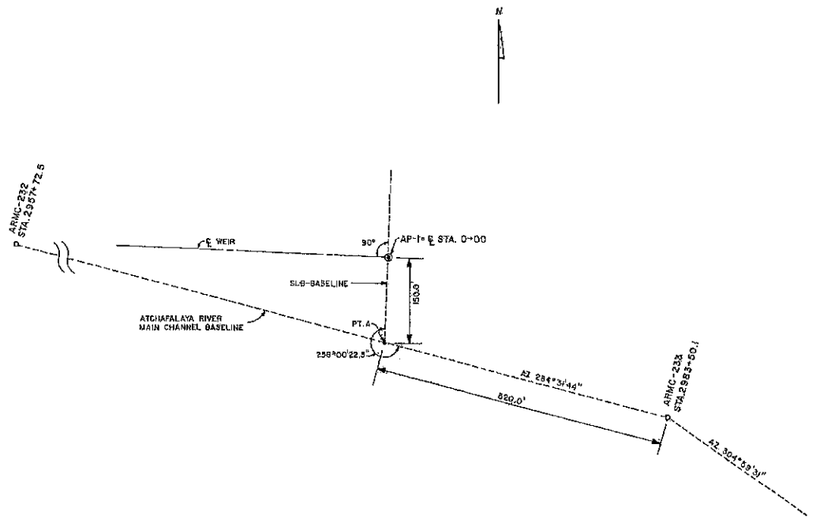
DESIGNED: S.A.E.	DATED: SEPT. 1989	PLOT AS SCALE SHOWN	FILE NO. H-8-30470
DRAWN: M.T.P.	DESIGN FDS:		
CHECKED: J.H.S.			
SUBMITTED:	SPEC. NO. DACW29-89-B-0039		DWG. 1 OF 9

SAFETY IS A PART OF YOUR CONTRACT





BLUE POINT CHUTE
WEIR ALINEMENT



AMERICAN PASS
WEIR ALINEMENT

BENCH MARK INFORMATION

BENCH MARK	EL.	DESCRIPTION
TMB AMERICAN PASS	6.80'	G.I. SPIKE IN 12" DIAMETER WILLOW TREE AT EAST SIDE OF TREE. SPIKE IS 2.0' ABOVE GROUND AND 19.0' SOUTH-WEST OF BRASS CAP AP-1= 0+00 STAMPED IN 1988.
TMB BLUE POINT CHUTE	12.35	G.I. SPIKE IN 10" DIAMETER WILLOW TREE. SPIKE IS 1.7' ABOVE GROUND AND 4.2' SOUTH OF BP-1=0+00.

REVISION	DATE	DESCRIPTION	BY

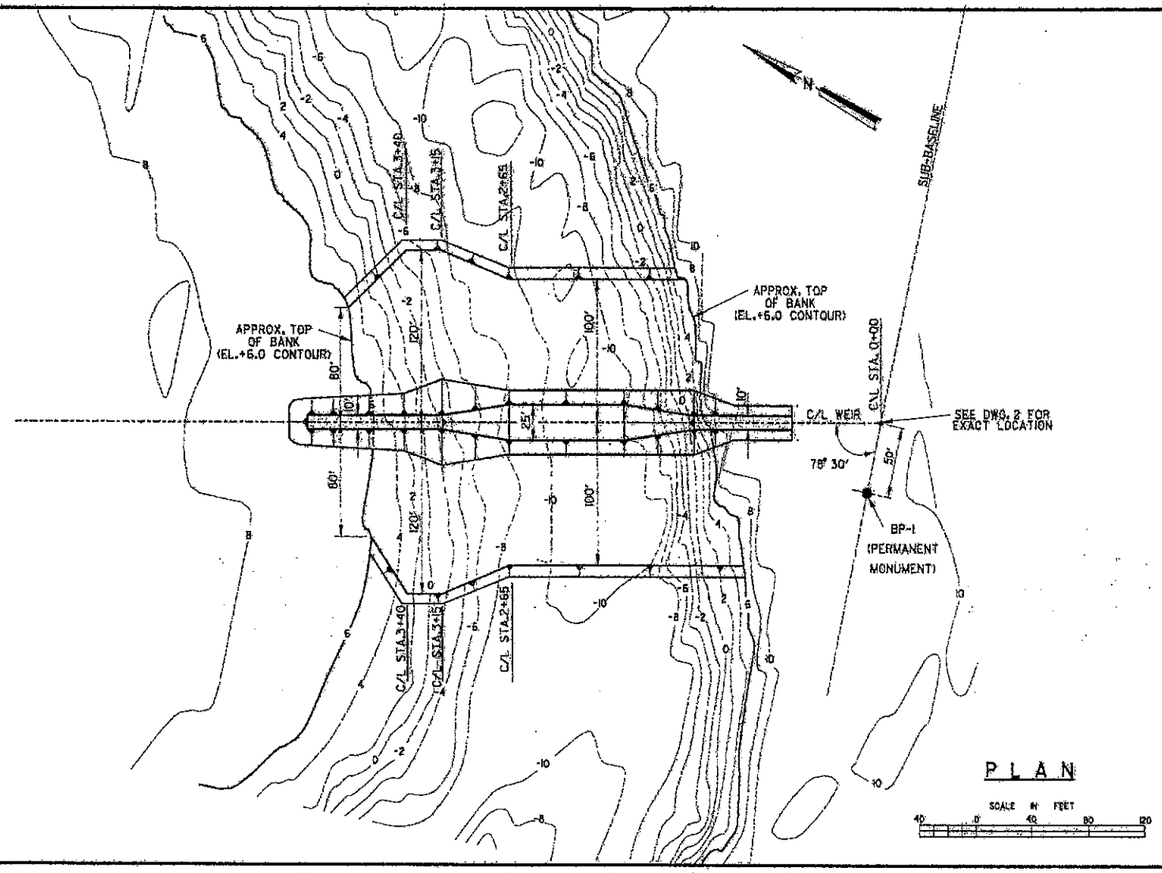
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND
AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN AND WEIR ℄ ALINEMENTS

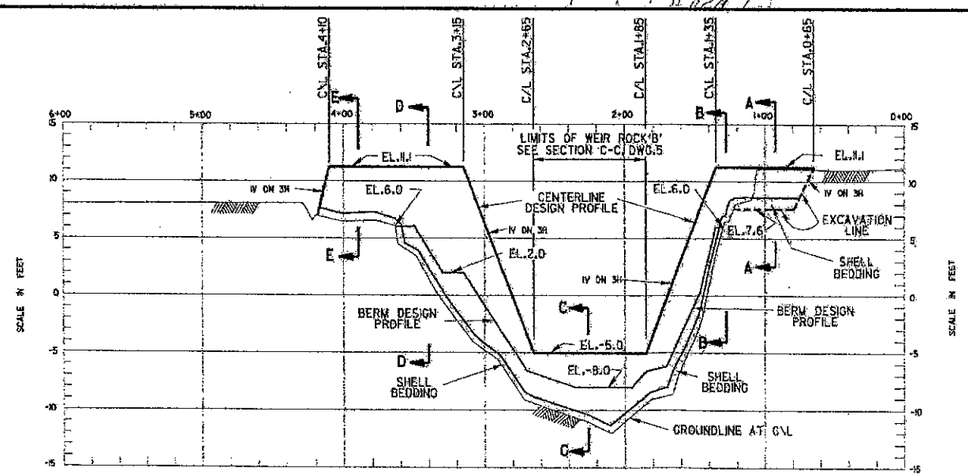
DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	S.A.C.	J.H.G.	FEB. 1989	AS SHOWN	H-8-30470
SUBMITTED			SPEC NO.		DWG. 2 OF 9
			DACW29-89-B-0039		

VALUE INCENTIVE CLAUSE ENGINEERING "YOUR KEY TO HIGHER PROFITS"



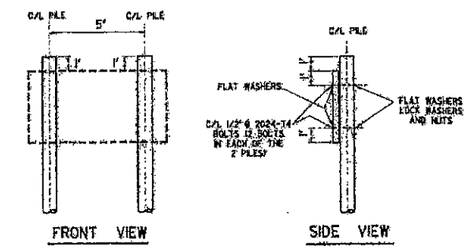
PLAN

SCALE IN FEET



PROFILE

NOTE :
1. SEE DWG. 5 FOR DESIGN SECTIONS AND ORDER OF WORK.



WARNING SIGN MOUNTING DETAIL

NOT TO SCALE

NOTES:
1. SEE THE TABLE BELOW FOR SIGN LOCATIONS.
2. PILE PENETRATION SHALL BE TO THE TIP ELEVATION SHOWN ON THE TABLE BELOW OR 20 FEET BELOW THE CHANNEL BOTTOM AT THE TIME OF DRIVING, WHICHEVER IS THE LOWEST.
3. TOP OF PILE ELEVATION SHALL BE AS SHOWN ON THE TABLE BELOW.

WARNING SIGN INFORMATION △1

BLUE POINT CHUTE

SIGN DESIGNATION	WEIR C/L STATION	OFFSET FROM WEIR C/L	TIP ELEVATION (SEE NOTE 2 ABOVE)	TOP OF PILE ELEVATION
BPC-1E	1+70	80' EAST	EL.-30	EL.+28
BPC-2E	2+80	115' EAST	EL.-30	EL.+28
BPC-3E	3+25	130' EAST	EL.-27	EL.+28
BPC-4W	1+70	80' WEST	EL.-30	EL.+28
BPC-5W	2+80	115' WEST	EL.-28	EL.+28
BPC-6W	3+25	130' WEST	EL.-20	EL.+28

AMERICAN PASS

SIGN DESIGNATION	WEIR C/L STATION	OFFSET FROM WEIR C/L	TIP ELEVATION (SEE NOTE 2 ABOVE)	TOP OF PILE ELEVATION
AP-1N	3+00	200' NORTH	EL.-22	EL.+25
AP-2N	5+35	200' NORTH	EL.-26	EL.+25
AP-3N	8+90	200' NORTH	EL.-27	EL.+25
AP-4N	10+50	200' NORTH	EL.-26	EL.+25
AP-5S	3+00	200' SOUTH	EL.-22	EL.+25
AP-6S	5+35	200' SOUTH	EL.-27	EL.+25
AP-7S	8+90	200' SOUTH	EL.-25	EL.+25

REVISION	DATE	DESCRIPTION	BY
1	MAY'89	REVISED WARNING SIGN TABLE, AMENDMENT 0002	SAE

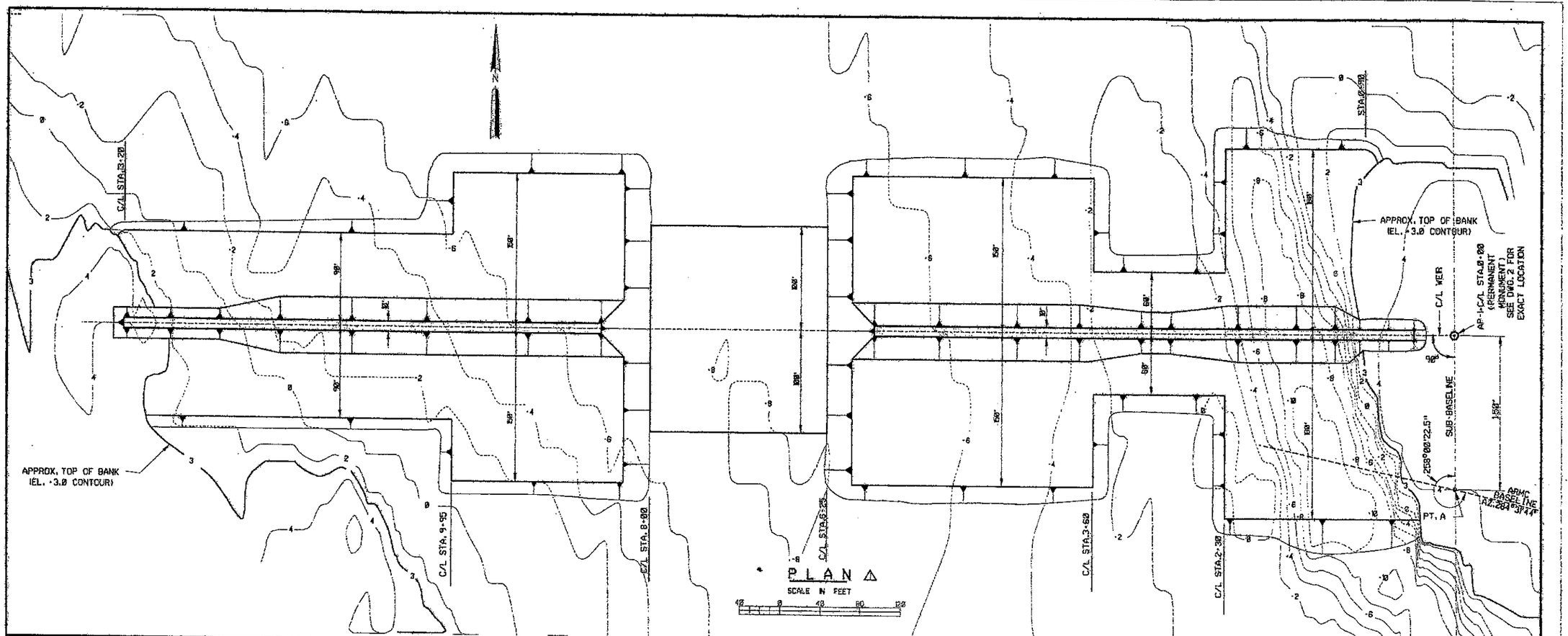
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

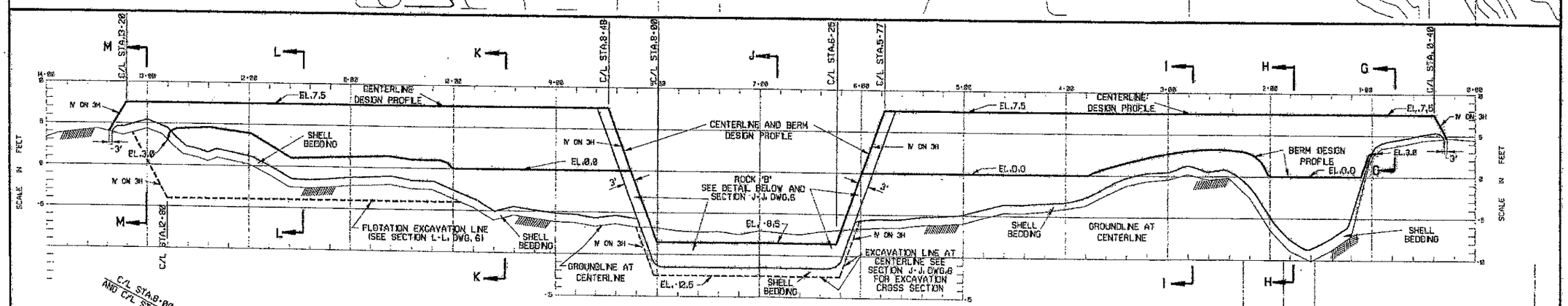
ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES, LA.

BLUE POINT CHUTE WEIR PLAN AND PROFILE

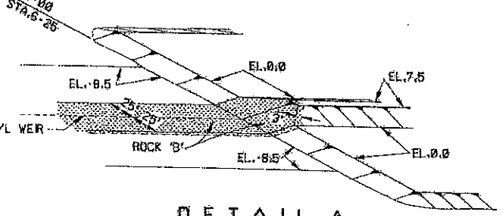
DESIGNED: S.A.E.	DATE: FEB. 1989	PLOT SCALE: AS SHOWN	FILE NO. H-8-30470
DRAWN: M.J.F.			
CHECKED: J.H.Q.	DESIGN FILE: 03470LPO3.DGN		
SUBMITTED:	SPEC. NO. DACW29-89-B-0049		DWG. 3 OF 9

DESIGN FILE: 03470LPO3.DGN
PLOT SCALE: 1"=40'
FORM SCALE: 6 & 40





PROFILE



DETAIL

NOT TO SCALE

NOTES:
1. SEE DWG. 6 FOR DESIGN SECTIONS.
2. SEE DWG. 3 FOR WARNING SIGN INSTALLATION INFORMATION.

REVISION	DATE	DESCRIPTION	BY
1	MAY '89	REVISED WEIR, ADDED DETAIL, AMENDMENT 0002	SAE

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

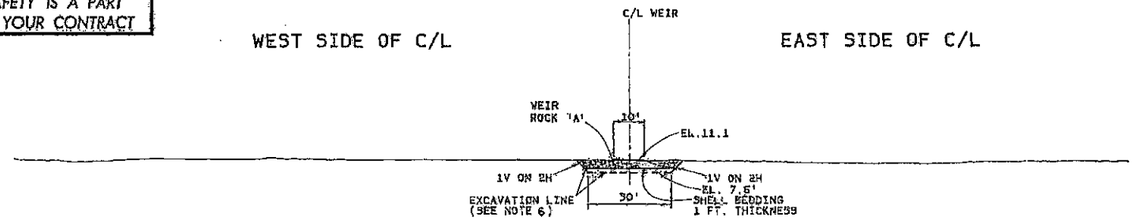
ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING WEIRS
BLUE POINT CHUTE AND
AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES, LA.

AMERICAN PASS WEIR
PLAN AND PROFILE

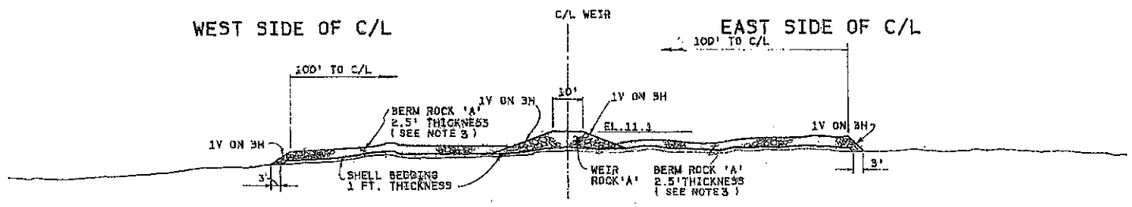
DESIGNED: SAE	DATE: SEP. 1989	PLOT SCALE: AS SHOWN	FILE NO. H-8-30470
DRAWN: MJR		DESIGN FILE: 03470LP24.DGN	
CHECKED: JHG			
SUBMITTED:		SPEC. NO. DACW29-89-B-0039	DWG. 4 OF 9

DESIGN FILE: 03470LP24.DGN
PLOT SCALE: 1"=40'
FORM SCALE: 6 & 48

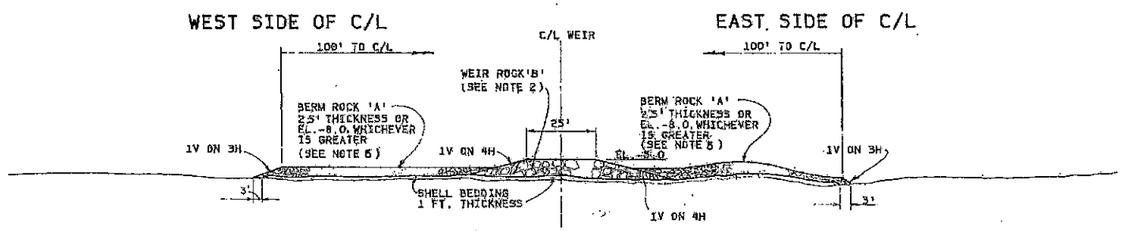
SAFETY IS A PART OF YOUR CONTRACT



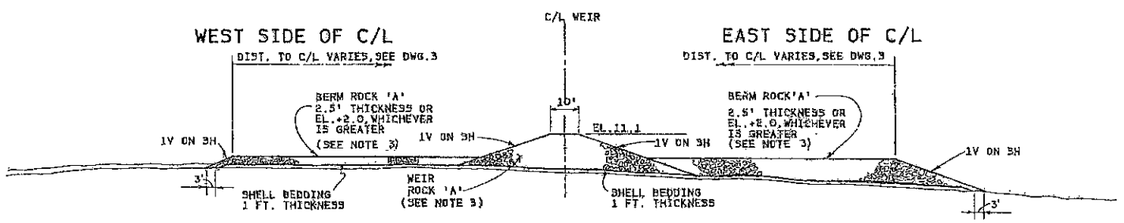
SECTION A - A
NOT TO SCALE



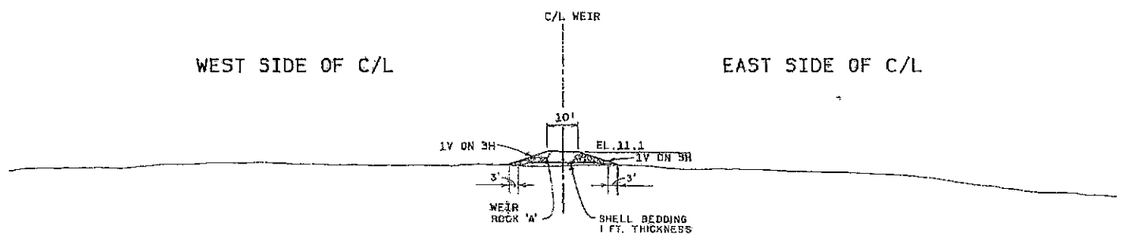
SECTION B - B
NOT TO SCALE



SECTION C - C
NOT TO SCALE



SECTION D - D
NOT TO SCALE



SECTION E - E
NOT TO SCALE

NOTES:

1. SMOOTH TRANSITIONS SHALL BE MADE BETWEEN DESIGN SECTIONS.
2. ORDER OF WORK:
   BERM ROCK SHALL BE IN PLACE TO DESIGN GRADE AT LEAST 25 FEET IN ADVANCE OF ANY WEIR ROCK PLACED ABOVE THE ELEVATION OF THE ADJACENT BERM ROCK.
3. BERM ROCK SHALL TERMINATE AT THE EL. +6.0 CONTOUR, WITH FULL THICKNESS CONSTRUCTED AT THE EL.+6.0 CONTOUR.
4. NOTE THAT ROCK 'B' IS REQUIRED IN THE WEIR SECTION OF DESIGN SECTION C-C.
5. THE ROCK SHALL NOT EXCEED EL.-5.0 BETWEEN STATION 1+05 AND STATION 2+65 (SECTION C-C).
6. EXCAVATED MATERIAL MAY BE DISPOSED OF ADJACENT TO THE EXCAVATION, BUT MUST BE WITHIN THE LIMITS SHOWN ON DWG. 6, "DISPOSAL AREA CROSS SECTION."

ROCK GRADATION				
% LIGHTER BY WEIGHT	ROCK 'A'		ROCK 'B'	
	L B S.		L B S.	
100	400	160	1000	400
50	160	80	430	200
15	80	30	210	60

NOTE: SPALLS RESULTING FROM LOADING, UNLOADING OR SHIPMENT SHALL NOT EXCEED 5% BY WEIGHT IN ANY ONE BARGELOAD.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

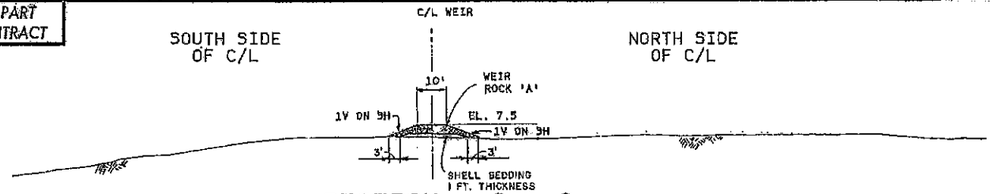
ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES, LA.

BLUE POINT CHUTE WEIR DESIGN SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.I.P.	J.H.G.	FEB. 1989	AS SHOWN	H-8-30470
SUBMITTED			SPEC. NO.	DWG. 5 OF 9	
			DACW29-89-B-0039		

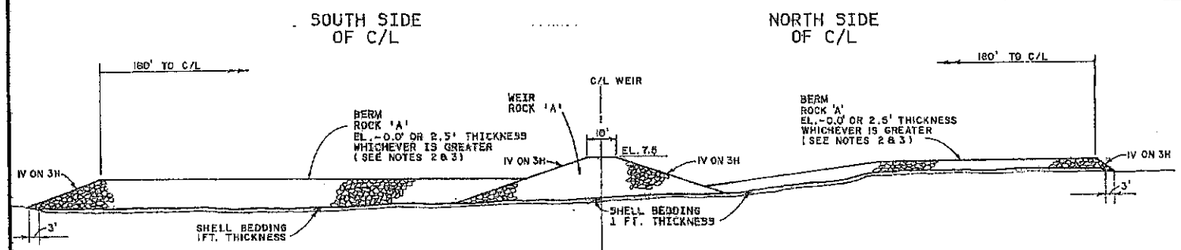
VALUE ENGINEERING "YOUR KEY TO HIGHER PROFITS"

SAFETY IS A PART OF YOUR CONTRACT



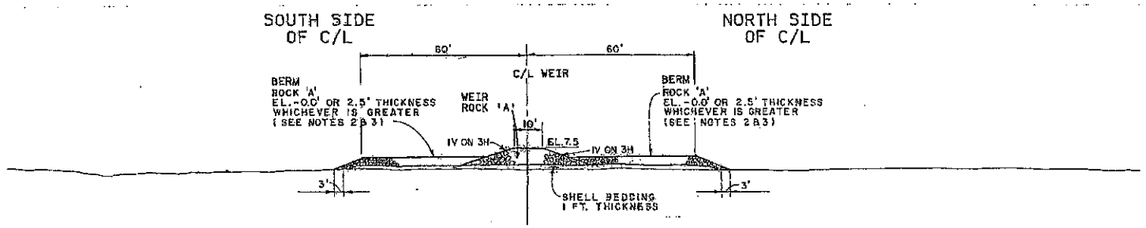
SECTION G - G

NOT TO SCALE



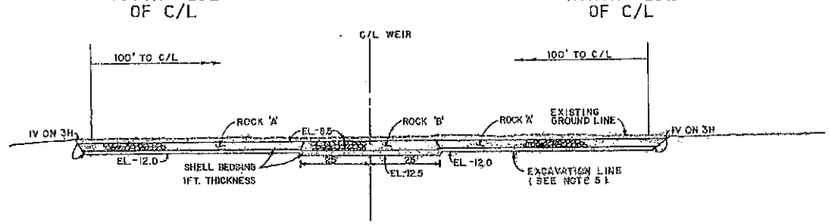
SECTION H - H

NOT TO SCALE



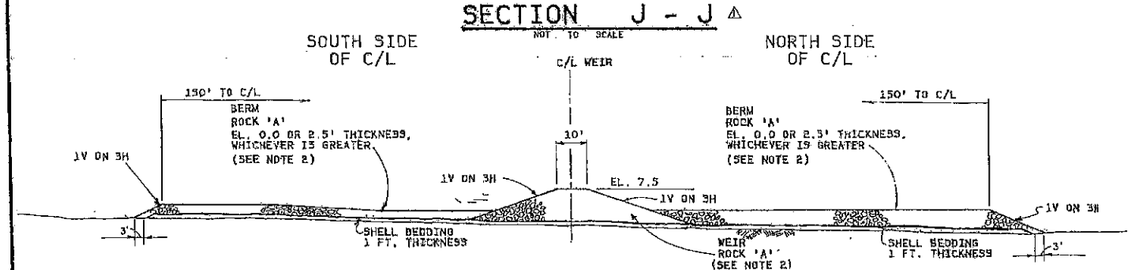
SECTION I - I

NOT TO SCALE



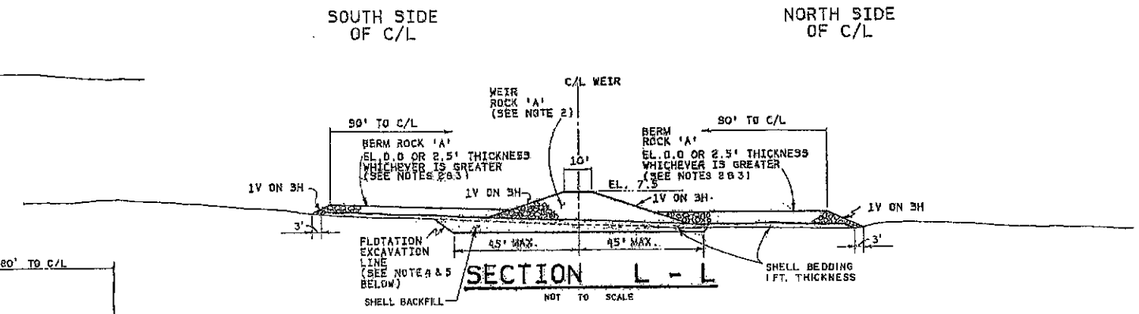
SECTION J - J ⚠

NOT TO SCALE



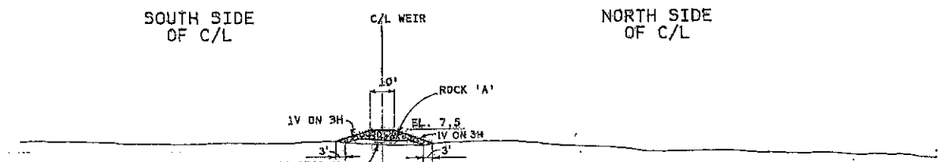
SECTION K - K

NOT TO SCALE



SECTION L - L

NOT TO SCALE

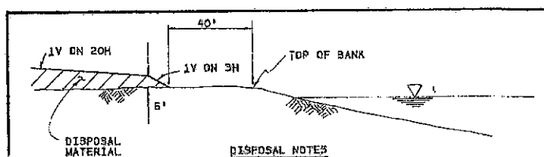


SECTION M - M

NOT TO SCALE

NOTES:

1. SMOOTH TRANSITION SHALL BE MADE BETWEEN DESIGN SECTIONS.
2. ORDER OF WORK:
   BERM ROCK SHALL BE IN PLACE TO DESIGN GRADE AT LEAST 25 FEET IN ADVANCE OF ANY WEIR ROCK PLACED ABOVE THE ELEVATION OF THE ADJACENT BERM ROCK.
3. BERM ROCK SHALL TERMINATE AT THE EL.+3.0 CONTOUR, WITH FULL THICKNESS CONSTRUCTED AT THE EL.+3.0 CONTOUR.
4. FLOTATION EXCAVATION SHALL BE LIMITED TO ONLY THE DEPTH NECESSARY, HOWEVER THE MAXIMUM PERMISSIBLE DEPTH OF CUT SHALL BE TO EL. -4.0.
5. DISPOSAL OF EXCAVATED MATERIAL SHALL BE LIMITED TO THE AREA SHOWN ON DWG. 2 AND TO THE LINES AND GRADES SHOWN BELOW ENTITLED ' DISPOSAL AREA CROSS SECTION.'



DISPOSAL NOTES
1. SEE DWG. 2 FOR DISPOSAL AREAS
2. SEE NOTE 5 ABOVE AND NOTE 6, DWG.5.

DISPOSAL AREA
CROSS SECTION

ROCK GRADATION				
% LIGHTER BY WEIGHT	ROCK 'A'		ROCK 'B'	
	LBS.		LBS.	
100	400	160	1000	400
50	160	80	430	200
15	80	30	210	60

NOTE: SPALLS RESULTING FROM LOADING, UNLOADING OR SHIPMENT SHALL NOT EXCEED 5% BY WEIGHT IN ANY ONE BARGELOAD.

REVISION	DATE	DESCRIPTION	BY
⚠	MAY '89	REVISED SECTION J-J, AMENDMENT 0002	SAE

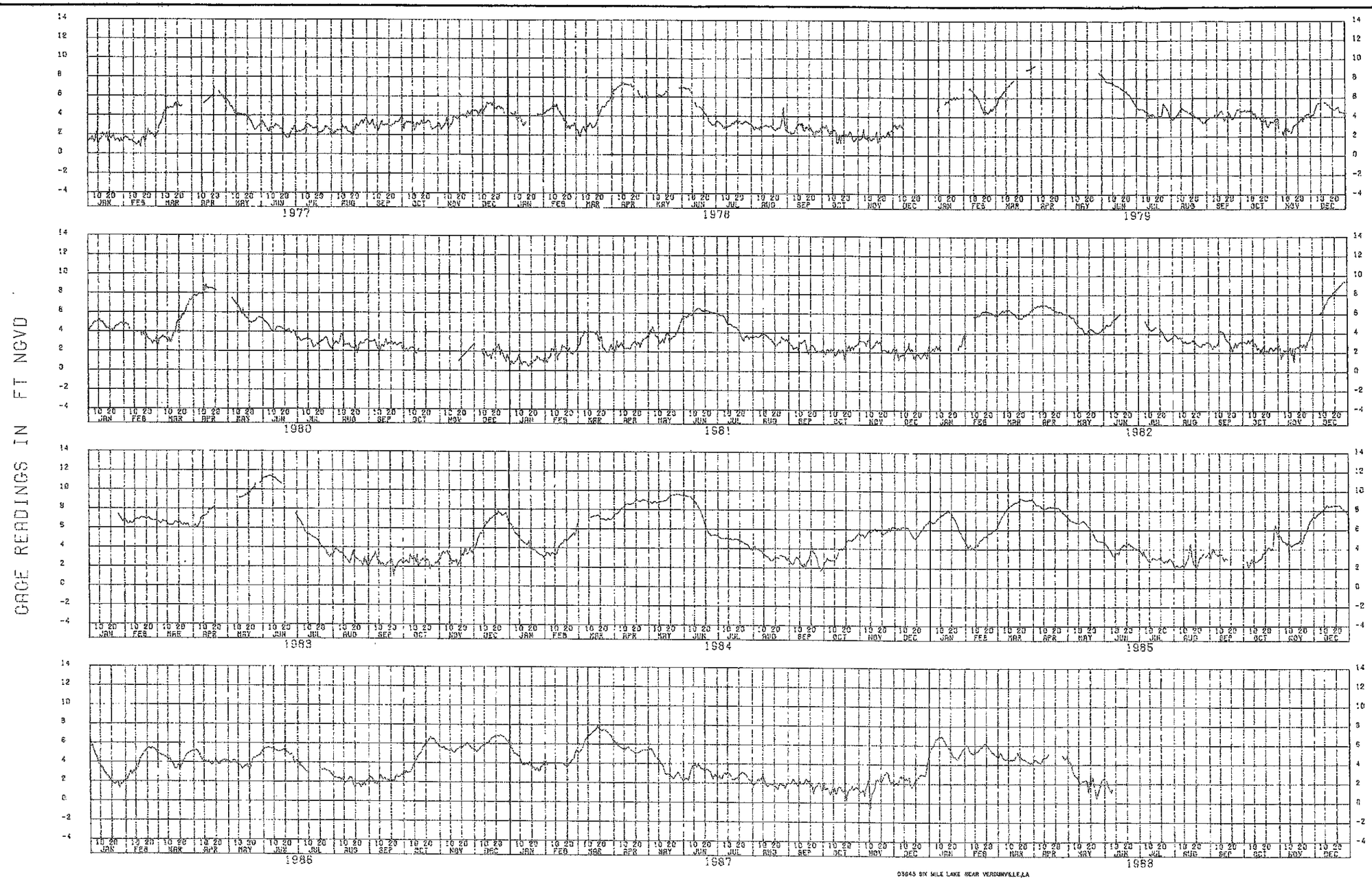
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND
AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES, LA.

AMERICAN PASS WEIR
DESIGN SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
S.A.E.	M.L.P.	J.H.G.	FEB. 1989	AS SHOWN	H-8-30470
SUBMITTED:		SPEC. NO.		DWG.	
		DACW29-89-B-0039		6 OF 9	

VALUE INCENTIVE CLAUSE "YOUR KEY TO HIGHER PROFITS"

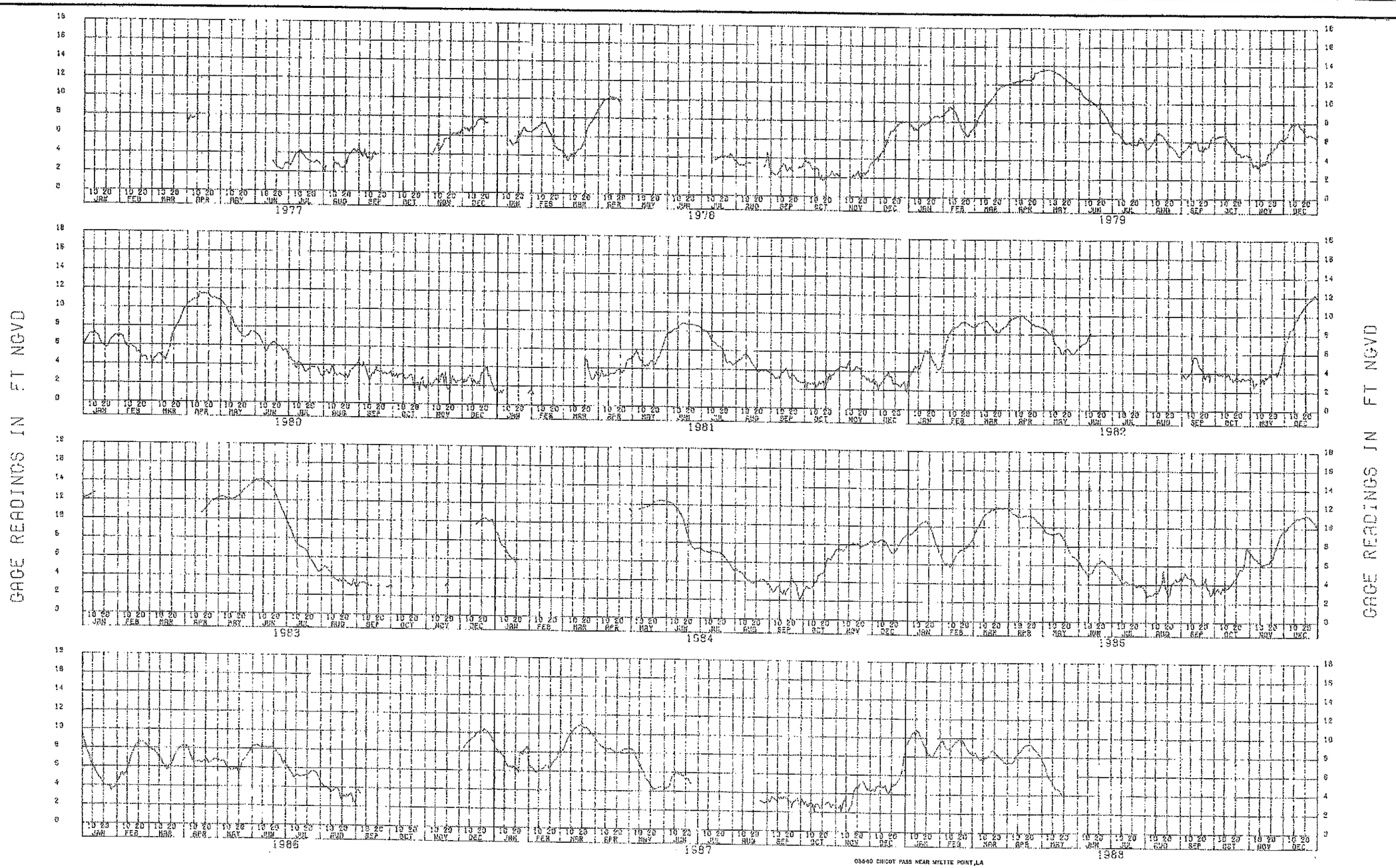


U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND
AMERICAN PASS
ST.MARY AND ST.MARTIN PARISHES LA.

STAGE HYDROGRAPHS

S.A.E.	M.I.P.	J.H.S.	FEB. 1989		H-8-30470
			DACW29-89-B-0039		7 of 9



U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND
AMERICAN PASS
ST.MARY AND ST.MARTIN PARISHES LA.

STAGE HYDROGRAPHS

S.A.E.	M.I.P.	J.H.G.	FEB. 1988		H-8-30470
			DACW29-80-B-0039		8 9

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

ATCHAFALAYA BASIN FLOODWAY
CHANNEL TRAINING-WEIRS
BLUE POINT CHUTE AND
AMERICAN PASS
ST. MARY AND ST. MARTIN PARISHES LA.

STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	SCALE	SUBMITTED	FILE NO.
S.A.E.	M.I.P.	J.M.G.	FEB. 1989		H-8-30470
SUBMITTED			DACW29-89-B-0039		9 of 9

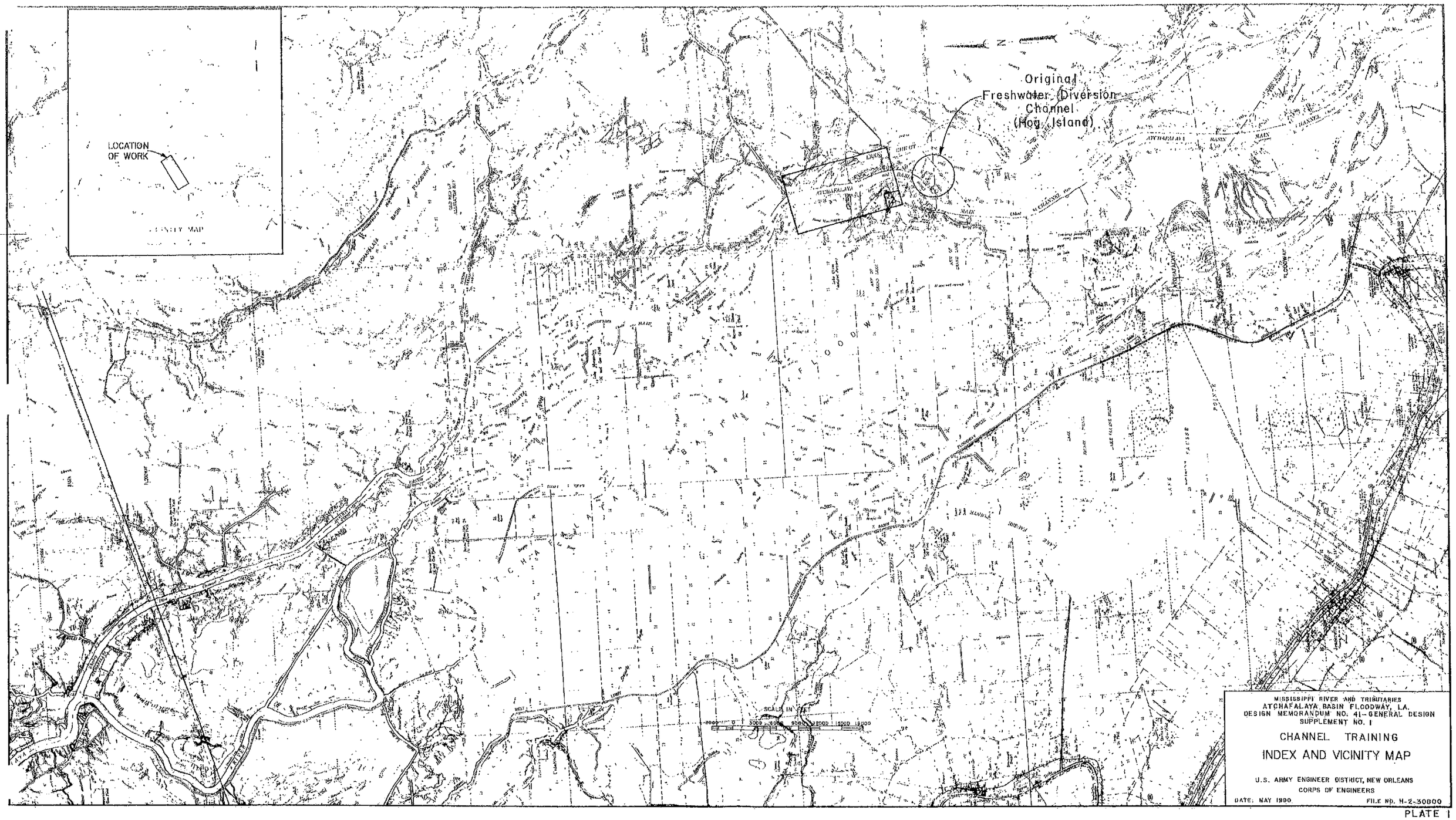

LOCATION OF WORK
COUNTY MAP
Original Freshwater Diversion Channel (Hog Island)
ATCHAFALAYA BASIN FLOODWAY
SCALE IN FEET
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
DESIGN MEMORANDUM NO. 41-GENERAL DESIGN
SUPPLEMENT NO. 1
CHANNEL TRAINING
INDEX AND VICINITY MAP
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: MAY 1990
FILE NO. H-2-30800

PLATE 1

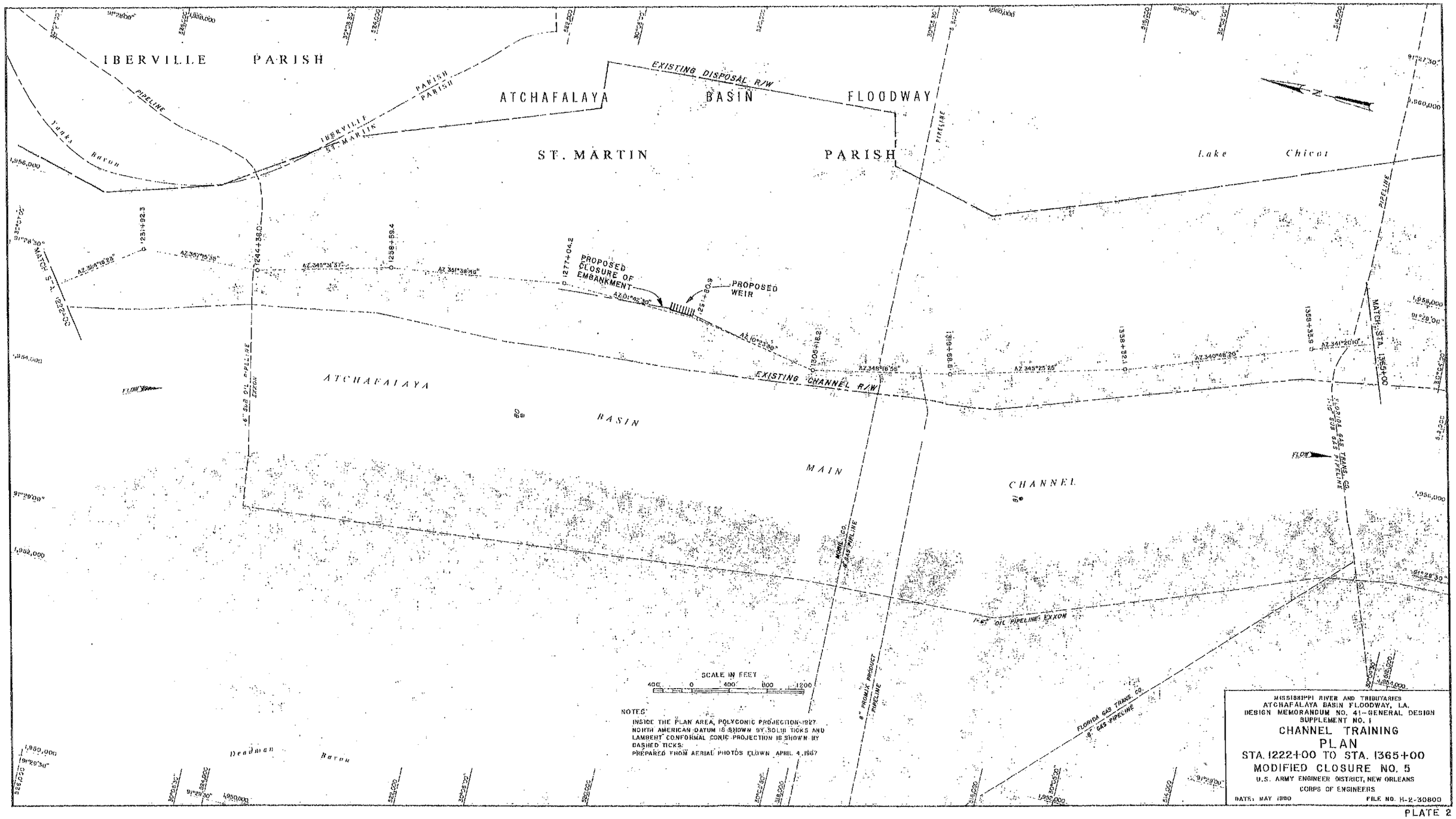
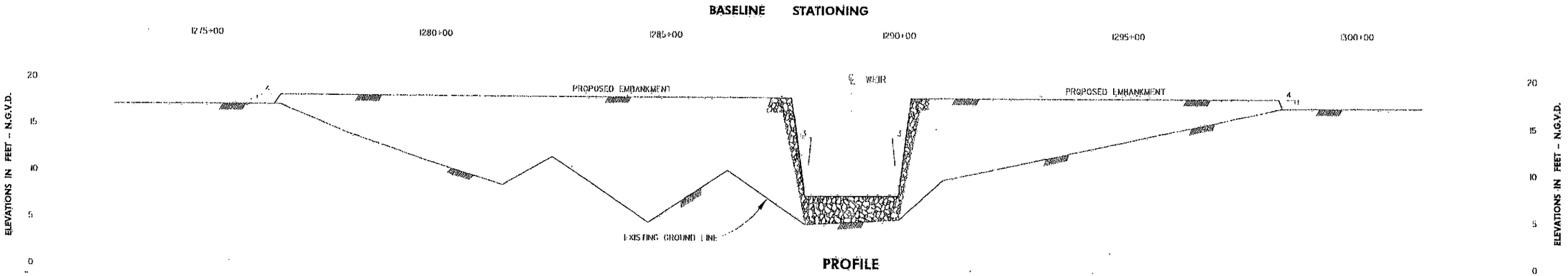
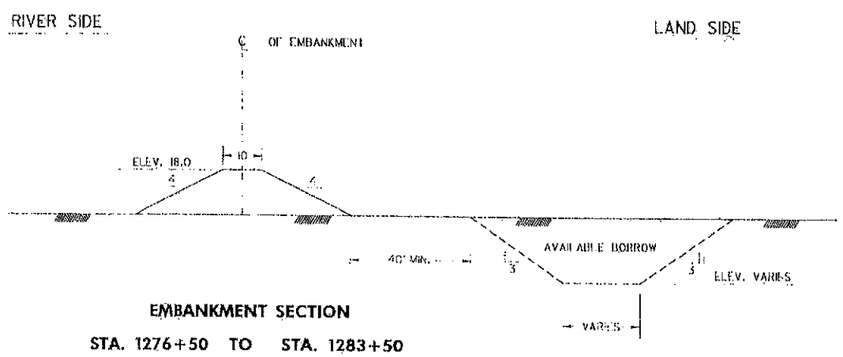

IBERVILLE PARISH
ATCHAFALAYA BASIN FLOODWAY
ST. MARTIN PARISH
Lake Chicot
EXISTING DISPOSAL R/W
PIPELINE
Yanka Bayou
IBERVILLE PARISH
ST. MARTIN PARISH
MATCH STA. 1222+00
MATCH STA. 1365+00
PROPOSED CLOSURE OF EMBANKMENT
PROPOSED WEIR
EXISTING CHANNEL R/W
ATCHAFALAYA BASIN MAIN CHANNEL
FLOW
6" SUB OIL PIPELINE EXXON
MOBIL CO. 8" GAS PIPELINE
8" PROMIX PRODUCT PIPELINE
1-65" OIL PIPELINE EXXON
FLORIDA GAS TRANS. CO. 8" GAS PIPELINE
FLORIDA GAS TRANS. CO. 8" GAS PIPELINE
Deadman Bayou
SCALE IN FEET
400 0 400 800 1200
NOTES:
INSIDE THE PLAN AREA, POLYCONIC PROJECTION-1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY DASHED TICKS.
PREPARED FROM AERIAL PHOTOS FLOWN APRIL 4, 1967
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
DESIGN MEMORANDUM NO. 41-GENERAL DESIGN
SUPPLEMENT NO. 1
CHANNEL TRAINING
PLAN
STA. 1222+00 TO STA. 1365+00
MODIFIED CLOSURE NO. 5
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: MAY 1980
FILE NO. H-2-30800

PLATE 2



PROFILE

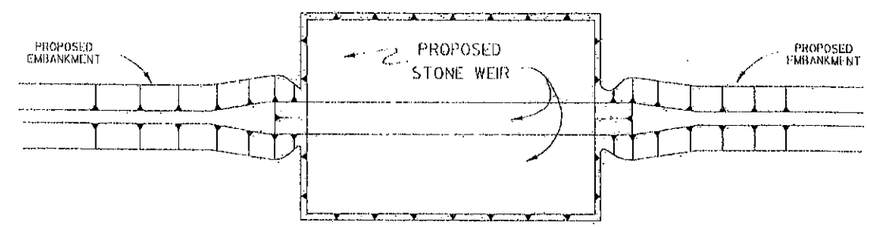


EMBANKMENT SECTION

STA. 1276+50 TO STA. 1283+50

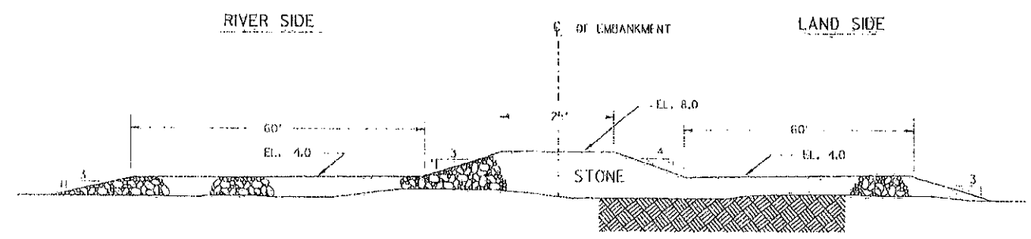
AND

STA. 1292+00 TO STA. 1298+40



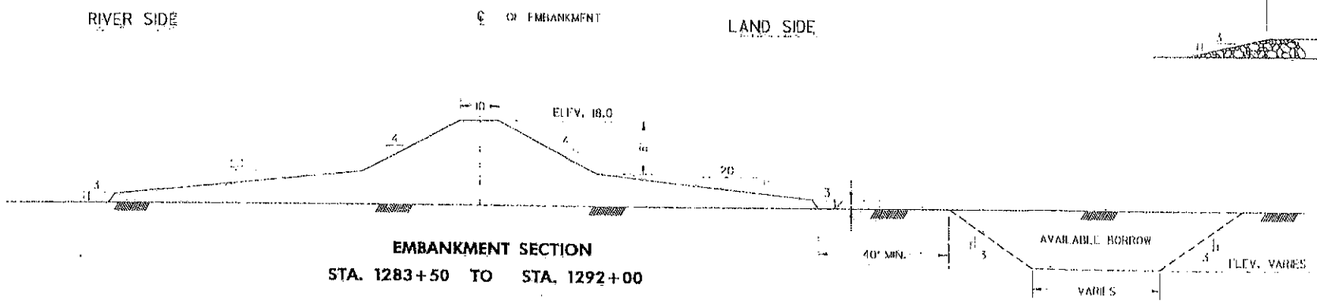
PLAN

N.T.S.



WEIR SECTION

N.T.S.



EMBANKMENT SECTION

STA. 1283+50 TO STA. 1292+00

COMPUTER AIDED DESIGN DRAFTING

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA
DESIGN MEMORANDUM NO. 41 - GENERAL DESIGN
SUPPLEMENT NO. 1

CHANNEL TRAINING

PROFILE

MODIFIED CLOSURE NO. 5

STA. 1276+50 TO STA. 1298+40

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: MAY 1990 FILE NO. H-2-30800

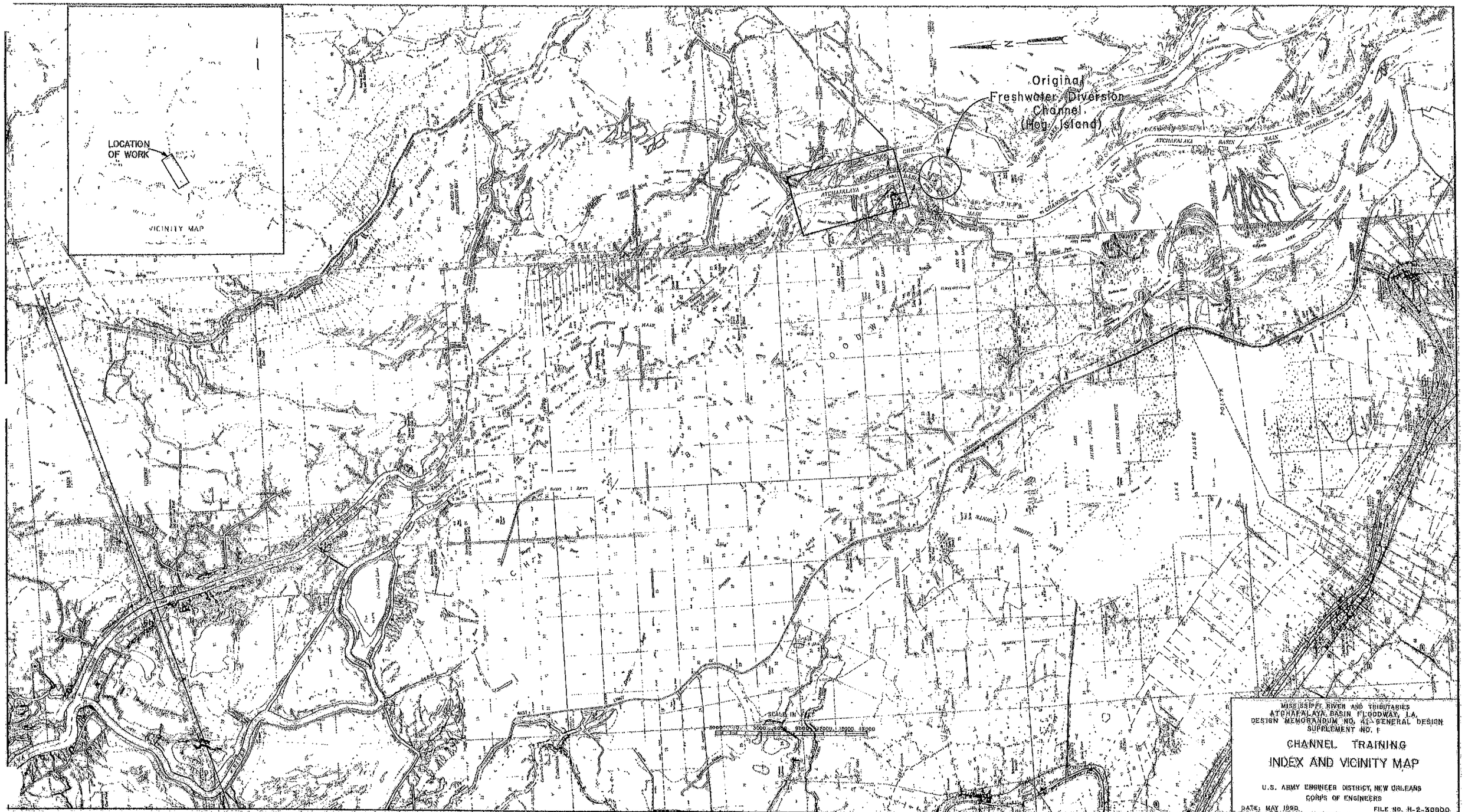
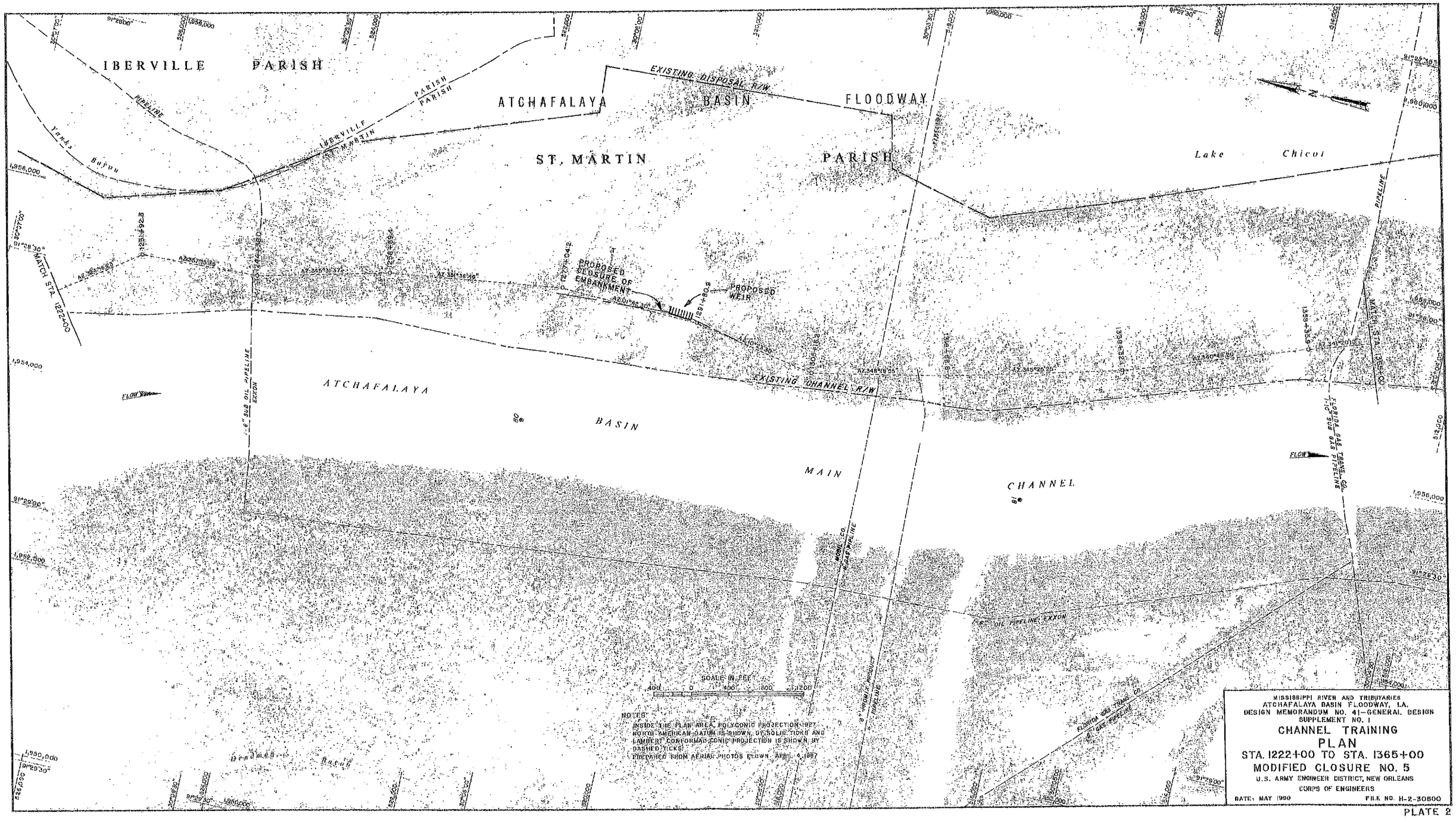

LOCATION OF WORK
VICINITY MAP
Original Freshwater Diversion Channel (Hog Island)
N
SCALE IN FEET
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
DESIGN MEMORANDUM NO. 4L GENERAL DESIGN
SUPPLEMENT NO. 1
CHANNEL TRAINING
INDEX AND VICINITY MAP
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
DATE: MAY 1990
FILE NO. H-2-30000

PLATE 1



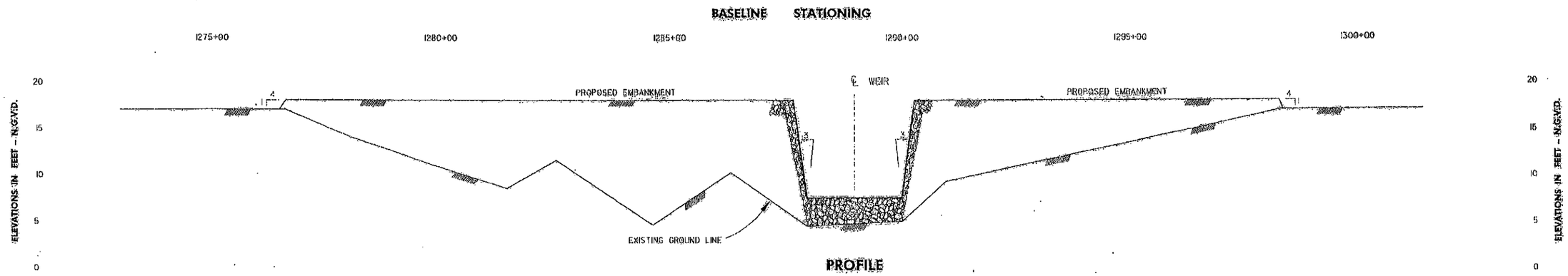
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
DESIGN MEMORANDUM NO. 41—GENERAL DESIGN
SUPPLEMENT NO. 1

CHANNEL TRAINING
PLAN
STA. 1222+00 TO STA. 1365+00
MODIFIED CLOSURE NO. 5

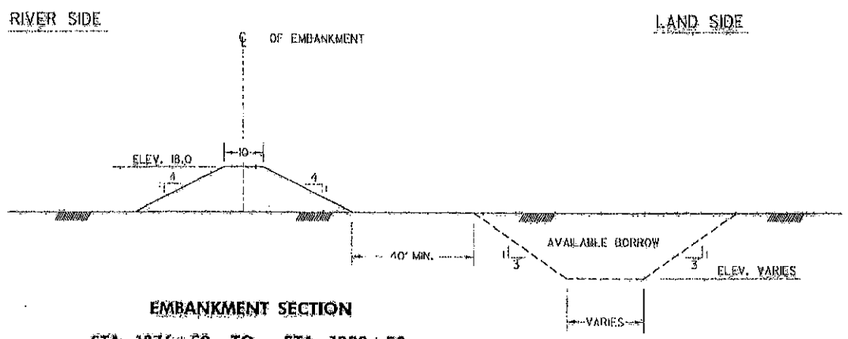
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: MAY 1990 FILE NO. H-2-30800

PLATE 2



PROFILE

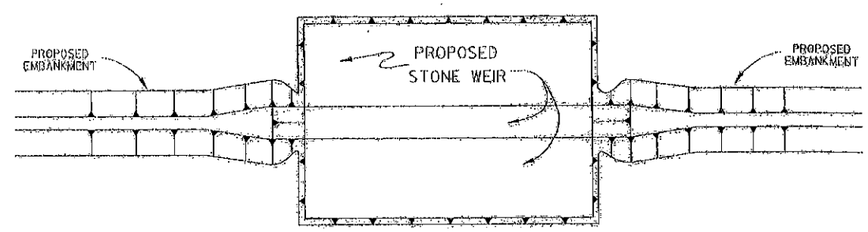


EMBANKMENT SECTION

STA. 1276+50 TO STA. 1283+50

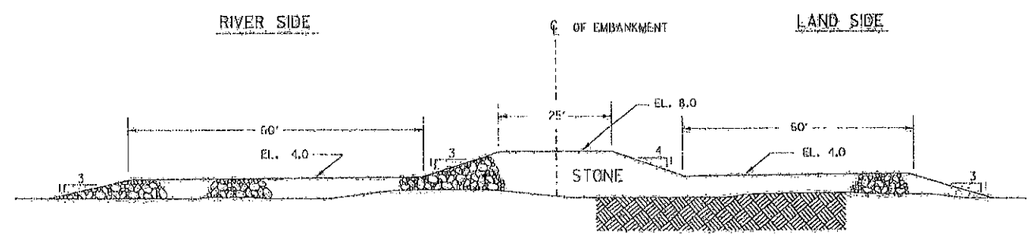
AND

STA. 1292+00 TO STA. 1298+40



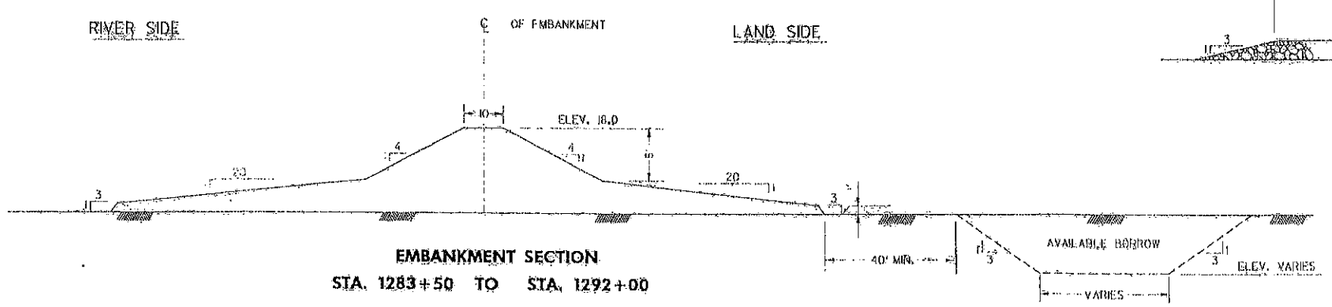
PLAN

N.T.S.



WEIR SECTION

N.T.S.



EMBANKMENT SECTION

STA. 1283+50 TO STA. 1292+00

COMPUTER AIDED DESIGN DRAFTING

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
DESIGN MEMORANDUM NO. 41 - GENERAL DESIGN
SUPPLEMENT NO. 1

CHANNEL TRAINING

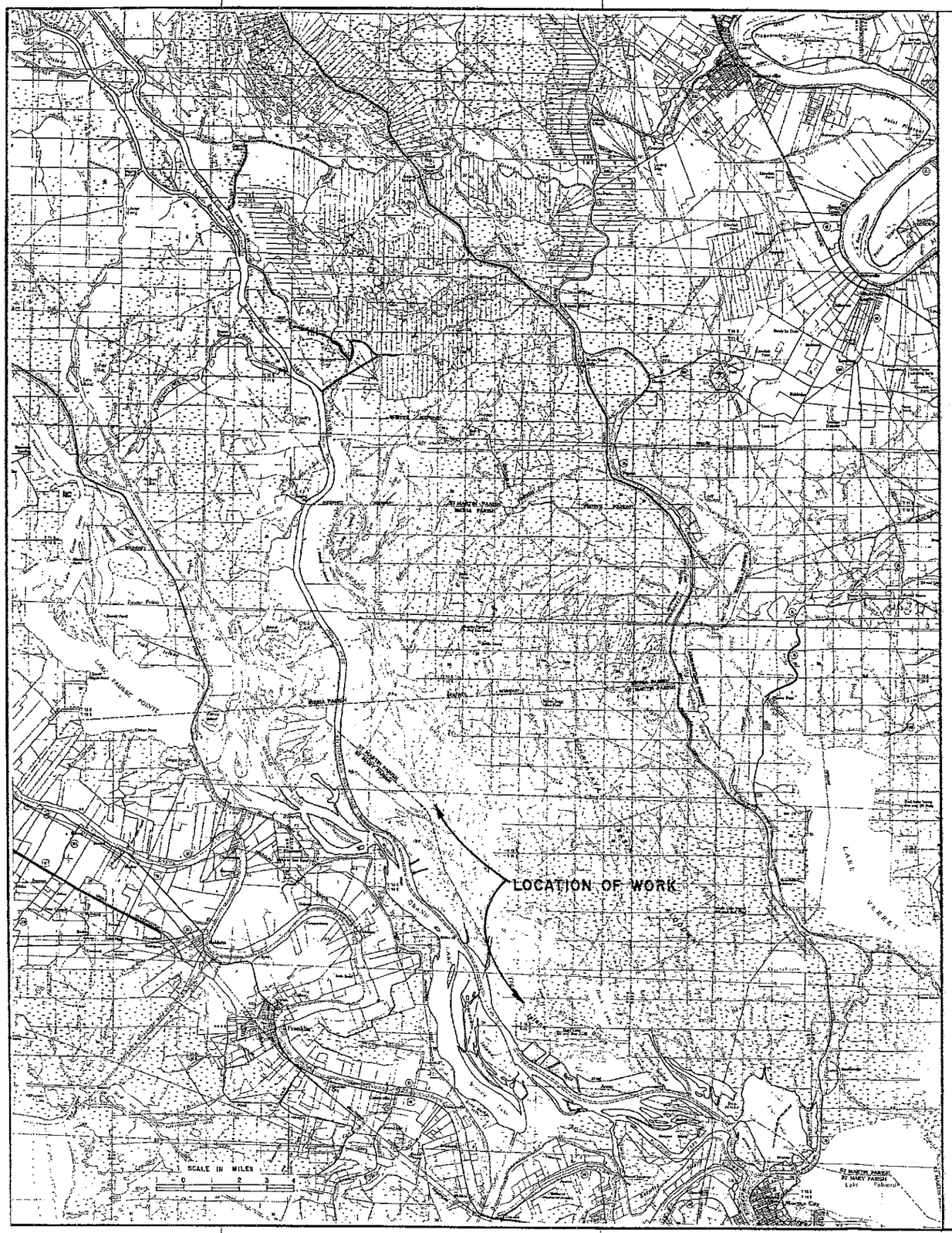
PROFILE

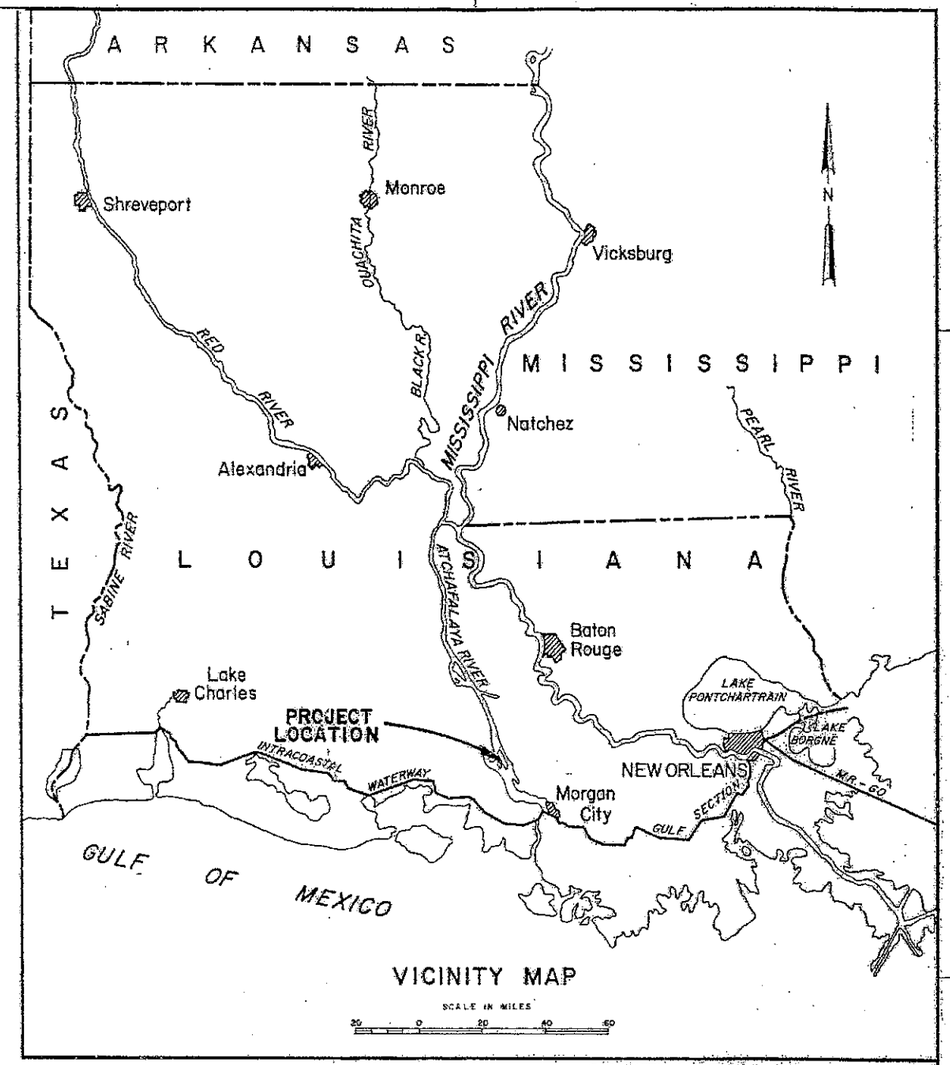
MODIFIED CLOSURE NO. 5

STA. 1276+50 TO STA. 1298+40

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DATE: MAY 1990 FILE NO. H-2-30800





VICINITY MAP

INDEX TO DRAWINGS	
DWG.	DESCRIPTION
1	LOCATION MAP, VICINITY MAP AND INDEX
2	PLAN STA. 1903+40 TO STA. 1916+00
3	PLAN STA. 1916+00 TO STA. 2058+00
4	PLAN STA. 2058+00 TO STA. 2077+00
5	PLAN STA. 2337+00 TO STA. 2485+00
6	PLAN STA. 2485+00 TO STA. 2625+00
7	PLAN STA. 2625+00 TO STA. 2742+00
8	PLAN STA. 2742+00 TO STA. 2880+00
9	PLAN STA. 2880+00 TO STA. 3020+00
10	PLAN STA. 3020+00 TO STA. 3080+00
11	PROFILE (RIGHT BANK)
12	PROFILE (LEFT BANK)
13	TYPICAL SECTIONS
14	DESIGN SECTIONS
15	HYDROGRAPHS (MORGAN CITY)
16	HYDROGRAPHS (MYETTE POINT)

DESCRIPTION OF BENCH MARK
ARMC V-40 U.S.E.

IT IS LOCATED 120 FEET SOUTHEAST OF ARMC P.I. 159, STA. 1857+96.5 ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 159 (STA. 1857+96.5) AND ARMC P.I. 160 (STA. 1869+49.5). IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 9/16 INCH STAINLESS STEEL ROD, PROTECTED BY A 6 INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-40 ARMC 1981. IT IS LOCATED 1 FOOT EAST OF A METAL WITNESS POST. ELEV. 12.060 N.G.V.D.

DESCRIPTION OF BENCH MARK
WABPL V-11 U.S.E.

IT IS LOCATED AT LEVEE STA. 5496+42, 157 FEET WEST OF THE CENTER LINE OF THE LEVEE, 52.5 FEET WEST OF THE CENTER LINE OF THE SHELL ROAD WHICH FOLLOWS THE LEVEE, 101 FEET SOUTH OF THE CENTER LINE OF A SHELL BOAT RAMP, 14 FEET EAST OF A BORROW PIT. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 9/16 INCH STAINLESS STEEL ROD PROTECTED BY A 6 INCH DIAMETER WHITE P.V.C. PIPE, PROJECTING 1 FOOT ABOVE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-11 WABPL 1981. THE MARK IS CENTERED IN THE TRIANGLE FORMED BY THREE, 2 INCH DIAMETER, 4 FEET TALL, PIPE PAINTED YELLOW. ELEV. 5.026 N.G.V.D.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

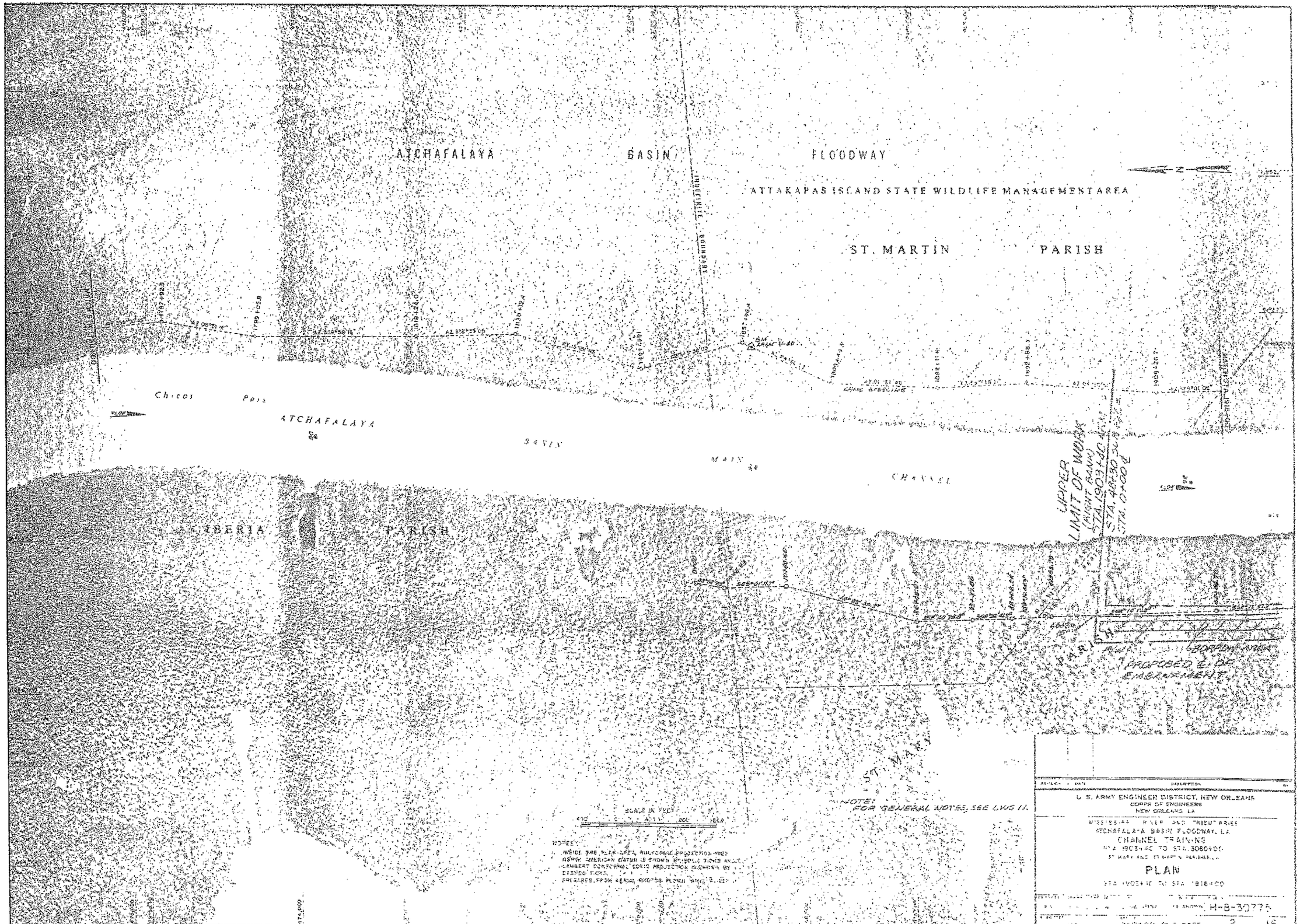
SUBMITTED: [signature]
APPROVED: [signature]
APPROVED: [signature]

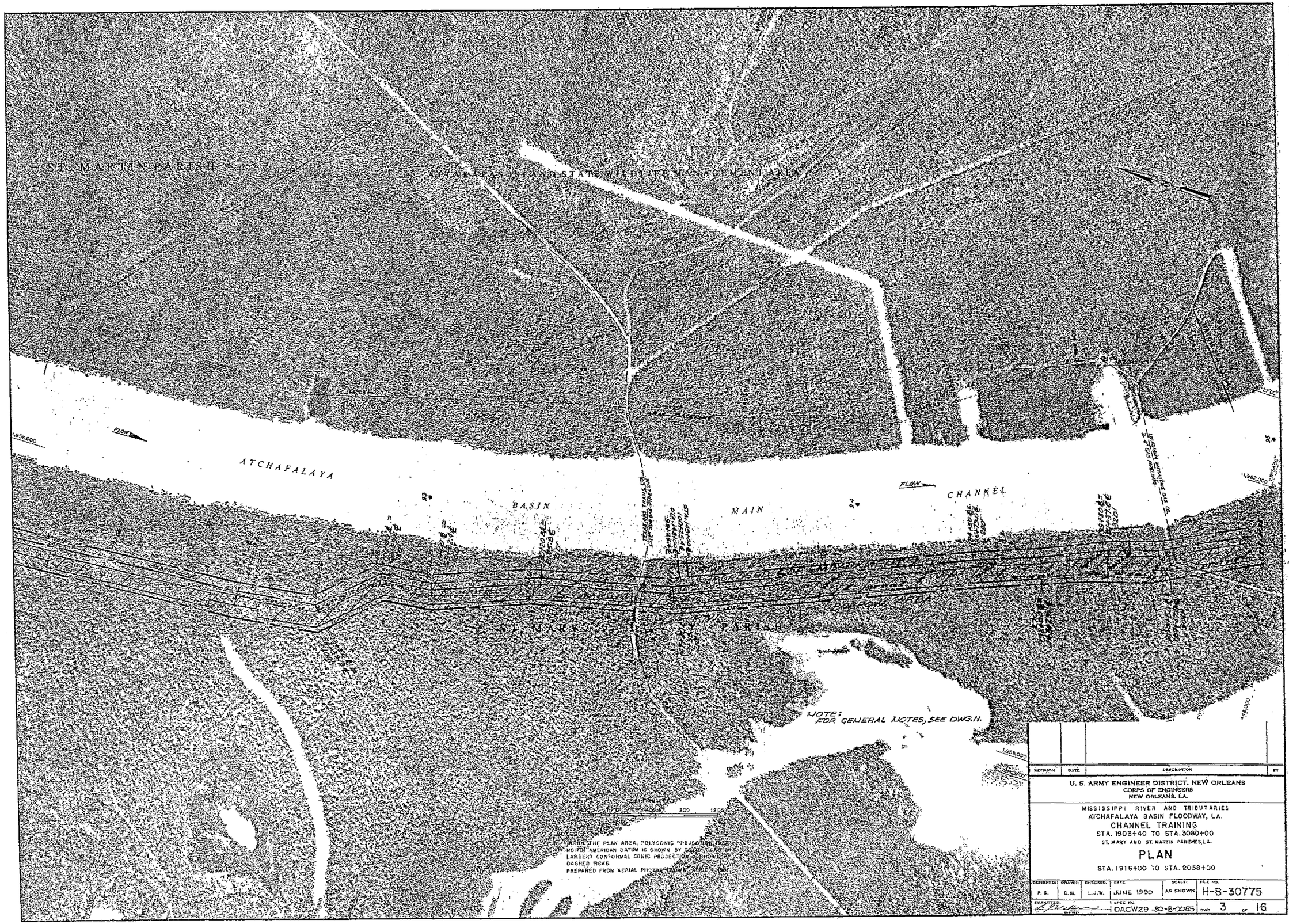
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

LOCATION MAP, VICINITY MAP AND INDEX

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
F.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775

SUBMITTED: [signature]
SPEC. NO. DACW29-90-B-0085
DWG. 1 OF 16


ATCHAFALAYA BASIN FLOODWAY
ATTAKAPAS ISLAND STATE WILDLIFE MANAGEMENT AREA
ST. MARTIN PARISH
INDEFINITE BOUNDARY
Chicot Pass
ATCHAFALAYA BASIN MAIN CHANNEL
IBERIA PARISH
UPPER LIMIT OF WORK (RIGHT BANK)
STA. 1903+40
STA. 48+30
STA. 0+00
PROPOSED ℄ OF EMBANKMENT
ST. MARY
NOTE: FOR GENERAL NOTES, SEE LWS 11.
SCALE IN FEET
NOTES:
INSIDE THE PLAN AREA, POLYCONIC PROJECTION 1927
NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND
LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY
DASHED TICKS.
PREPARED FROM AERIAL PHOTOS FLOWN
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3060+00
ST. MARY AND ST. MARTIN PARISHES, LA.
PLAN
STA. 1903+40 TO STA. 1816+00
H-8-30775
2
16



REVISION	DATE	DESCRIPTION	BY

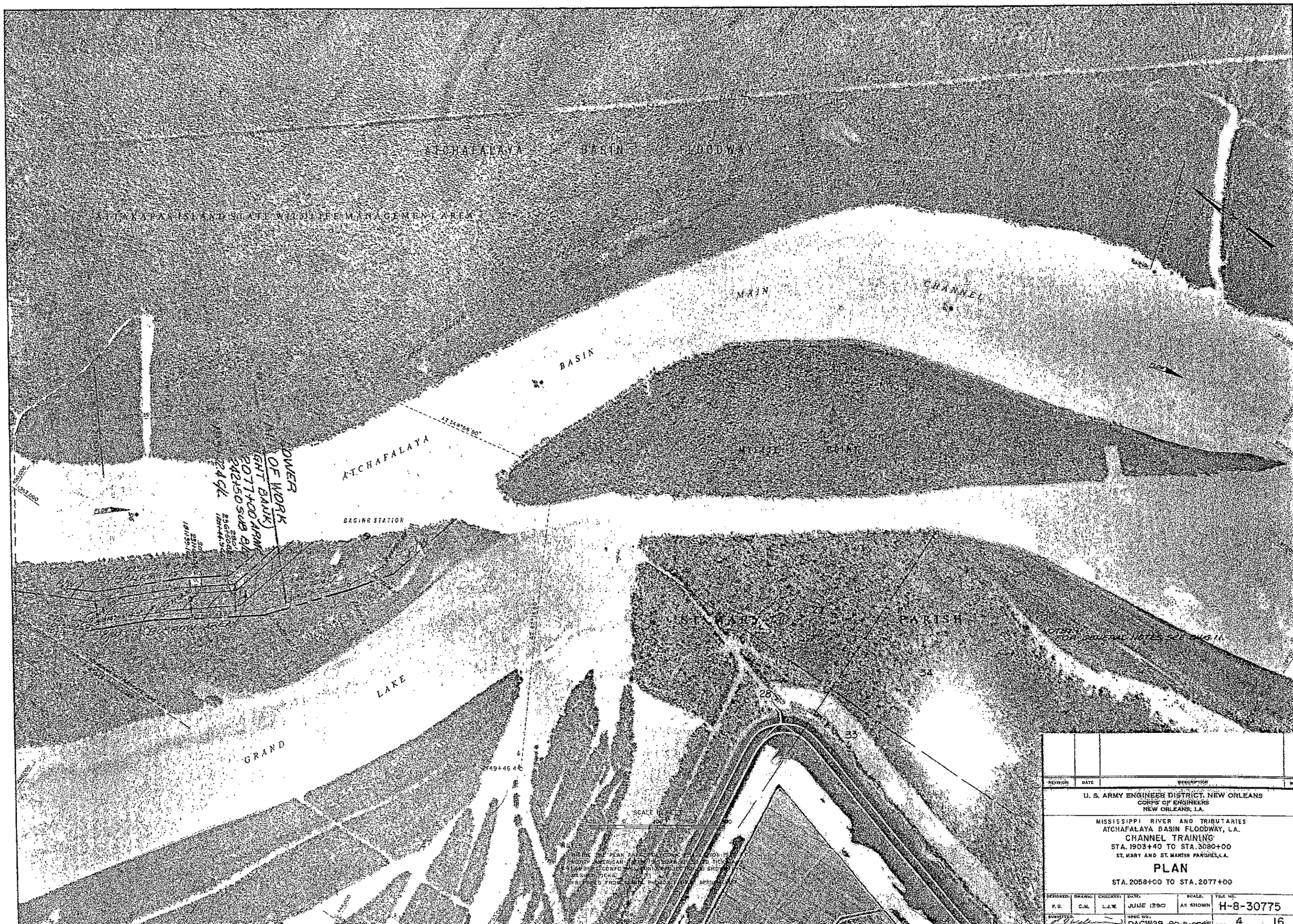
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN

STA. 1916+00 TO STA. 2058+00

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
P. G.	C. M.	L. J. W.	JUNE 1990	AS SHOWN	H-8-30775
SUBMITTED:			SPEC NO. DACW29-90-B-0085		DWG 3 OF 16



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

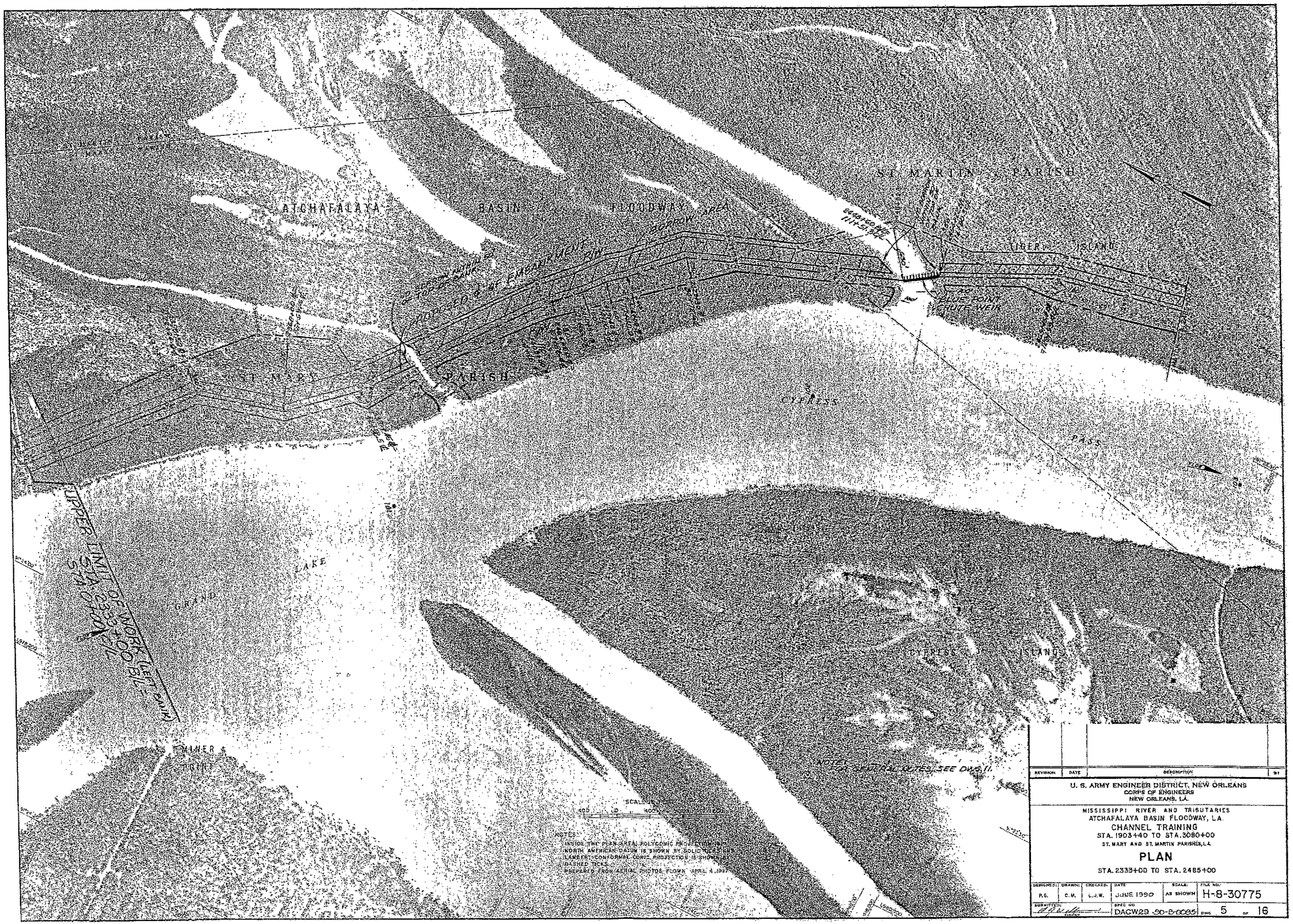
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN

STA. 2058+00 TO STA. 2077+00

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775

SUBMITTED: SPEC NO. DACW29-90-B-0065 SWG. 4 OF 16



REVISION	DATE	DESCRIPTION	BY

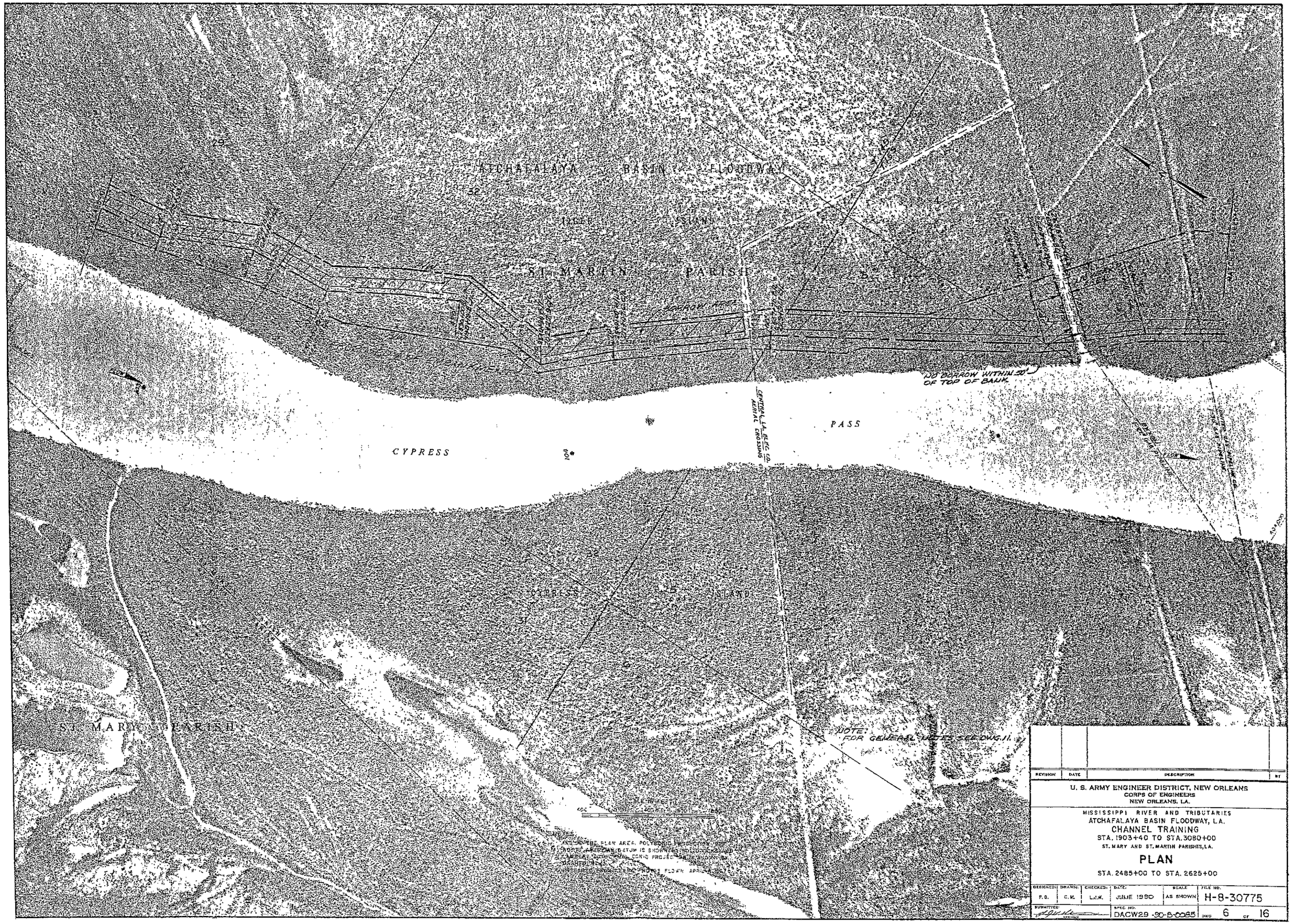
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

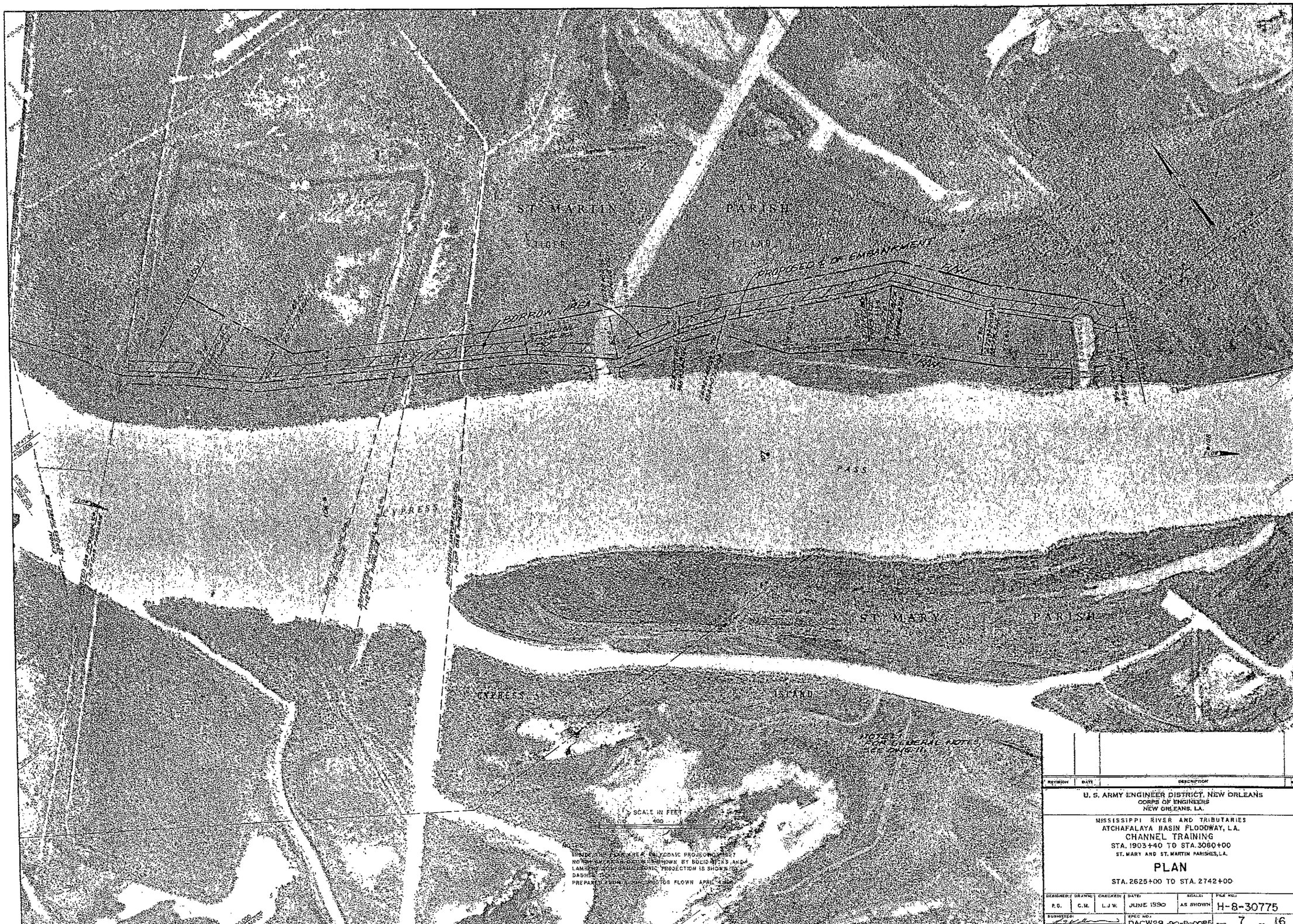
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN

STA. 2333+00 TO STA. 2485+00

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
P.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775
SUBMITTED:			SPEC NO. DACW29-90-B-0085		DWG 5 OF 16


ATCHAFALAYA BASIN FLOODWAY
ST. MARTIN PARISH
BORROW AREA
NO BORROW WITHIN 30' OF TOP OF BANK
CENTRAL LA. ELEC. CO. AERIAL CROSSING
CYPRESS
PASS
ST. MARY PARISH
NOTE: FOR GENERAL NOTES SEE DWG. 11
REVISION
DATE
DESCRIPTION
BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.
PLAN
STA. 2485+00 TO STA. 2625+00
DESIGNED: P.G.
DRAWN: C.M.
CHECKED: L.J.W.
DATE: JUNE 1990
SCALE: AS SHOWN
FILE NO.: H-8-30775
SUBMITTED:
SPEC. NO.: DACW29-90-B-0085
DWG 6 OF 16



REVISION	DATE	DESCRIPTION	BY

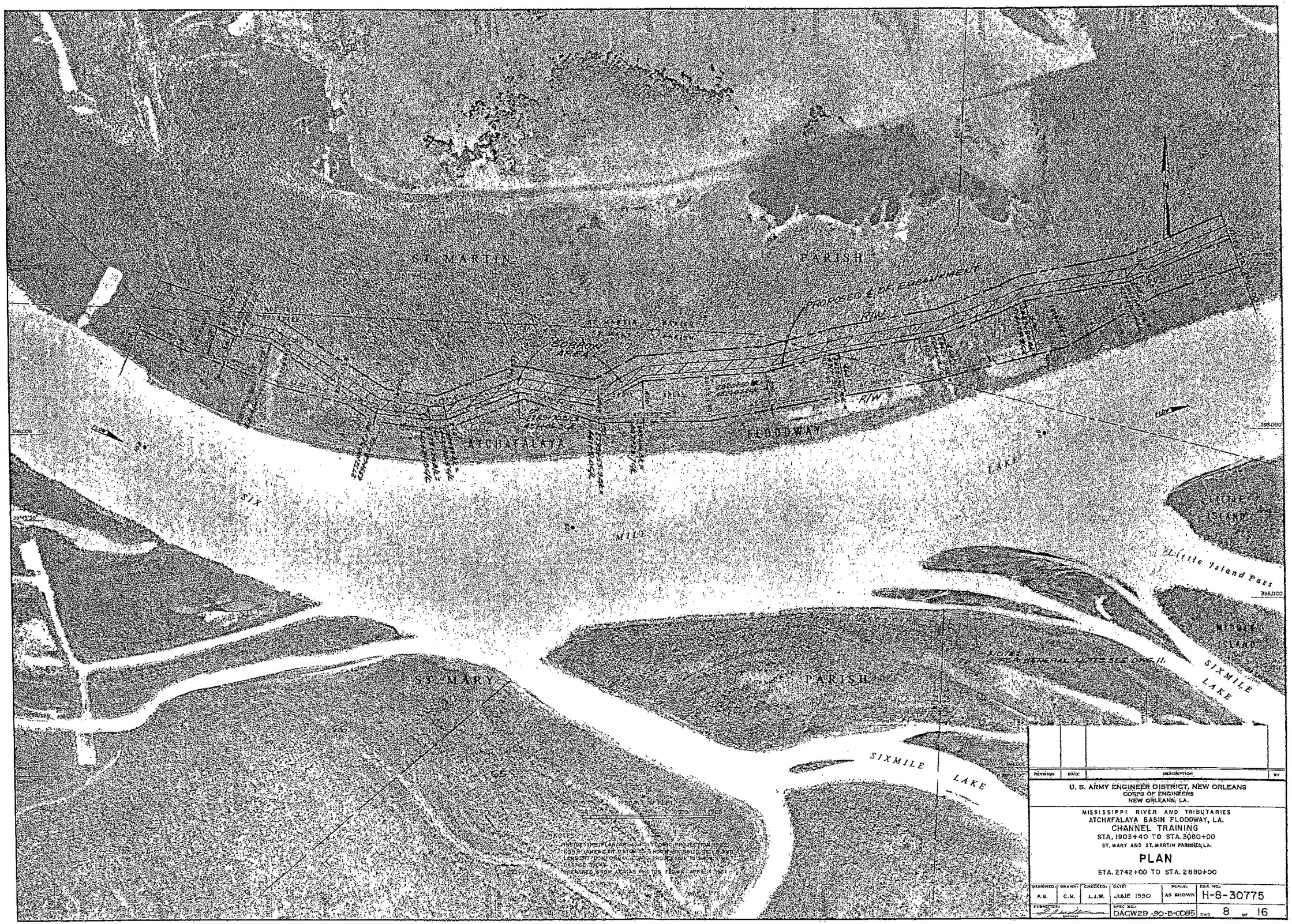
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

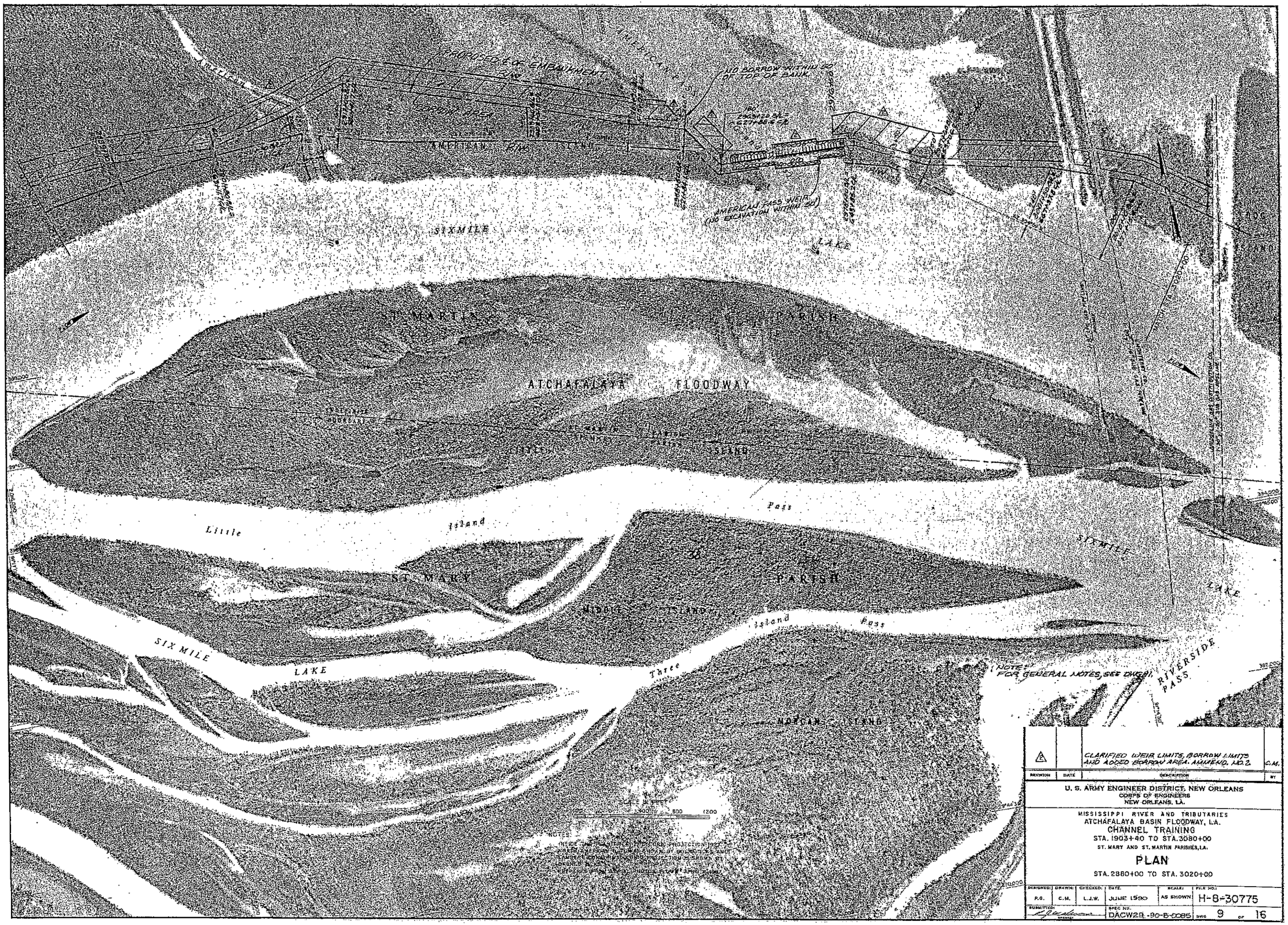
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN

STA. 2625+00 TO STA. 2742+00

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.:
P.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775
SUBMITTED:			SPEC NO.: DACW29-90-B-0085		DWG 7 OF 16


ST. MARTIN
PARISH
PROPOSED ℄ OF EMBANKMENT
R/W
BORROW AREA
ATCHAFALAYA
FLOODWAY
SIX
MILE
LAKE
LITTLE ISLAND
Little Island Pass
MIDDLE ISLAND
SIXMILE LAKE
ST. MARY
PARISH
SIXMILE
LAKE
NOTES:
FOR GENERAL NOTES SEE DWG. 11.
REVISION
DATE
DESCRIPTION
BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.
PLAN
STA. 2742+00 TO STA. 2880+00
DESIGNED: P.G.
DRAWN: C.M.
CHECKED: L.J.W.
DATE: JUNE 1990
SCALE: AS SHOWN
FILE NO.: H-8-30775
SUBMITTED:
SPEC NO.: DACW29-90-B-0085
DWG. 8 OF 16



REVISION	DATE	DESCRIPTION	BY
2		CLARIFIED WEIR LIMITS, BORROW LIMITS AND ADDED BORROW AREA. AMMEND. NO. 2	C.M.

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN

STA. 2880+00 TO STA. 3020+00

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.:
P.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775

SUBMITTED: SPECIALIST — SPEC NO. DACW29-90-B-0085 — DWG 9 OF 16

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

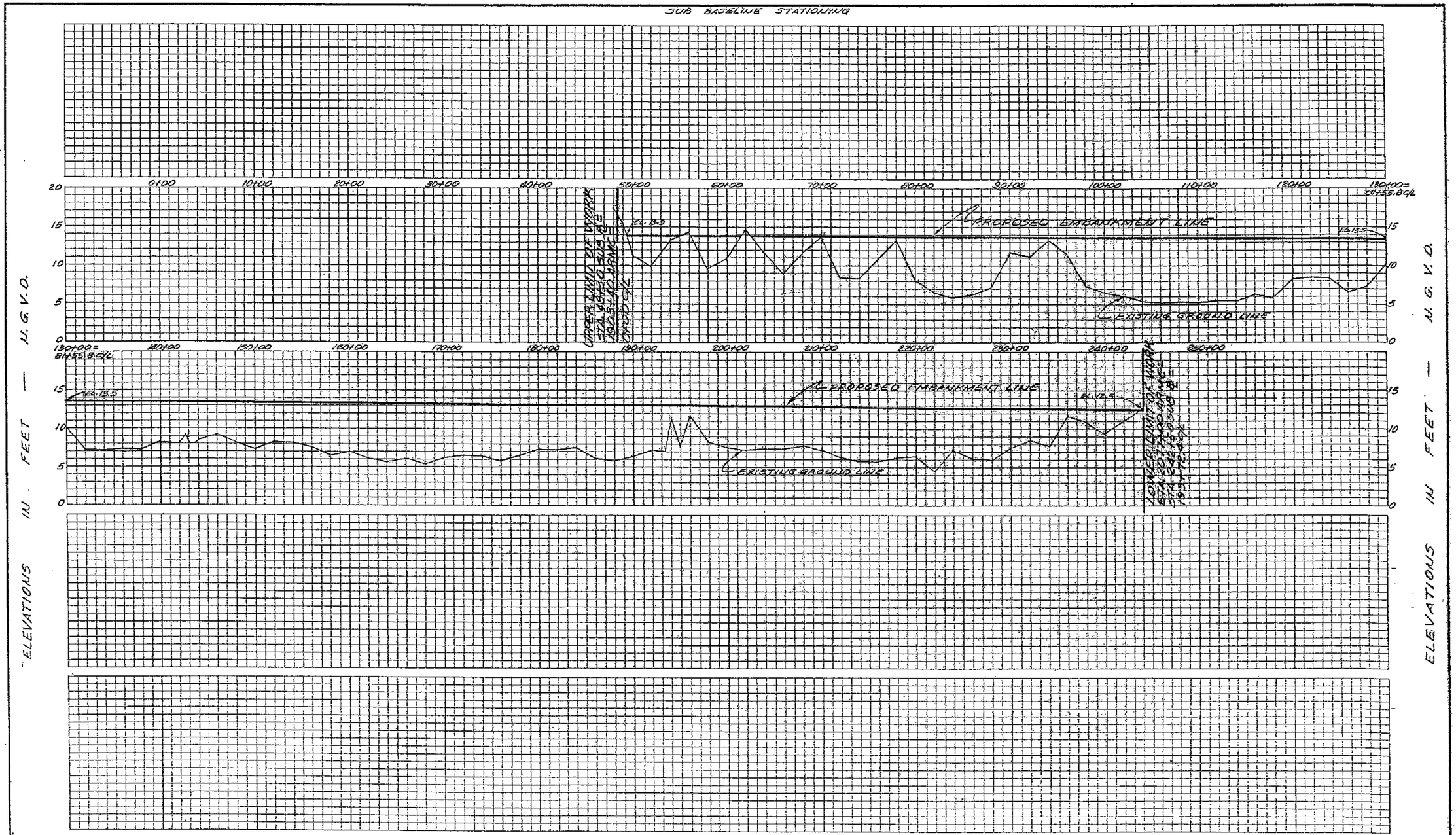
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PLAN

STA. 3020+00 TO STA. 3080+00

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.:
P.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775

SUBMITTED: SPEC NO.: DACW29-90-B-0085 DWG. 10 OF 16



GENERAL NOTES:

1. R/W LIMITS ARE A MINIMUM OF 300' LANDSIDE AND 100' FLOOD SIDE OF THE CENTERLINE. DISTANCES IN EXCESS OF THIS ARE FOR ACCESS TO THE BASELINE.
2. NO INVESTIGATIONS WERE MADE WITHIN THE BORROW AREAS SHOWN AS ALL SOIL TYPES ARE CONSIDERED ACCEPTABLE FILL, HOWEVER, ORGANIC MATTER IS UNACCEPTABLE AS DEFINED IN SPECIFICATION C9-5.2.
3. ALL BASELINE TO CENTERLINE OFFSETS ARE NORMAL TO THE BASELINE.

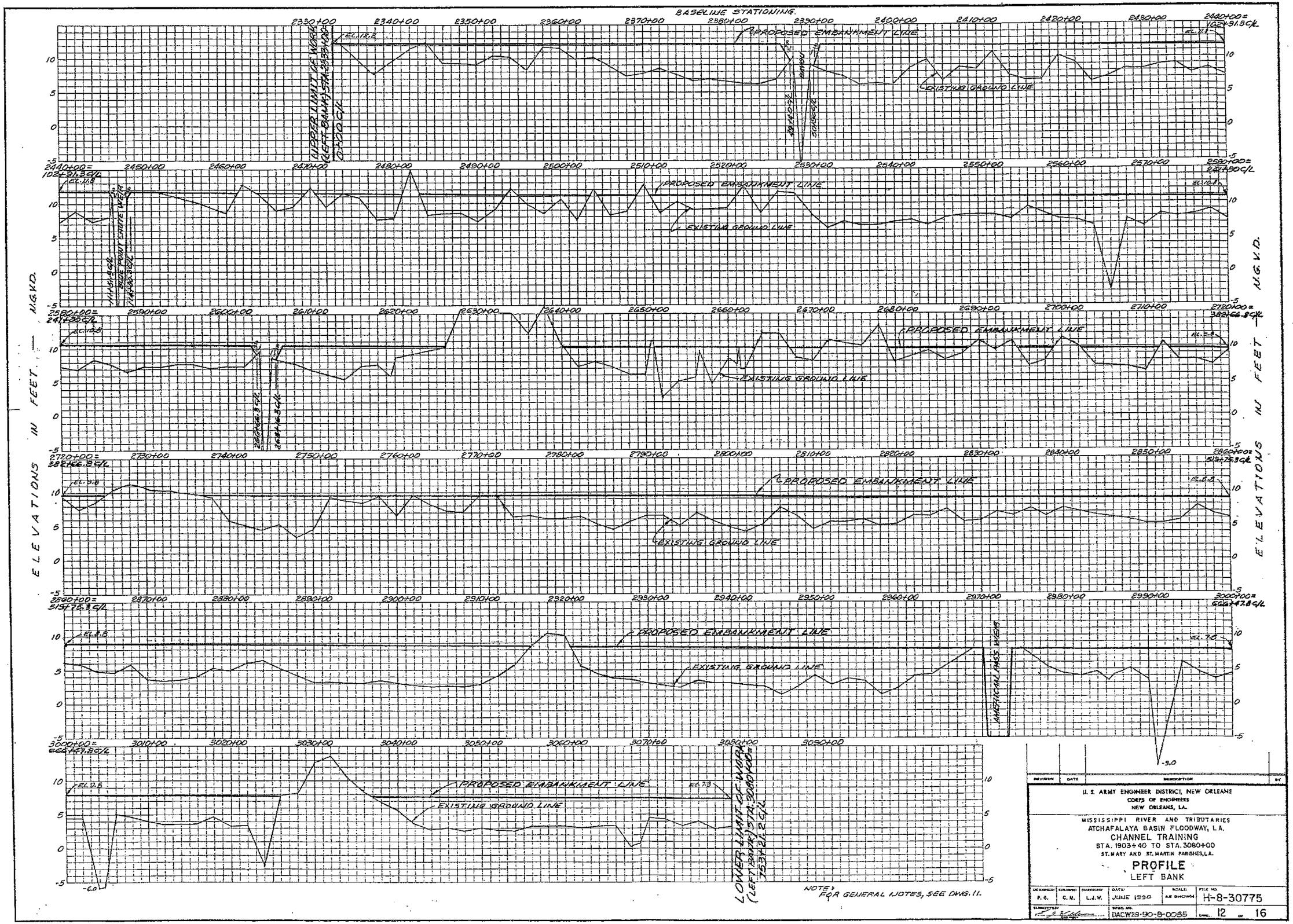
REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

PROFILE
RIGHT BANK

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C. M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775
SUBMITTED:			SPEC. NO. DACW29-90-B-0085		SHEET 11 OF 16



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

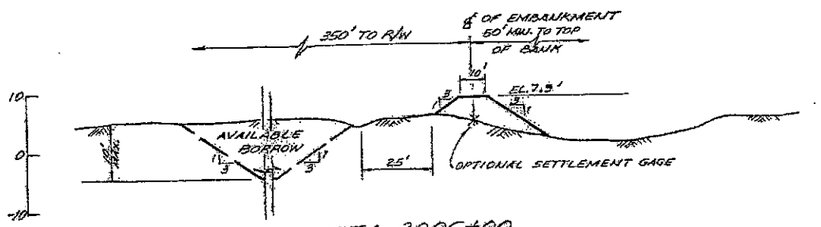
PROFILE
LEFT BANK

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
P. G.	C. M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775
SUBMITTED:			SPEC. NO. DACW29-90-B-0085		DWG. 12 OF 16

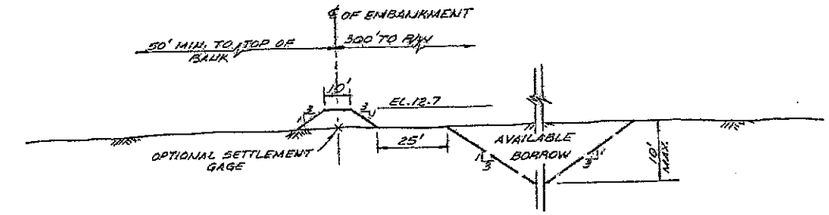
SAFETY IS A PART OF YOUR CONTRACT

DISTANCES IN FEET

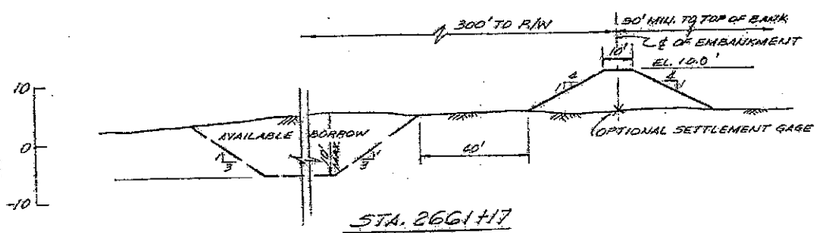
ELEVATIONS IN FEET



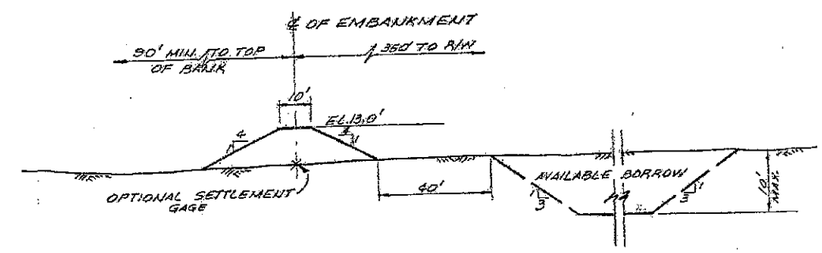
STA. 3006+00
(LEFT BANK)



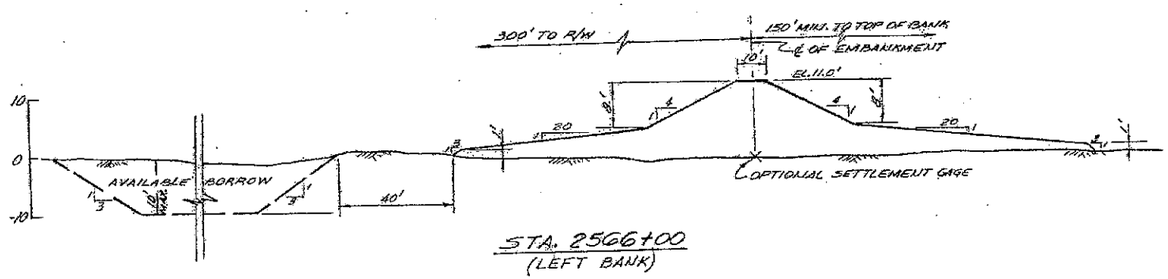
STA. 238+00 = 2072+50 ARMC
(RIGHT BANK)



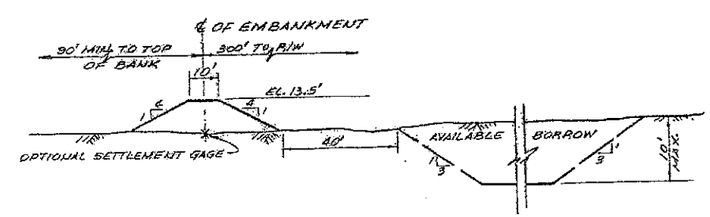
STA. 2661+17
(LEFT BANK)



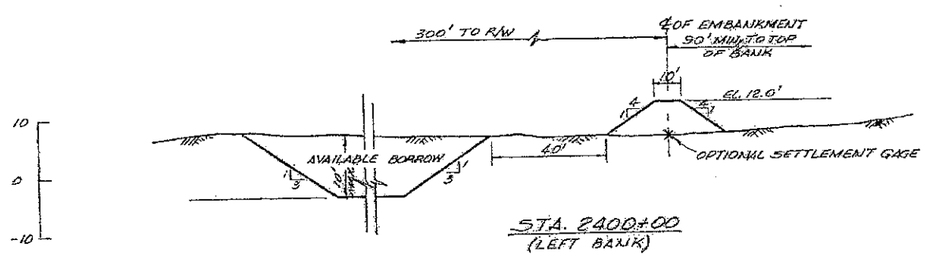
STA. 208+00 = 2048+06 ARMC
(RIGHT BANK)



STA. 2566+00
(LEFT BANK)



STA. 142+64 = 1985+51.9 ARMC
(RIGHT BANK)



STA. 2400+00
(LEFT BANK)

NOTE:
FOR GENERAL NOTES, SEE DWG. 11.

REVISION	DATE	DESCRIPTION	BY

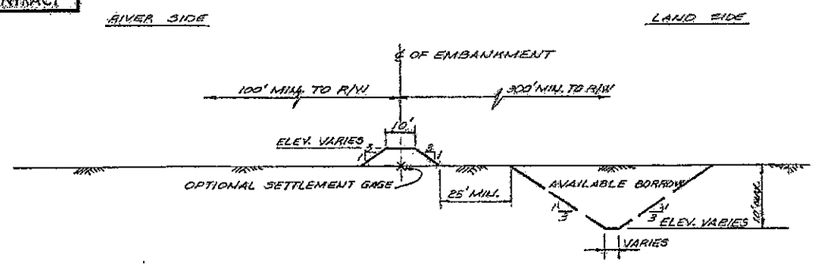
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

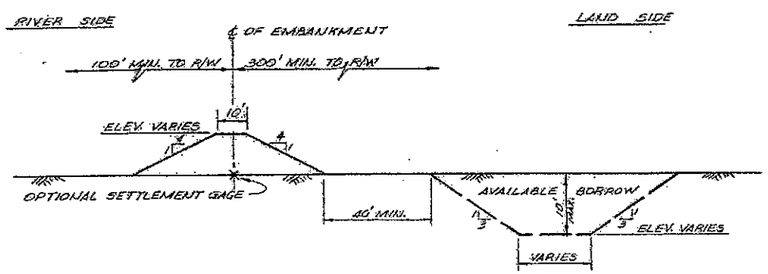
TYPICAL SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
R.S.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-8-30775
SUBMITTED			SPEC. NO. DACW29-90-B-0085	DWG. 13 OF 16	

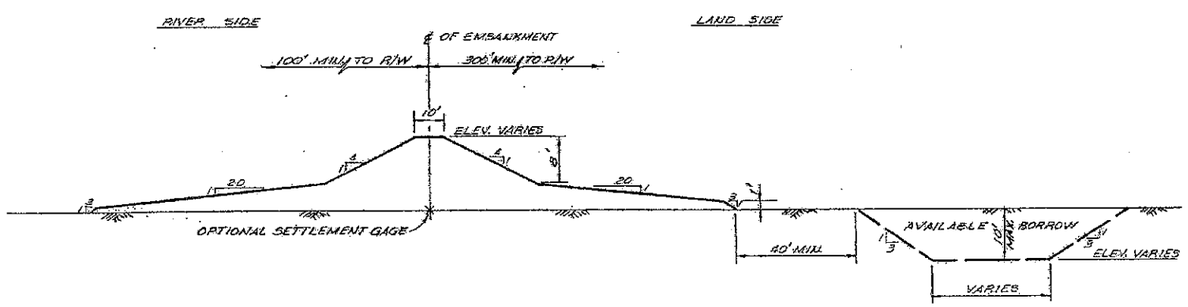
SAFETY IS A PART OF YOUR CONTRACT



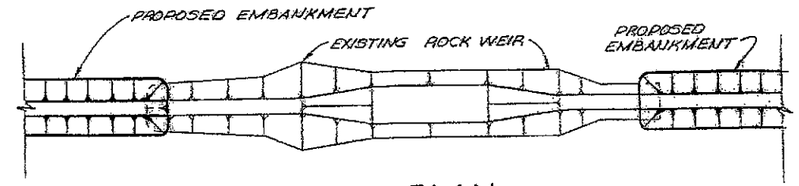
EMBANKMENTS 0 TO 4 FEET
N. T. S.



EMBANKMENTS 4 TO 8 FEET
N. T. S.

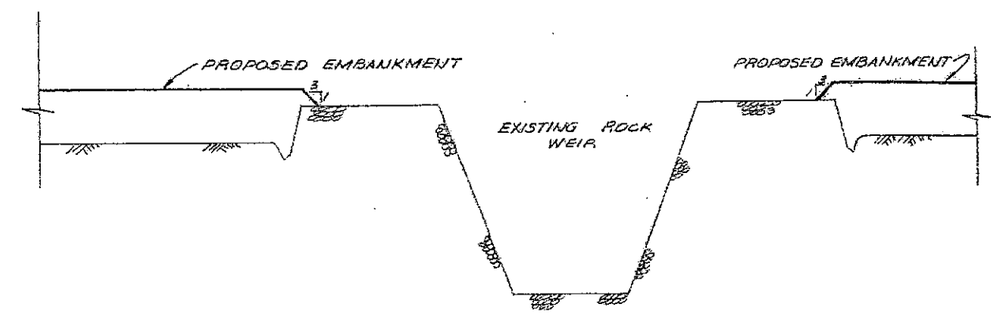


EMBANKMENTS 8 FEET AND OVER
N. T. S.



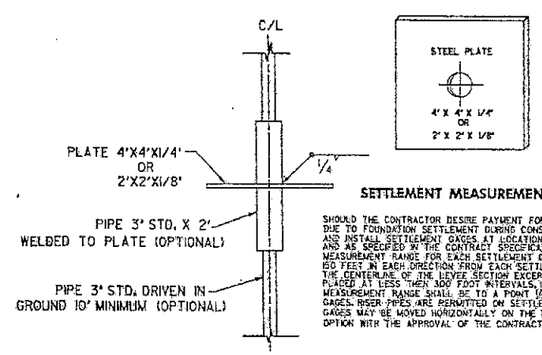
PLAN
N.T.S.

TYPICAL OF BLUE POINT CHUTE AND AMERICAL PASS WEIRS



PROFILE
N. T. S.

NOTES:
1. THE CONTRACTOR SHALL DETERMINE WHICH DESIGN SECTIONS APPLY, BASED UPON THE PROFILES SHOWN ON DRAWINGS 11 AND 12 OF 16 AND TO BE VERIFIED BY THE ORIGINAL CONTRACT SURVEYS.
2. FOR GENERAL NOTES, SEE DWG. 11.
3. THE EMBANKMENT SHALL BE CONSTRUCTED TO FULL GRADE UP TO THE INTERSECTION WITH EXISTING ROCK WEIRS, AT WHICH POINT THE EMBANKMENT SHALL TOE OFF AT A 1 ON 3 SLOPE, AS SHOWN ON THE ABOVE PROFILE.



TYPICAL GAGE DETAIL
NOT TO SCALE

SETTLEMENT MEASUREMENT GAGES

SHOULD THE CONTRACTOR DESIRE PAYMENT FOR PLACING ADDITIONAL FILL DUE TO FOUNDATION SETTLEMENT DURING CONSTRUCTION, HE SHALL FURNISH AND INSTALL SETTLEMENT GAGES AT LOCATIONS SHOWN ON THE DESIGN SECTION AND AS SPECIFIED IN THE CONTRACT SPECIFICATIONS. THE SETTLEMENT MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 150 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE MEASURED ALONG THE CENTERLINE OF THE LEVEE SECTION EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THAN 300 FOOT INTERVALS, IN WHICH CASE THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT ½ THE DISTANCE BETWEEN SETTLEMENT GAGES. RISER PIPES ARE PERMITTED ON SETTLEMENT GAGES. LOCATION OF SETTLEMENT GAGES MAY BE MOVED HORIZONTALLY ON THE EXISTING LEVEE CROWN AT CONTRACTOR'S OPTION WITH THE APPROVAL OF THE CONTRACTING OFFICER.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.

DESIGN SECTIONS

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.:
P. G.	C. H.	L. J. W.	JUNE 1990	AS SHOWN	H-8-30775

SUBMITTED: [signature]
SPEC. NO.: DACW29-90-B-0085
DWG. 14 OF 16

VALUE ENGINEERING INCENTIVES — "YOUR KEY TO HIGHER PROFITS"

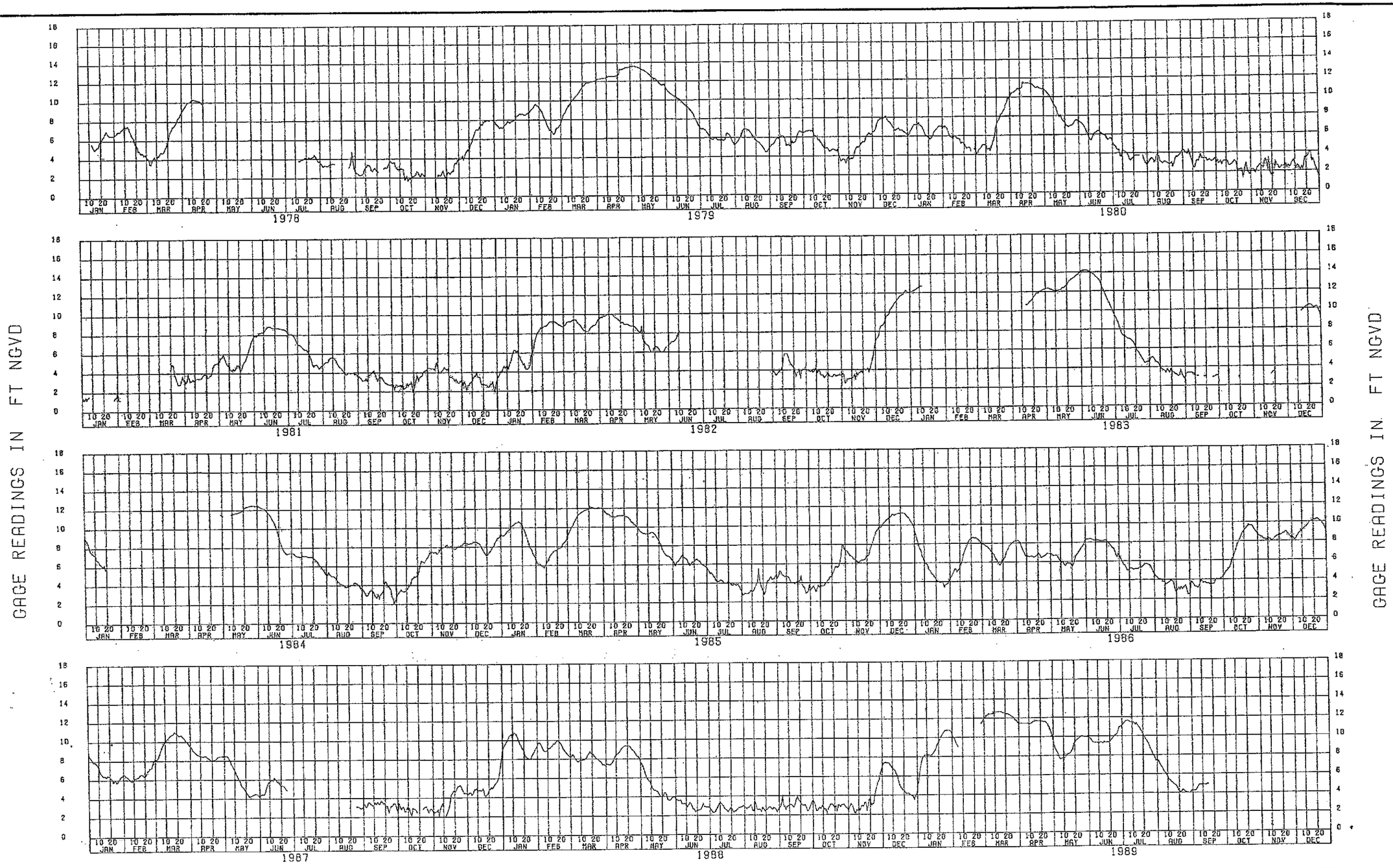
PATH NAME =
/RTCH/G3780/STAGE//1DAY/OBSERVED/

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.
MORGAN CITY

STAGE HYDROGRAPHS

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.:
P.G.	C.M.	L.J.W.	JUNE 1990	AS SHOWN	H-B-30775
SUBMITTED:			SPEC. NO. DACW29-90-B-0085		SHT. 15 OF 16



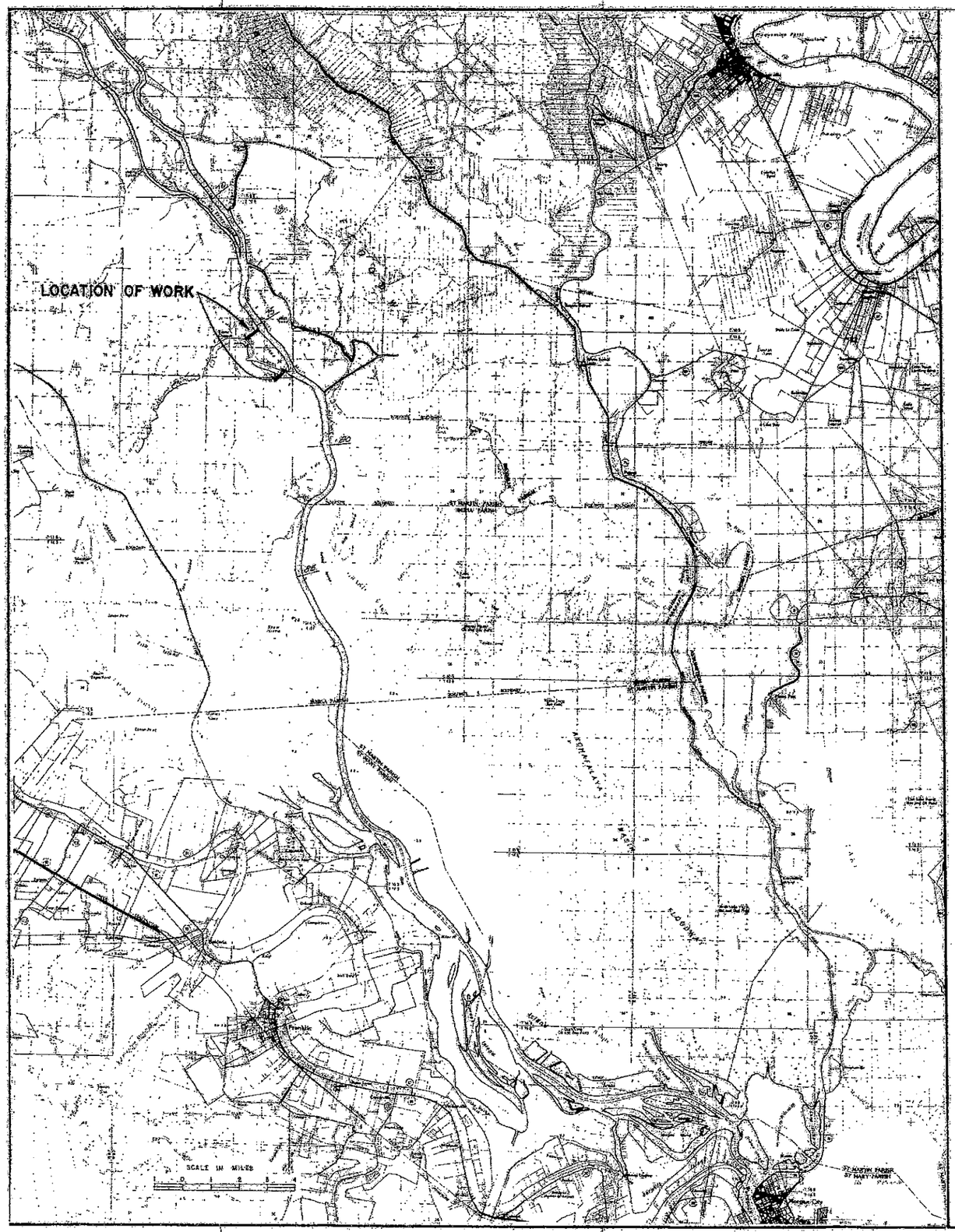
PATH NAME =
/ATCH/03540/STAGE//1DAY/OBSERVED/

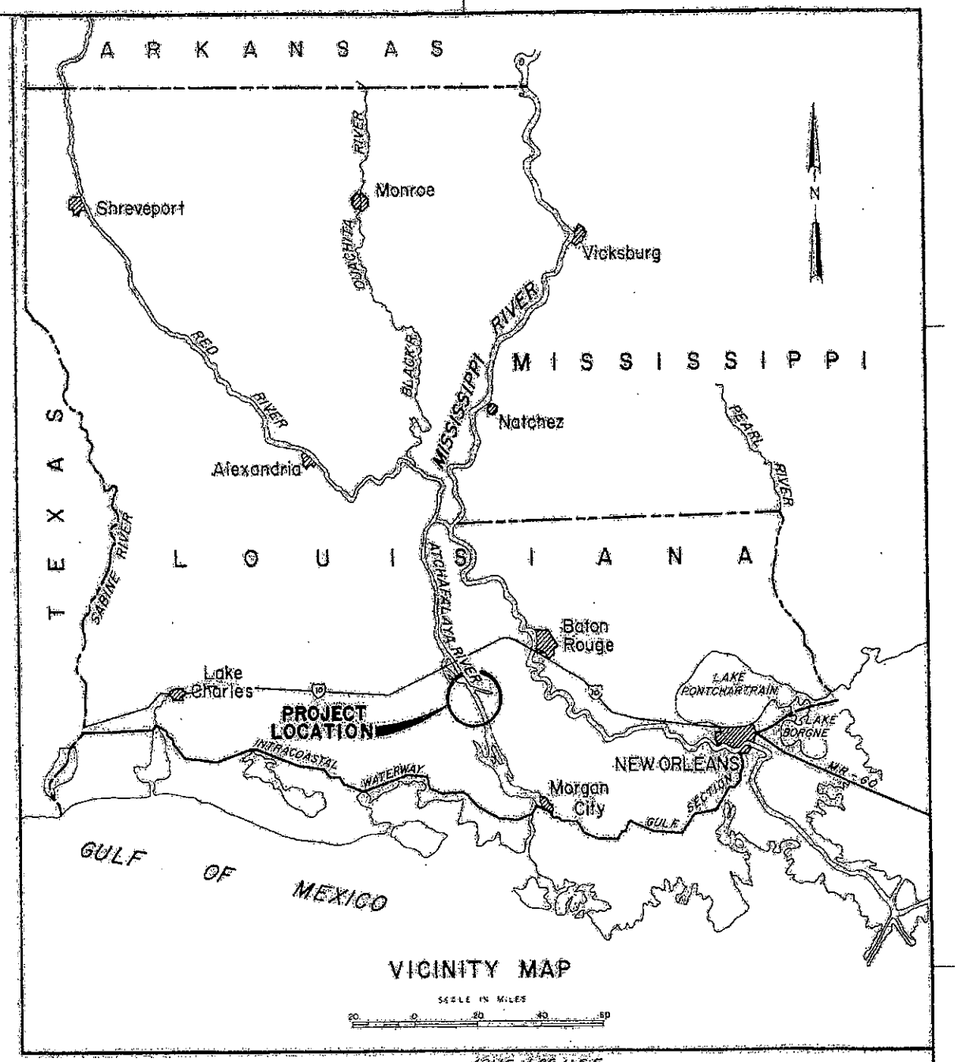
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
STA. 1903+40 TO STA. 3080+00
ST. MARY AND ST. MARTIN PARISHES, LA.
MYETTE POINT

STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C. M.	L. J. W.	JUNE 1990		H-8-30775
SUBMITTED:			SPEC. NO. DACW-29-90-B-0085		16 of 16





VICINITY MAP

ARMC V-28 U.S.E.
IT IS LOCATED ALONG THE WHISKEY BAY PILOT CHANNEL, 1905 FEET SOUTHEAST OF ARMC P.I. 107 STA. 1165+24.32 ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 107 AND ARMC P.I. 108, STA. 1159+90.21. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 9/16 INCH STAINLESS STEEL ROD PROTECTED BY A 2 INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-28 ARMC 1981. IT IS 1 FOOT EAST OF A METAL WITNESS POST.
ELEV. 15.499 N.G.V.D.

INDEX TO DRAWINGS

DWG.	DESCRIPTION
1	LOCATION MAP, VICINITY MAP AND INDEX
2	PLAN STA. 0+60 ℄ TO STA. 68+50 ℄
3	PLAN (CLOSURE)
4	PROFILE
5	THEORETICAL SECTIONS
6	TYPICAL SECTIONS
7	TYPICAL SECTIONS CLOSURE BORROW
8	TYPICAL SECTIONS CLOSURE BORROW
9	TYPICAL SECTIONS
10	HYDROGRAPHS
11	HYDROGRAPHS
12	SOIL BORINGS
13	SOIL BORING LEGEND

ARMC V-25 U.S.E.
IT IS LOCATED ALONG THE WHISKEY BAY PILOT CHANNEL, 558 FEET SOUTHEAST OF ARMC P.I. 95, STA. 983+32.74 ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 95 AND ARMC P.I. 96, STA. 1000+00.01. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON 9/16 INCH STAINLESS STEEL ROD PROTECTED BY A 6 INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE GROUND. ACCESS IS HAD THROUGH THE ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-25 ARMC 1981. IT IS 1 FOOT EAST OF A METAL WITNESS POST.
ELEV. 16.755 N.G.V.D.

NOTE:
DRAWINGS IN THIS FOLIO HAVE BEEN REDUCED ONE HALF THE ORIGINAL SCALE

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

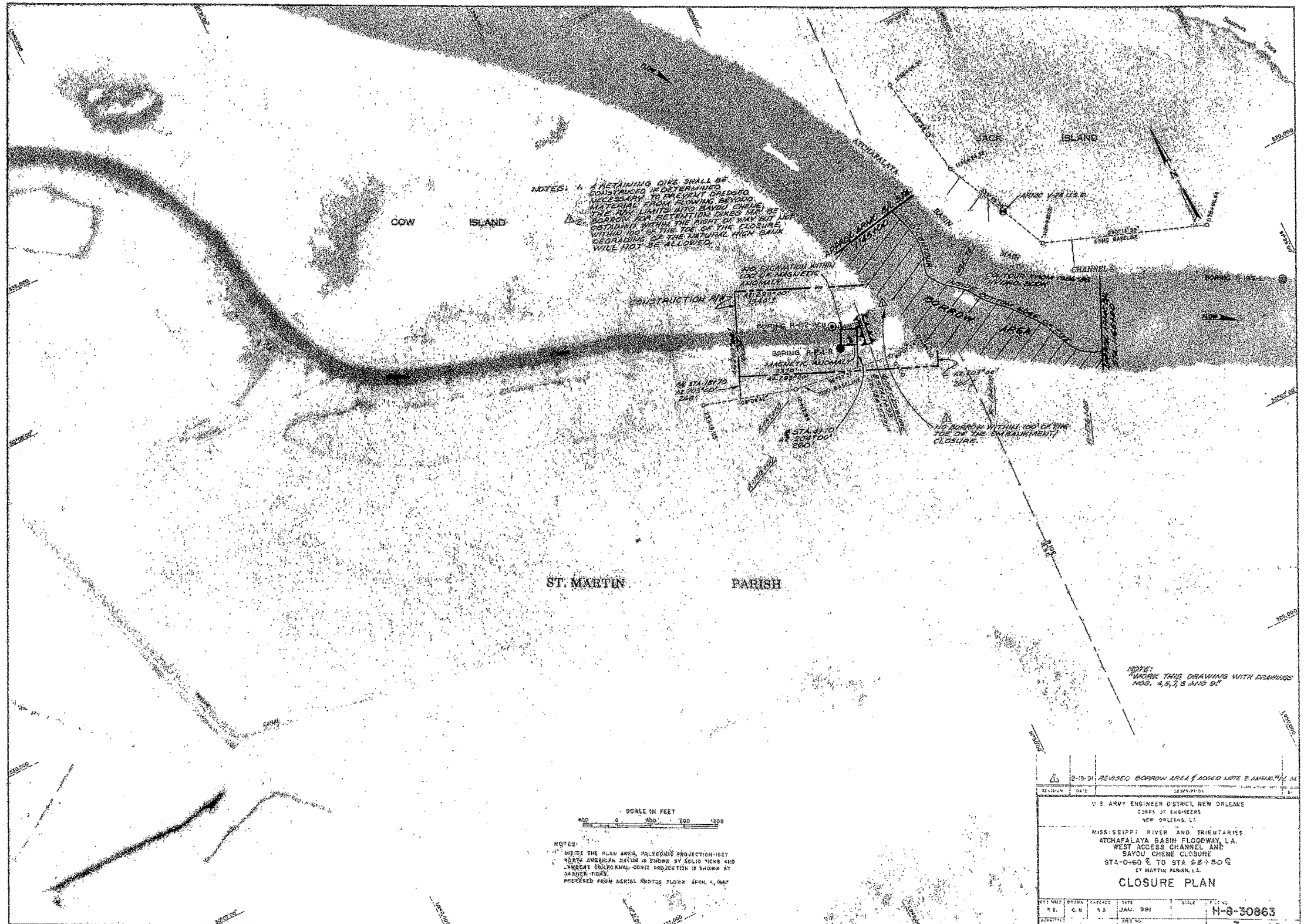
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN, FLOODWAY, L.A.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

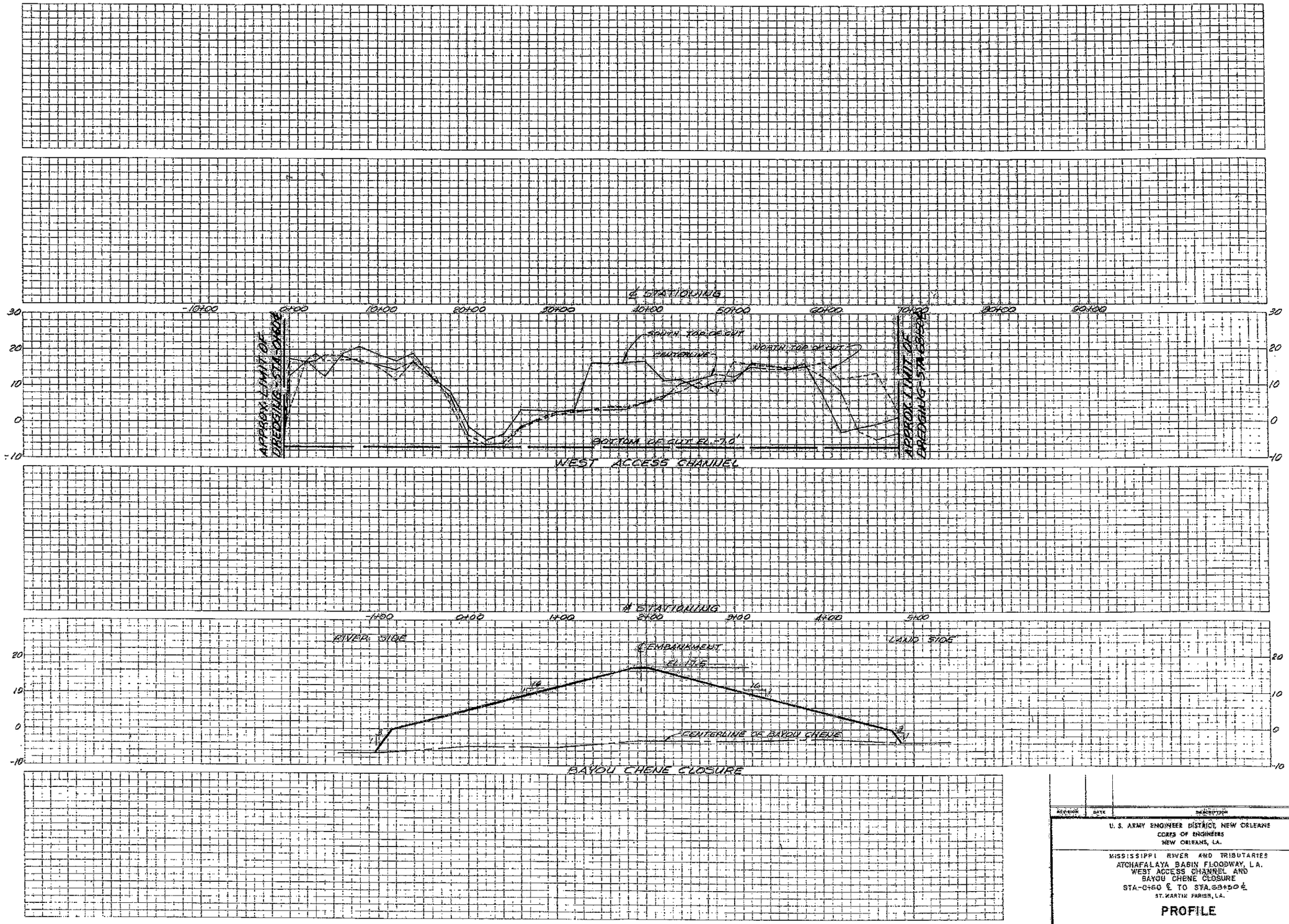
LOCATION MAP, VICINITY MAP AND INDEX

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
R.B.	C.M.	R.B.	JAN. 1981	AS SHOWN	H-8-30863

SPEC. NO. DACW29-81-B-0013 SHEET 1 OF 13

COW ISLAND
COZINE ISLAND
ELEVATIONS FROM HYDRO. BOOK
DISPOSAL AREA
NOTE: ALL TIES ARE NORMAL TO THE BASELINE.
5-2-81
REVISED AZ, & STATIONING AND CURVE DATA.
D. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA-0+00 ℄ TO STA 68+50 ℄
ST. MARTIN PARISH LA.
WEST ACCESS CHANNEL PLAN
STA-0+00 ℄ TO STA. 68+50 ℄
AS SHOWN
H-8-30863
DACW29
2 of 13


COW ISLAND
JACK ISLAND
ATCHAFALAYA BASIN
MAIN CHANNEL
BORROW AREA
CONSTRUCTION R/W
BORING B-92-RCU
BORING B-91-R
MAGNETIC ANOMALY
NO EXCAVATION WITHIN 100' OF MAGNETIC ANOMALY.
NO BORROW WITHIN 100' OF THE TOE OF THE EMBANKMENT/ CLOSURE.
BORING V-78 U.S.E.
BORING B-93-1
KING BASELINE
ST. MARTIN PARISH
NOTES: 1. A RETAINING DIKE SHALL BE CONSTRUCTED IF DETERMINED NECESSARY TO PREVENT DREDGED MATERIAL FROM FLOWING BEYOND THE R/W LIMITS INTO BAYOU CHENE. THE RETENTION DIKES MAY BE BORROW FOR RETENTION DIKES MAY BE OBTAINED WITHIN THE RIGHT OF WAY BUT NOT WITHIN 100' OF THE TOE OF THE CLOSURE. DEGRADING OF THE NATURAL HIGH BANK WILL NOT BE ALLOWED.
NOTE: "WORK THIS DRAWING WITH DRAWINGS NOS. 4, 5, 7, 8 AND 9."
SCALE IN FEET
400 0 400 800 1200
NOTES:
1. INSIDE THE PLAN AREA, POLYCONIC PROJECTION-1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY DASHED TICKS.
PREPARED FROM AERIAL PHOTOS FLOWN APRIL 4, 1967
2-15-91 REVISED BORROW AREA & ADDED NOTE 2. AMEND. W/L M.
REVISION DATE DESCRIPTION
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA-0+60 ℄ TO STA 66+50 ℄
ST MARTIN PARISH, LA.
CLOSURE PLAN
DESIGNED P.B. DRAWN C.M. CHECKED K.S. DATE JAN. 1991 SCALE FILE NO. H-8-30863
DACW29-8-B-0013 SHEET 3 OF 13



REVISION	DATE	DESCRIPTION	BY

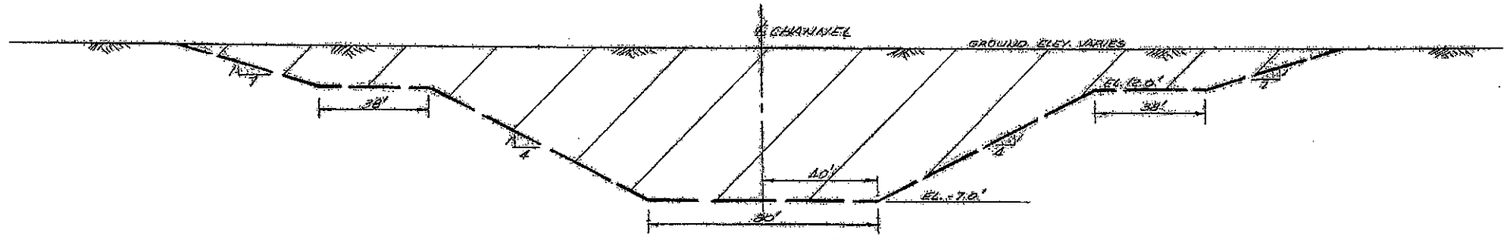
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. -0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

PROFILE

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
F.G.	C.M.	R.B.	JAN. 1991	AS SHOWN	H-8-30863
SUBMITTED:			SPEC. NO. DACW29-91-B-0013		DWG. 4 OF 13

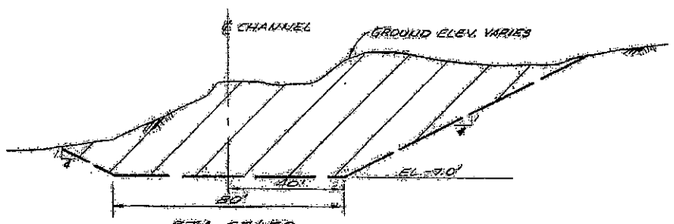
SAFETY IS A PART OF YOUR CONTRACT



STA. -0+60 TO STA. 63+00

THEORETICAL SECTION
WEST ACCESS CHANNEL
N.T.S.

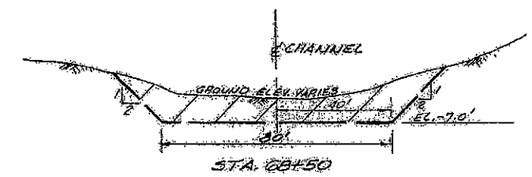
NOTE: FROM STA. 63+00 TO STA. 67+50, SIDE SLOPES MAINTAIN A 1V ON 4H SLOPE TO NATURAL GROUND.



STA. 67+50

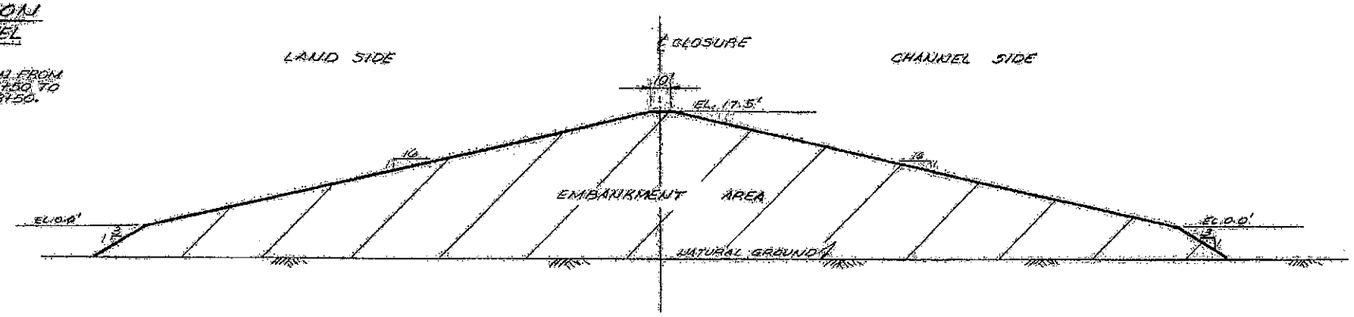
THEORETICAL SECTION
WEST ACCESS CHANNEL
N.T.S.

NOTE: SIDE SLOPES TRANSITION FROM 1V ON 4H AT STATION 67+50 TO 1V ON 2H AT STATION 68+50.



STA. 68+50

THEORETICAL SECTION
WEST ACCESS CHANNEL
N.T.S.



THEORETICAL CROSS SECTION
BAYOU CHENE CLOSURE
N.T.S.

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. -0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

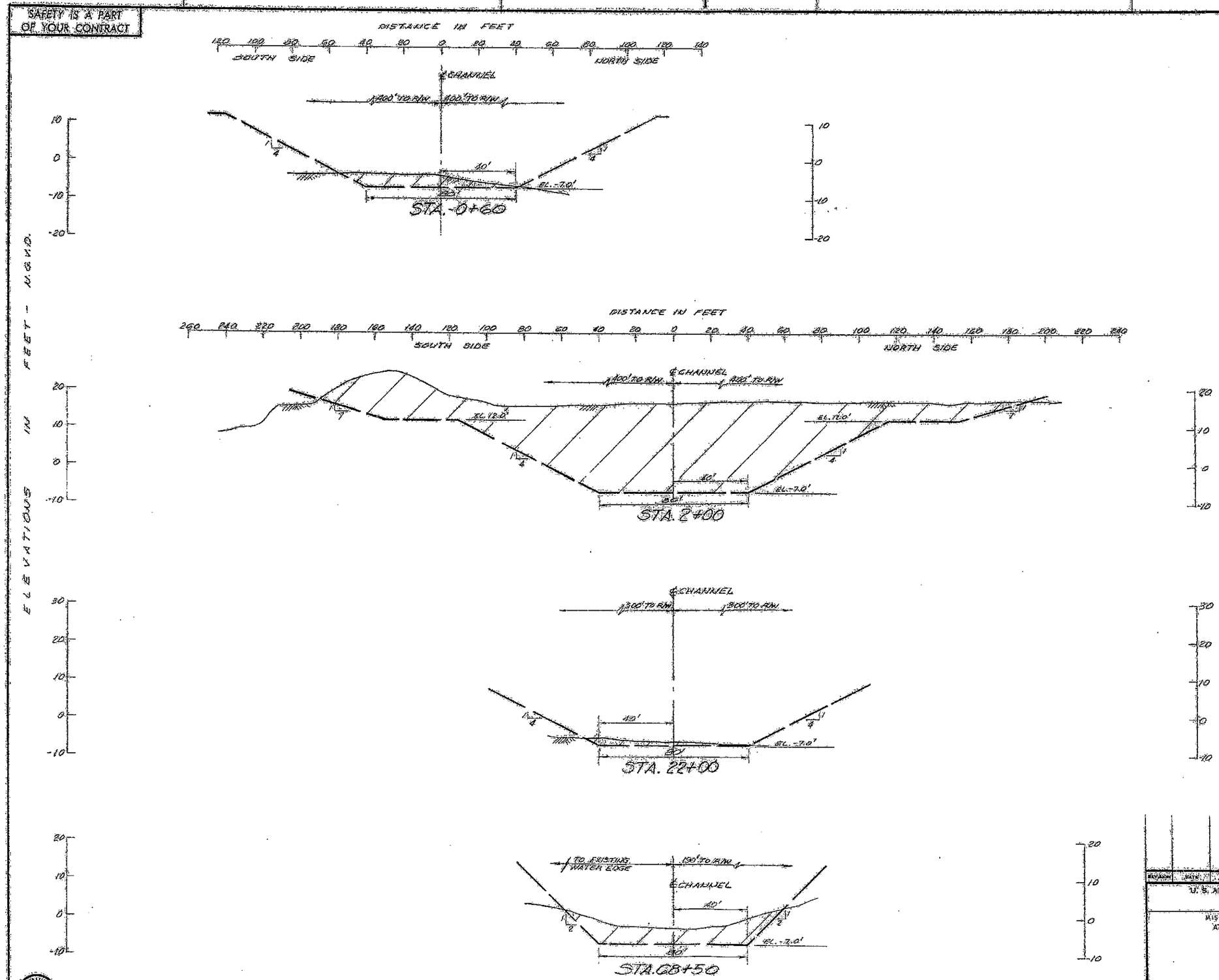
THEORETICAL SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
R.G.	C.M.	S.B.	JAN. 1991	AS SHOWN	H-8-30863

SUBMITTED: SPEC. NO.: DACW29-91-B-0013 DWG. 5 of 19

VALUE INCENTIVE CLAUSE ENGINEERING YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

TYPICAL SECTIONS
WEST ACCESS CHANNEL

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.S.	C.M.	R.R.	JAN. 1981	AS SHOWN	H-8-30863

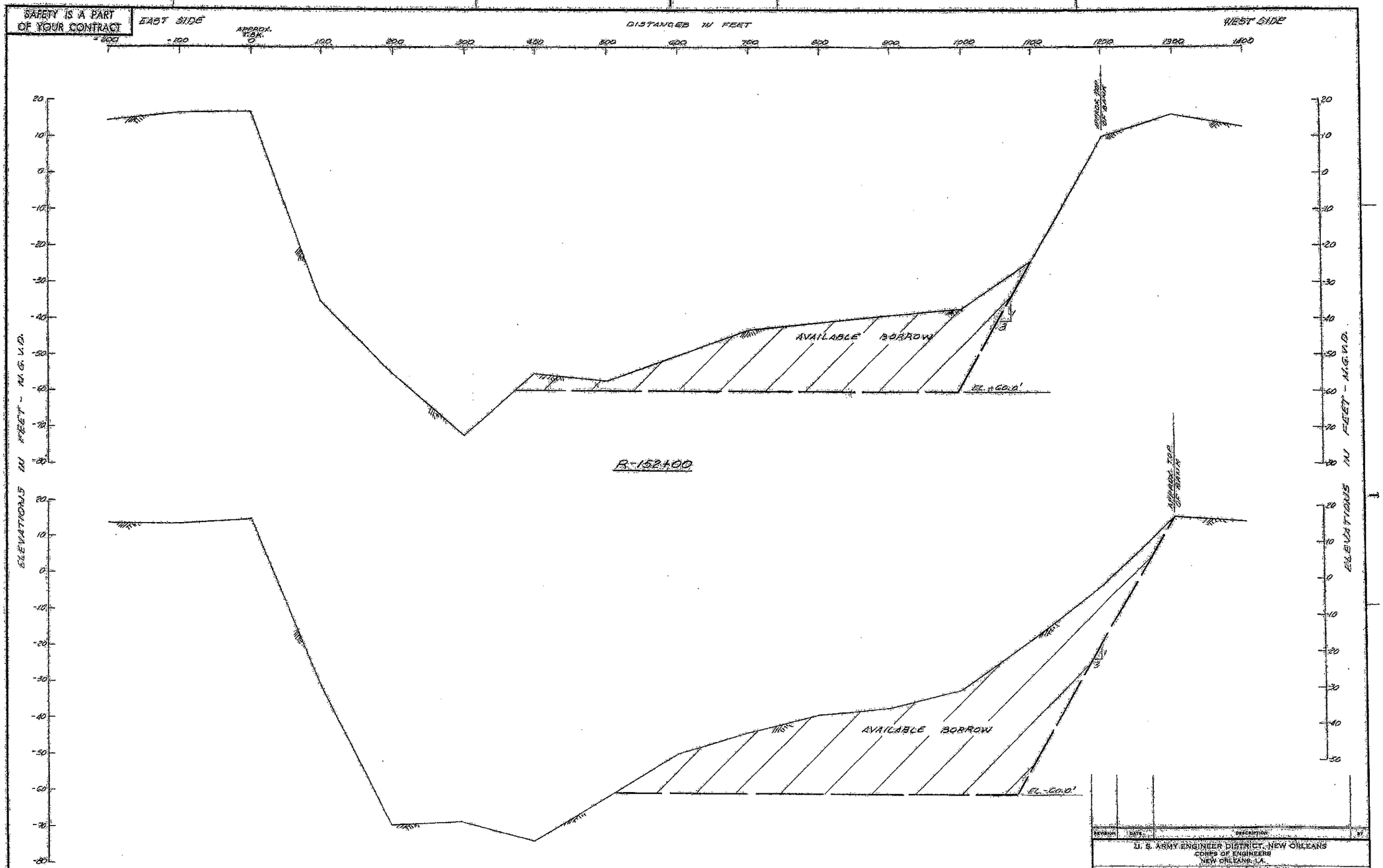
SUBMITTED: [signature]

SPEC. NO. DACW29-81-B-0013

DWG. 6 OF 13

VALUE INCENTIVE CLAUSE ENGINEERING — YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+60 ℄ TO STA. 6+50 ℄
ST. MARTIN PARISH, LA.

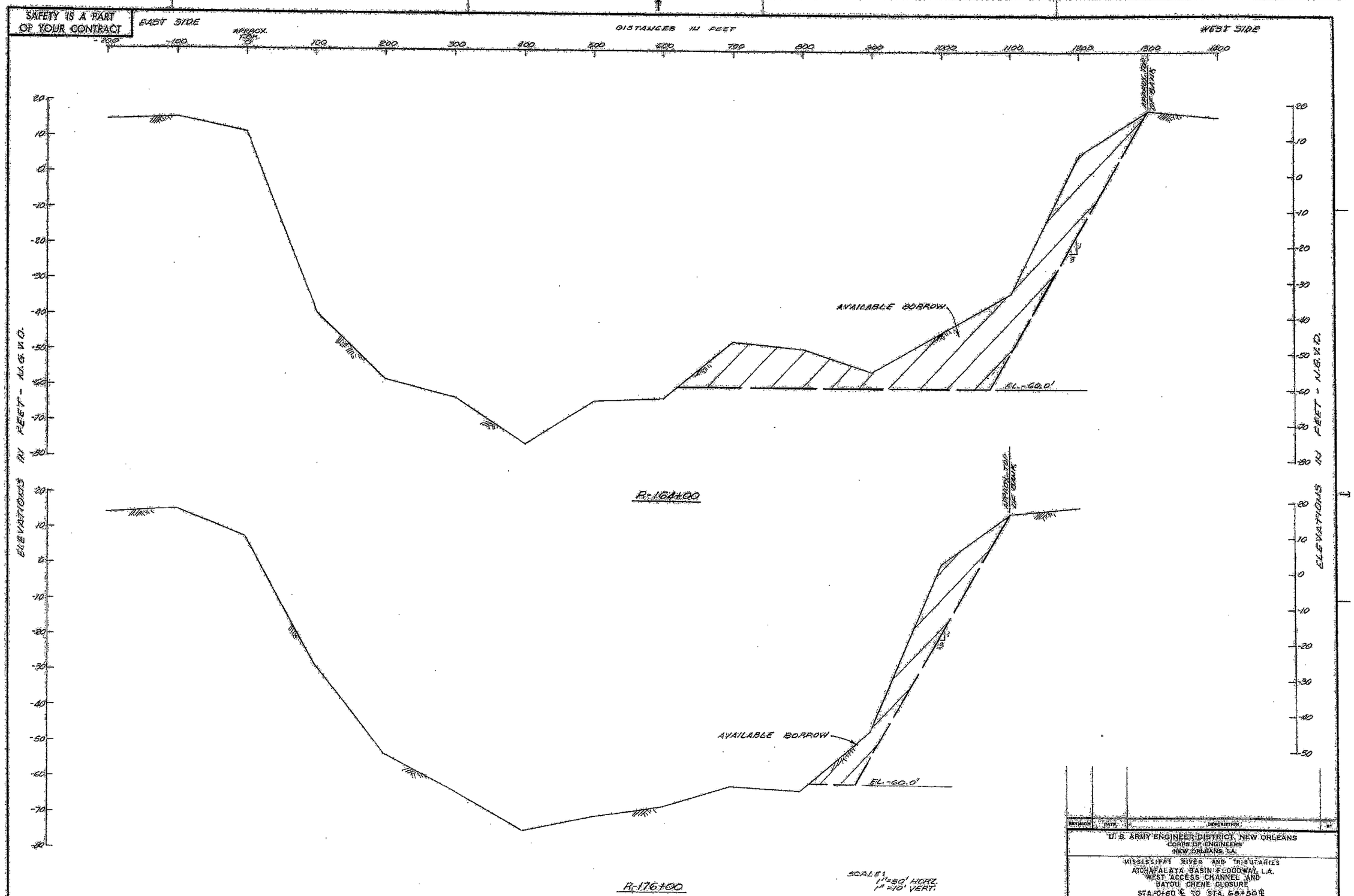
TYPICAL SECTIONS
CLOSURE BORROW

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
R.G.	C.M.	R.B.	JAN. 1991	AS SHOWN	H-8-30863

SUBMITTED: SPEC. NO.: DACW29-91-B-0015 DWG. 7 OF 13

VALUE ENGINEERING "YOUR KEY TO HIGHER PROFITS"

SAFETY IS A PART OF YOUR CONTRACT



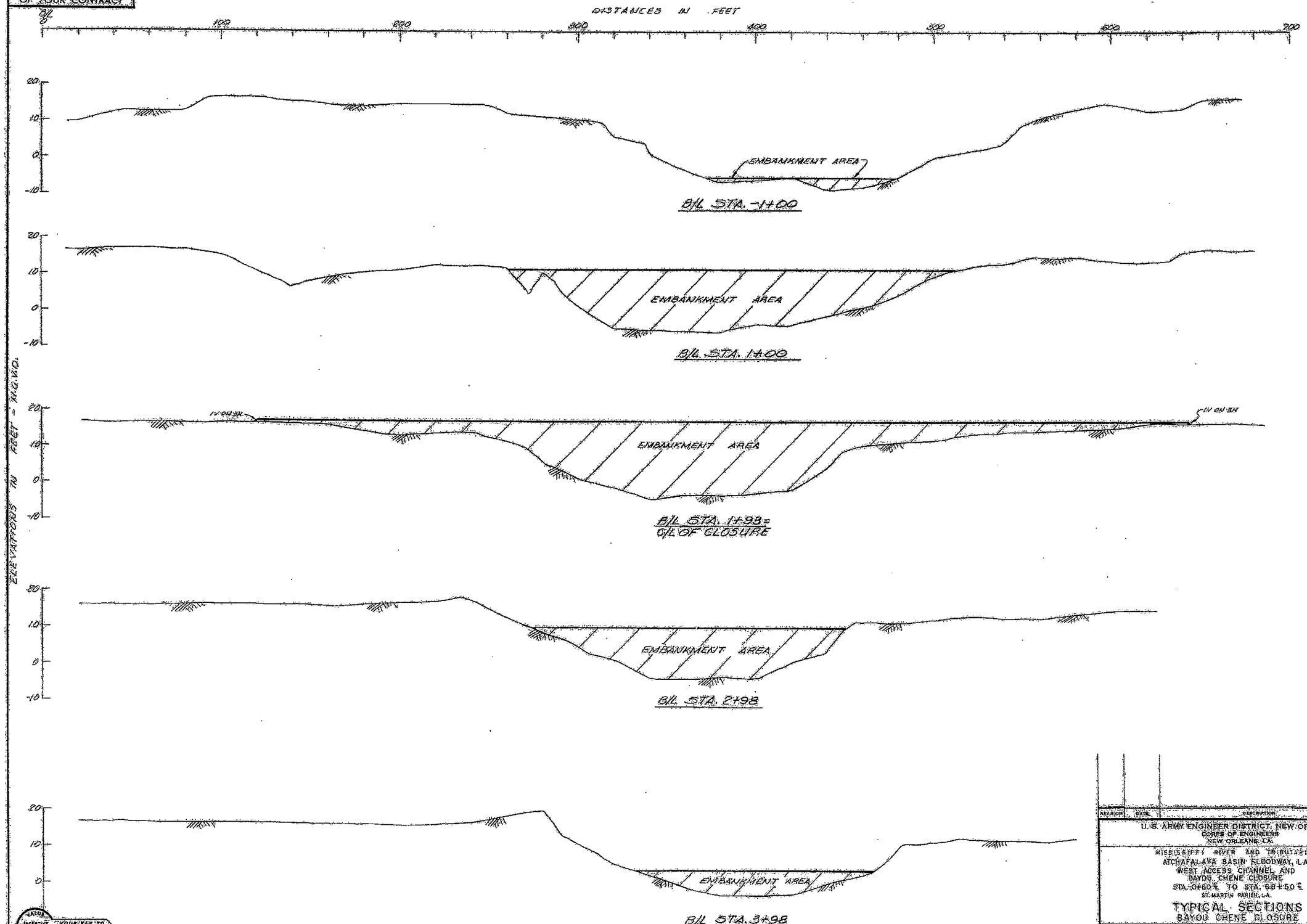
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

TYPICAL SECTIONS
CLOSURE BORROW

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.G.	C.M.	R.B.	JAN. 1981	AS SHOWN	H-8-30863

"YOUR KEY TO HIGHER PROFITS"



REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

TYPICAL SECTIONS
BAYOU CHENE CLOSURE

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.B.	C.M.	R.B.	JAN. 1991	AS SHOWN	H-8-30863
SUBMITTED			SPEC. NO.		

PATH NAME =
/ATCH/03420/STAGE//1DAY/OBSERVED/

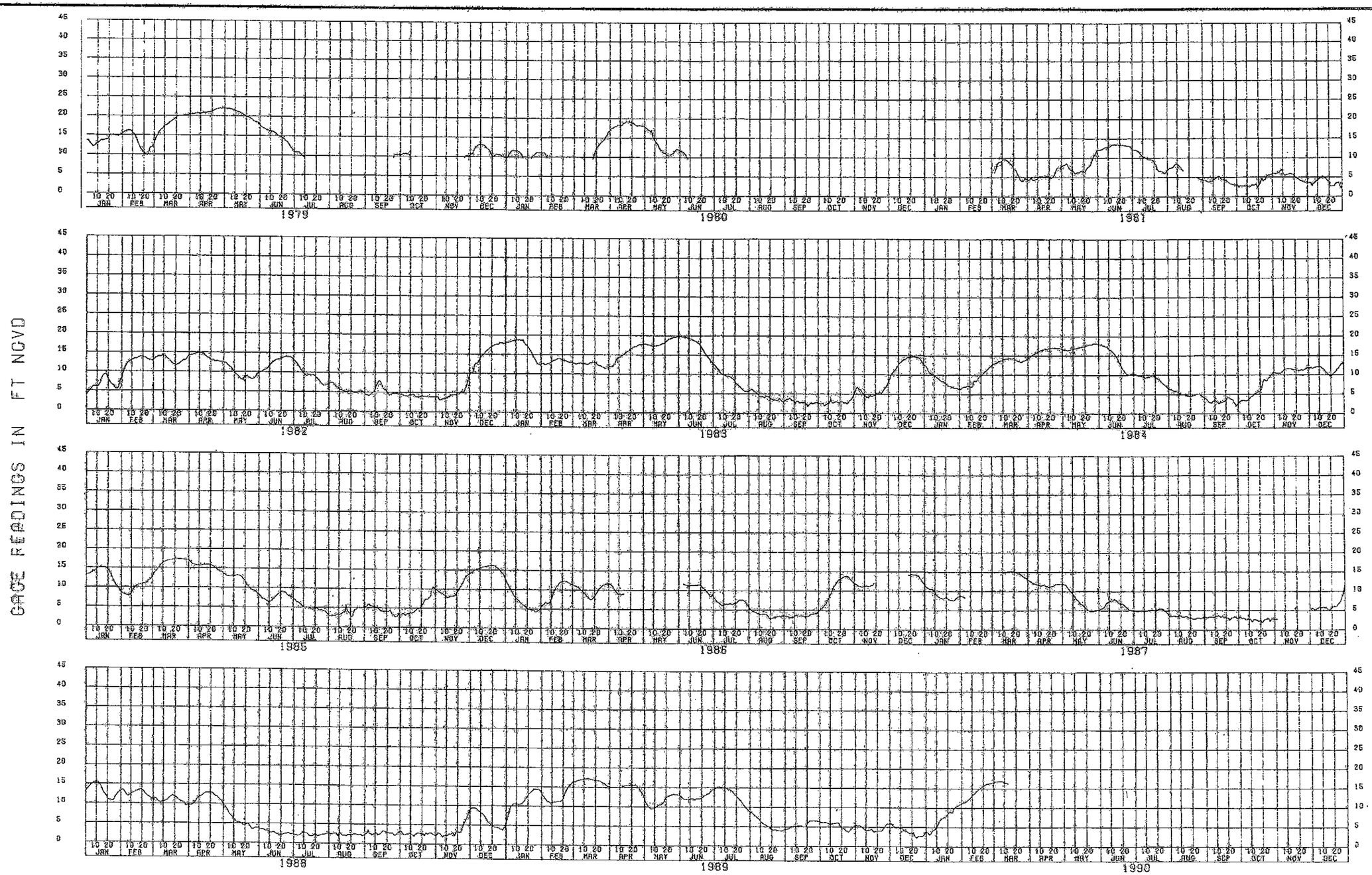
GAGE: BAYOU CHENE BELOW BAYOU CHENE CUT.
0.0 = N.G.V.D.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA.-0+00 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

STAGE HYDROGRAPHS

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
P.G.	C.M.	R.S.	JAN. 1991		H-8-30863
SUBMITTED:			DACW29-91-8-0015		10 of 13



PATH NAME =
/ATCH/03316/STAGE/VIDRY/OBSERVED/

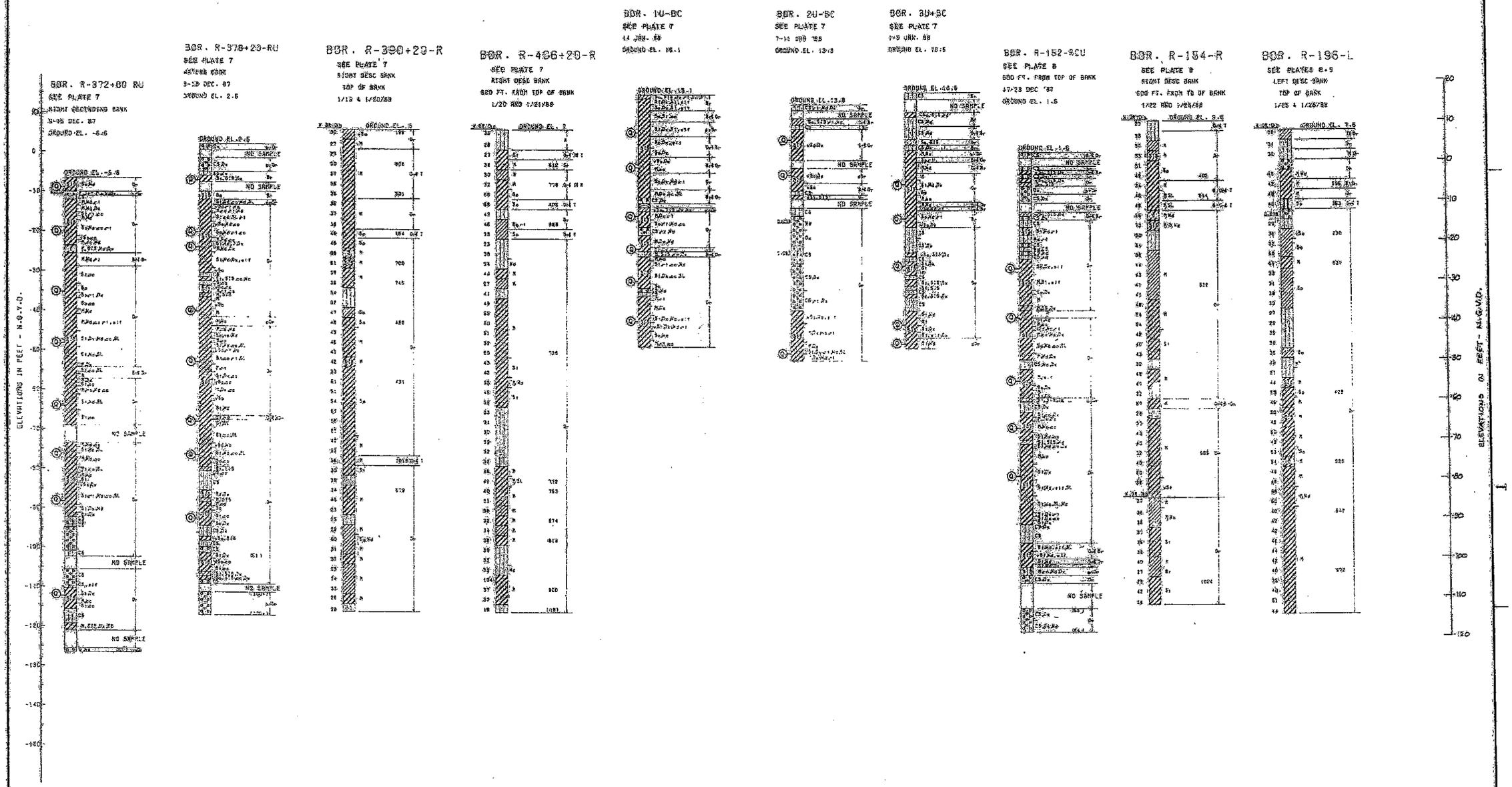
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA.-0+60 ℄ TO STA.68+50 ℄
ST. MARTIN PARISH, LA.

STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.G.	C.M.	R.B.	JAN. 1991		H-8-30863
SUBMITTED			DACW29-91-B-0013		11 / 13

SAFETY IS A PART OF YOUR CONTRACT



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+60 ℄ TO STA. 68+50 ℄
ST. MARTIN PARISH, LA.

SOIL BORINGS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
R.G.	C.M.	R.B.	JAN. 1991	AS SHOWN	H-8-30863

SUBMITTED: [signature] SPEC. NO.: DACW29-91-B-0013 DWG. 12 OF 13

YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT

UNIFIED SOIL CLASSIFICATION

MAJOR DIVISION		TYPE	LETTER SYMBOL	SYM BOL	TYPICAL NAMES
COARSE - GRAINED SOILS More than half of material is larger than No. 200 sieve size.	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size.	CLEAN GRAVEL (Little or No Fines)	GW		GRAVEL, Well Graded, gravel-sand mixtures, little or no fines
			GP		GRAVEL, Poorly Graded, gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES (Appreciable Amount of Fines)	GM		SILTY GRAVEL, gravel-sand-silt mixtures
			GC		CLAYEY GRAVEL, gravel-sand-clay mixtures
	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.	CLEAN SAND (Little or No Fines)	SW		SAND, Well-Graded, gravelly sands
			SP		SAND, Poorly-Graded, gravelly sands
		SANDS WITH FINES (Appreciable Amount of Fines)	SM		SILTY SAND, sand-silt mixtures
			SC		CLAYEY SAND, sand-clay mixtures
FINE - GRAINED SOILS More than half the material is smaller than No. 200 sieve size.		SILTS AND CLAYS (Liquid Limit < 50)	ML		SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity
			CL		LEAN CLAY, Sandy Clay, Silty Clay, of low to medium plasticity
			OL		ORGANIC SILTS and organic silty clays of low plasticity
		SILTS AND CLAYS (Liquid Limit > 50)	MH		SILT, fine sandy or silty soil with high plasticity
			CH		FAT CLAY, inorganic clay of high plasticity
			OH		ORGANIC CLAYS of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt		PEAT, and other highly organic soil
WOOD			Wd		WOOD
SHELLS			Sl		SHELLS
NO SAMPLE					

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols

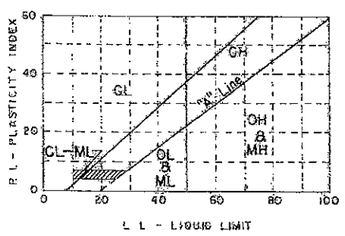
DESCRIPTIVE SYMBOLS

COLOR

COLOR	SYMBOL
TAN	T
YELLOW	Y
RED	R
BLACK	Bk
GRAY	Gr
LIGHT GRAY	lGr
DARK GRAY	dGr
BROWN	Br
LIGHT BROWN	lBr
DARK BROWN	dBr
BROWNISH - GRAY	br Gr
GRAYISH - BROWN	gy Br
GREENISH - GRAY	gn Gr
GRAYISH - GREEN	gy Gn
GREEN	Gn
BLUE	Bl
BLUE - GREEN	Bl Gn
WHITE	Wh
MOTTLED	Mot

CONSISTENCY FOR COHESIVE SOILS

CONSISTENCY	COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST	SYMBOL
VERY SOFT	< 250	vSo
SOFT	250 - 500	So
MEDIUM	500 - 1000	M
STIFF	1000 - 2000	St
VERY STIFF	2000 - 4000	vSt
HARD	> 4000	H



PLASTICITY CHART
For classification of fine-grained soils

MODIFICATIONS

MODIFICATION	SYMBOL
Traces	Tr
Fine	F
Medium	M
Coarse	C
Concretions	cc
Rootlets	rt
Lignite fragments	lg
Shale fragments	sh
Sandstone fragments	sds
Shell fragments	slf
Organic matter	O
Clay strata or lenses	CS
Silt strata or lenses	SIS
Sand strata or lenses	SS
Sandy	S
Gravelly	G
Boulders	B
Slickensides	SL
Wood	Wd
Oxidized	Ox

NOTES:

FIGURES TO LEFT OF BORING UNDER COLUMN "W OR D_{10}"

Are natural water contents in percent dry weight

When underlined denotes D_{10} size in m.m.*

FIGURES TO LEFT OF BORING UNDER COLUMNS "LL" AND "PL"

Are liquid and plastic limits, respectively

SYMBOLS TO LEFT OF BORING

▽ Ground-water surface and date observed

(C) Denotes location of consolidation test**

(S) Denotes location of consolidated-drained direct shear test**

(R) Denotes location of consolidated-undrained triaxial compression test**

(Q) Denotes location of unconsolidated-undrained triaxial compression test**

(T) Denotes location of sample subjected to consolidation test and each of the above three types of shear tests**

FW Denotes free water encountered in boring or sample

FIGURES TO RIGHT OF BORING

Are values of cohesion in lbs./sq. ft. from unconfined compression tests

In parenthesis are driving resistances in blows per foot determined with a standard split spoon sampler (1 3/8" I.D., 2" O.D.) and a 140 lb. driving hammer with a 30" drop

Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample

Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio

*The D_{10} size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D_{10}

**Results of these tests are available for inspection in the U. S. Army Engineer District Office, if these symbols appear beside the boring logs on the drawings

TYPICAL NOTES

While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of the contract clause entitled "Differing Site Conditions".

Ground-water elevations shown on the boring logs represents ground-water surfaces encountered in such borings on the dates shown. Absence of water surface data on certain borings indicates that no ground-water data are available from the boring but does not necessarily mean that ground-water will not be encountered at the locations or within the vertical reaches of such borings.

Consistency of cohesive soils shown on the boring logs is based on driller's log and visual examination and is approximate, except within those vertical reaches of the borings where shear strengths from unconfined compression tests are shown.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

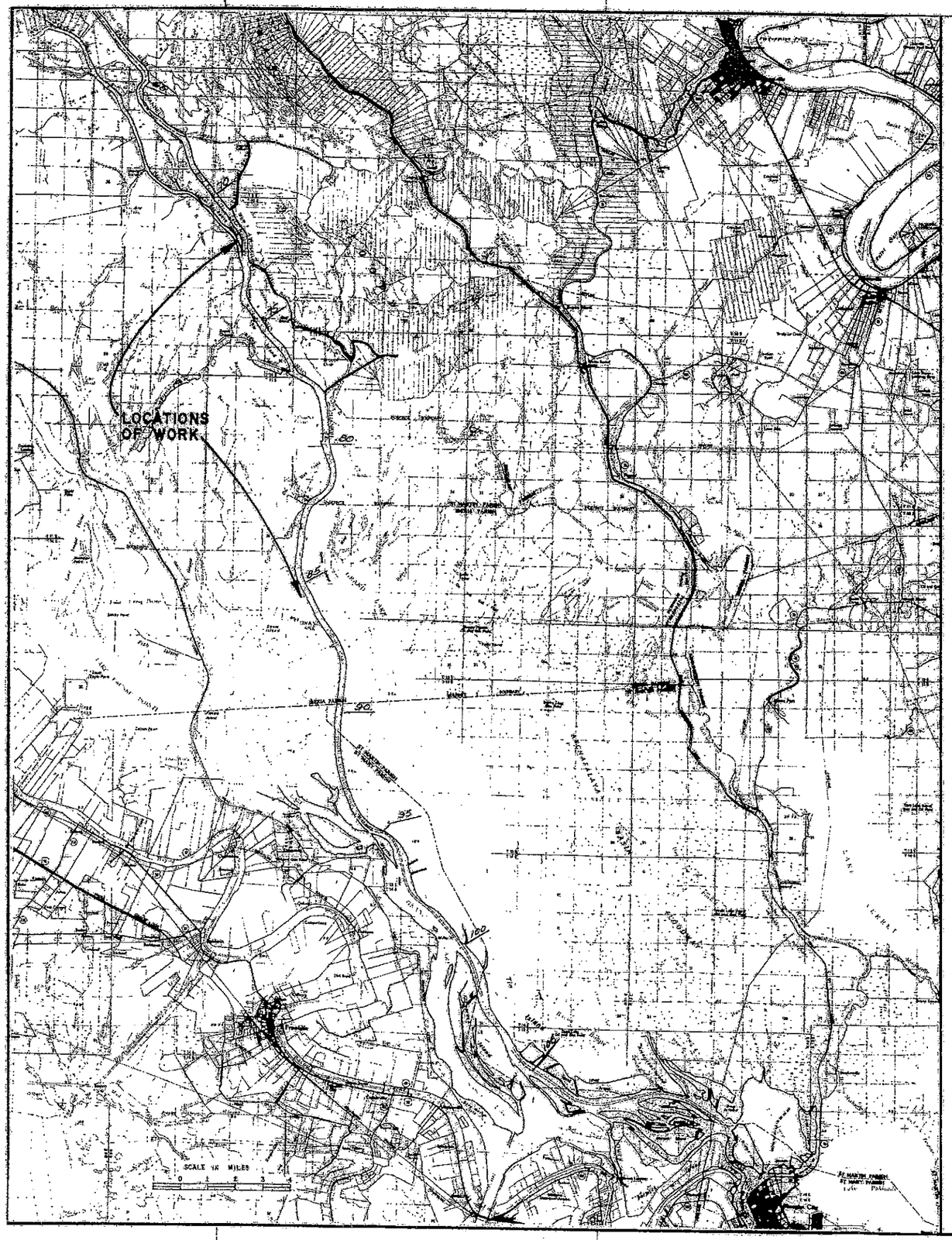
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
WEST ACCESS CHANNEL AND
BAYOU CHENE CLOSURE
STA. 0+00 ℄ TO STA. 88+00 ℄
ST. MARTIN PARISH, LA.

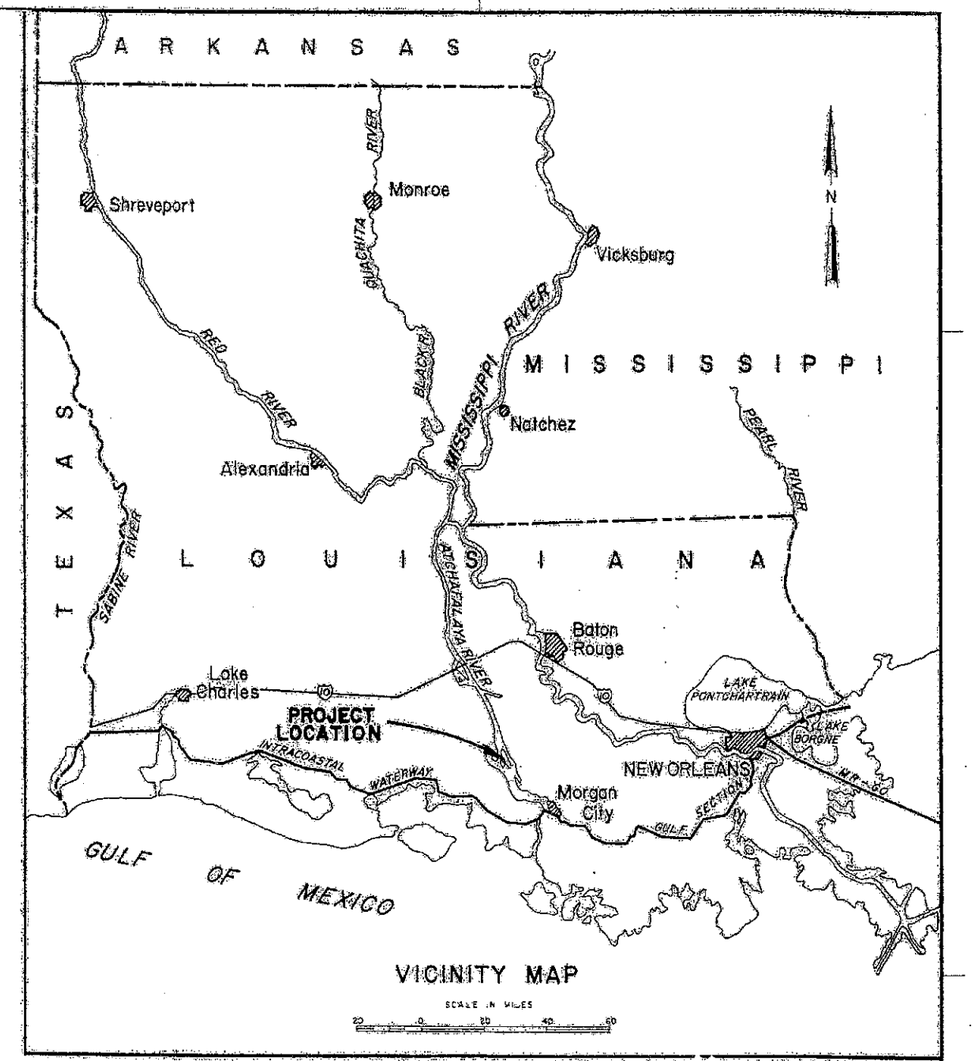
SOIL BORING LEGEND

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO
R.G.	C.M.	R.S.	JAN. 1991	AS SHOWN	H-8-30863

SUBMITTED: R. G. Miller
SPEC. NO. DACW29-91-B-0013
DWG. 13 OF 13

VALUE ENGINEERING CLAUSE "YOUR KEY TO HIGHER PROFITS"





VICINITY MAP

SCALE IN MILES

20 0 20 40 60

INDEX TO DRAWINGS	
DWG.	DESCRIPTION
1	LOCATION MAP, VICINITY MAP AND INDEX
2	PLAN, STA. 900+00 TO STA. 947+00
3	PLAN, STA. 1505+00 TO STA. 1623+00
4	CROSS SECTIONS
5	CROSS SECTIONS
6	PROFILE
7	HYDROGRAPHS
8	HYDROGRAPHS
9	
10	
11	
12	
13	
14	
15	
16	

NOTE:
DRAWINGS IN THIS FOLIO HAVE BEEN REDUCED ONE HALF THE ORIGINAL SCALE

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

SUBMITTED: J. Rhett Brunner
RECOMMENDED: W. Pete Nelson
APPROVED: F. Lee Fox

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE I
ST. MARTIN AND IBERIA PARISHES, LA.

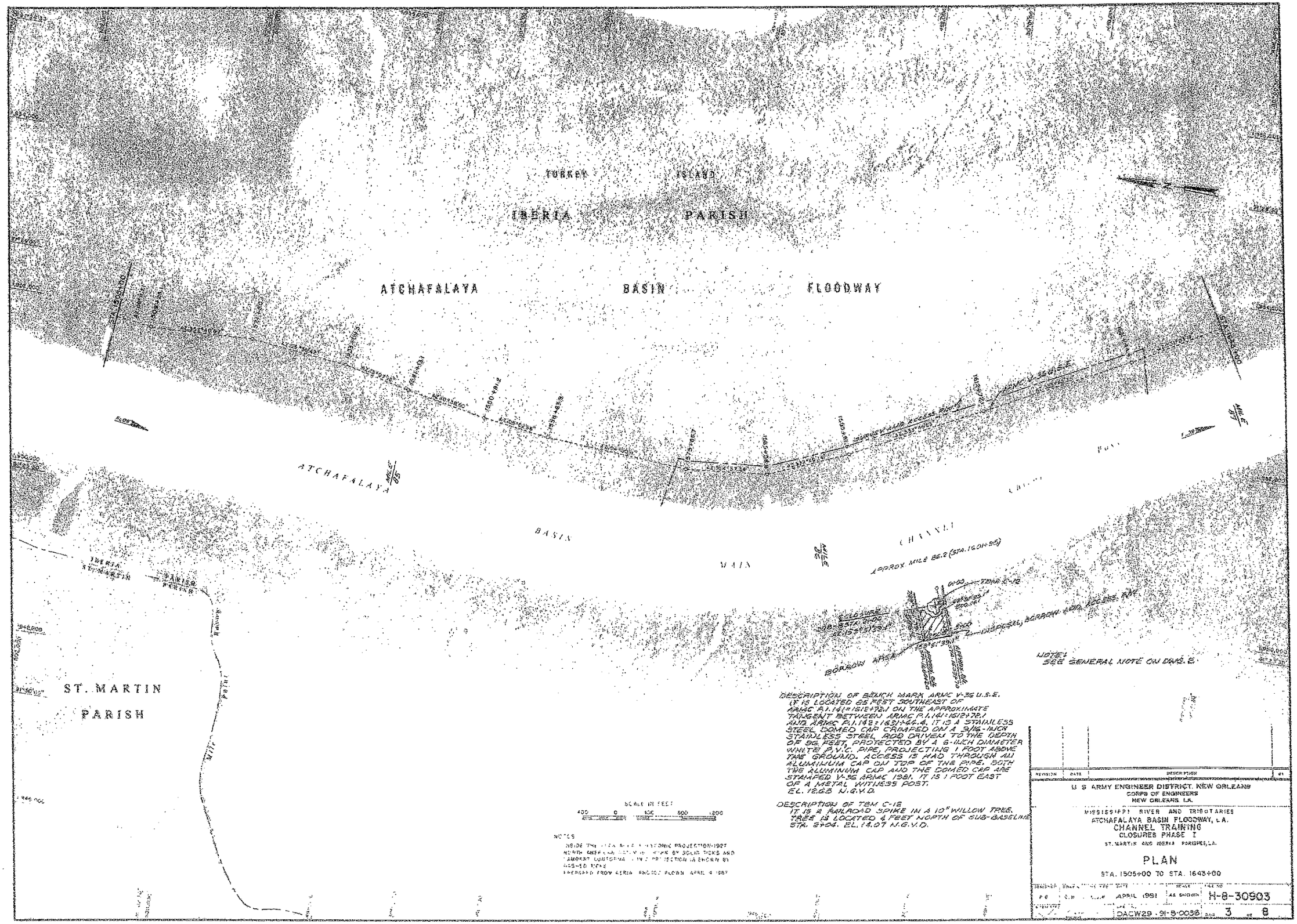
LOCATION MAP, VICINITY MAP AND INDEX

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.S.	C.M.	L.G.W.	APRIL 1991	AS SHOWN	H-8-30903

SUBMITTED: R. J. Miller

REC. NO. DACW29-91-B-0038 SHEET 1 OF 8

GENERAL NOTE:
NO BORROW WILL BE ALLOWED WITHIN A MINIMUM OF 25' FROM THE R/W AND A 1' FOOT THE WEIR BANK TIE-IN INTO THE CLOSURES AND THE TOE OF THE CLOSURES.
BORROW AREA
BORROW AND ACCESS R/W
CLOSURE
APPROX. MILE 72.7
(STA. 819+50)
APPROX. MILE 73.6 (STA. 969+00)
APPROX. MILE 73.3 (STA. 945+75)
COZINE ISLAND
SPICE ISLAND
BASIN
MAIN
CHANNEL
MOXOULDIX
LAKE
ATCHAFALAYA
LAKE MOXOULDIX
OIL AND GAS FIELD
ST. MARTIN
PARISH
BORROW AREA
BORROW AND ACCESS R/W
DESCRIPTION OF BENCH MARK ARMC V-26 U.S.E.
IT IS LOCATED 2200 FEET SOUTHEAST OF ARMC P.I. 87=870+75.6 ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 87=870+05.6 AND ARMC P.I. 89=882+20.2. THE MARK IS A BRASS MARK ATTACHED TO A ONE INCH PIPE ENCASED IN A TWO INCH OUTER PIPE PROTECTED BY A 4-INCH P.V.C. PIPE AND COVER. THE DISK IS STAMPED ARMC V-23 1991. ELEV. 22.45 N.G.V.D.
DESCRIPTION OF BENCH MARK ARMC V-24 U.S.E.
IT IS LOCATED 1200 FEET SOUTHEAST OF ARMC P.I. 91=924+91.6 ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 91=924+31.8 AND ARMC P.I. 93=943+93.7. IT IS A STAINLESS STEEL DOMED CAP. CAPPED ON A 5/8-INCH STAINLESS STEEL ROD OR VENT TO THE DEPTH OF 102 FEET PROTECTED BY A 6-INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-24 ARMC 1991. IT IS 1 FOOT EAST OF A METAL WITNESS POST.
DESCRIPTION OF TBM C-3
IT IS LOCATED ON RIGHT SIDE OF SUB-BASELINE @ STA. 0+25. IT IS A RAIL ROAD SPIKE IN A 7" SYCAMORE TREE. ELEV. 22.15 N.G.V.D.
SCALE IN FEET
400 0 400 800 1600
NOTES
IN-SHORE THE PLAN AREA, POLYCONIC PROJECTION 1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION AS SHOWN BY DASHED TICKS.
PREPARED FROM AERIAL PHOTOS TAKEN APRIL 6, 1987
REVISION
DATE
DESCRIPTION
BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE I
ST. MARTIN AND IBERIA PARISHES, LA.
PLAN
STA. 800+00 TO STA. 947+00
DESIGNED
DRAWN
CHECKED
DATE
SCALE
FILE NO.
P.G.
C.M.
L.J.M.
APRIL 1991
AS SHOWN
H-8-30903
SUBMITTED
SPEC. NO.
DACW29-91-B-0039
DWG.
2
OF
8



DESCRIPTION OF BENCH MARK ARMC V-36 U.S.E.
IT IS LOCATED 85 FEET SOUTHEAST OF ARMC P.I. 141=1612+72.1 ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 141=1612+72.1 AND ARMC P.I. 142=1631+44.4. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 9/16-INCH STAINLESS STEEL ROD DRIVEN TO THE DEPTH OF 96 FEET, PROTECTED BY A 6-INCH DIAMETER WHITE P.V.C. PIPE, PROJECTING 1 FOOT ABOVE THE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-36 ARMC 1981. IT IS 1 FOOT EAST OF A METAL WITNESS POST.
EL. 12.65 N.G.V.D.

DESCRIPTION OF TBM C-12
IT IS A RAILROAD SPIKE IN A 10" WILLOW TREE. TREE IS LOCATED 4 FEET NORTH OF SUB-BASELINE STA. 2+04. EL. 14.07 N.G.V.D.

NOTES
INSIDE THE [illegible] PROJECTION-1927
NORTH AMERICAN DATUM [illegible] BY SOLID TICKS AND
[illegible] CONFORMAL [illegible] PROJECTION IS SHOWN BY
DASHED TICKS
PREPARED FROM AERIAL PHOTOS FLOWN APRIL 4 1987

REVISION	DATE	DESCRIPTION	BY

U S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

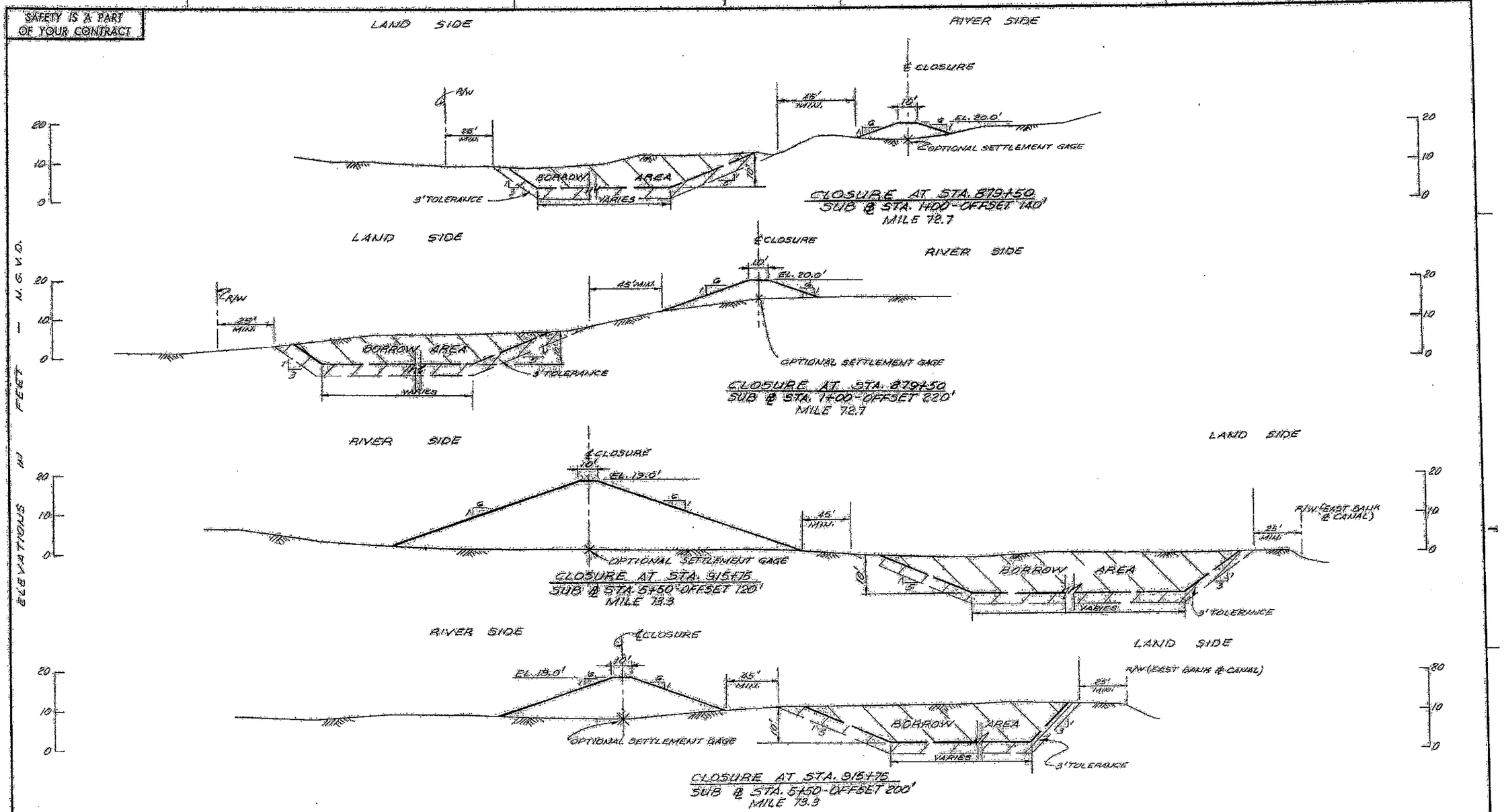
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE I
ST. MARTIN AND IBERIA PARISHES, LA.

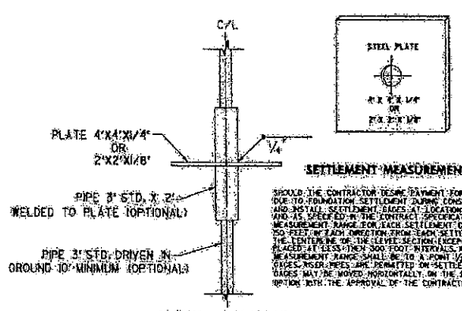
PLAN

STA. 1505+00 TO STA. 1643+00

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.G.	[illegible]	[illegible]	APRIL 1991	AS SHOWN	H-8-30903
SUBMITTED			DACW29-91-B-0038		DWG 3 OF 8

SAFETY IS A PART OF YOUR CONTRACT





TYPICAL GAGE DETAIL

NOT TO SCALE

SETTLEMENT MEASUREMENT GAGES

SHOULD THE CONTRACTOR DESIRE PAYMENT FOR PLACING ADDITIONAL FILL DUE TO FOUNDATION SETTLEMENT DURING CONSTRUCTION, HE SHALL FURNISH AND INSTALL SETTLEMENT GAGES AT LOCATIONS SHOWN ON THE DESIGN SECTION AND AS SPECIFIED IN THE CONTRACT SPECIFICATIONS. THE SETTLEMENT MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 150 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE MEASURED ALONG THE CENTERLINE OF THE LEVEE SECTION EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THEN 300 FOOT INTERVALS, IN WHICH CASE THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT 1/2 THE DISTANCE BETWEEN SETTLEMENT GAGES. INSERT PIPES ARE PERMITTED ON SETTLEMENT GAGES. LOCATION OF SETTLEMENT GAGES MAY BE MOVED HORIZONTALLY ON THE EXISTING LEVEE CROWN AT CONTRACTOR'S OPTION WITH THE APPROVAL OF THE CONTRACTING OFFICER.

NOTE: THE THEORETICAL SECTIONS SHOWN ARE A PICTORIAL REPRESENTATION OF THE CLOSURE AND WILL BE USED FOR ACCEPTANCE AND PAY PURPOSES. THE CONTRACTOR SHOULD TAKE INTO ACCOUNT THE LIKELY HOOD THAT MUCH FLATTER SIDE SLOPES WILL RESULT DURING CONSTRUCTION.

VALUE INCENTIVE CLAUSE ENGINEERING — YOUR KEY TO HIGHER PROFITS

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

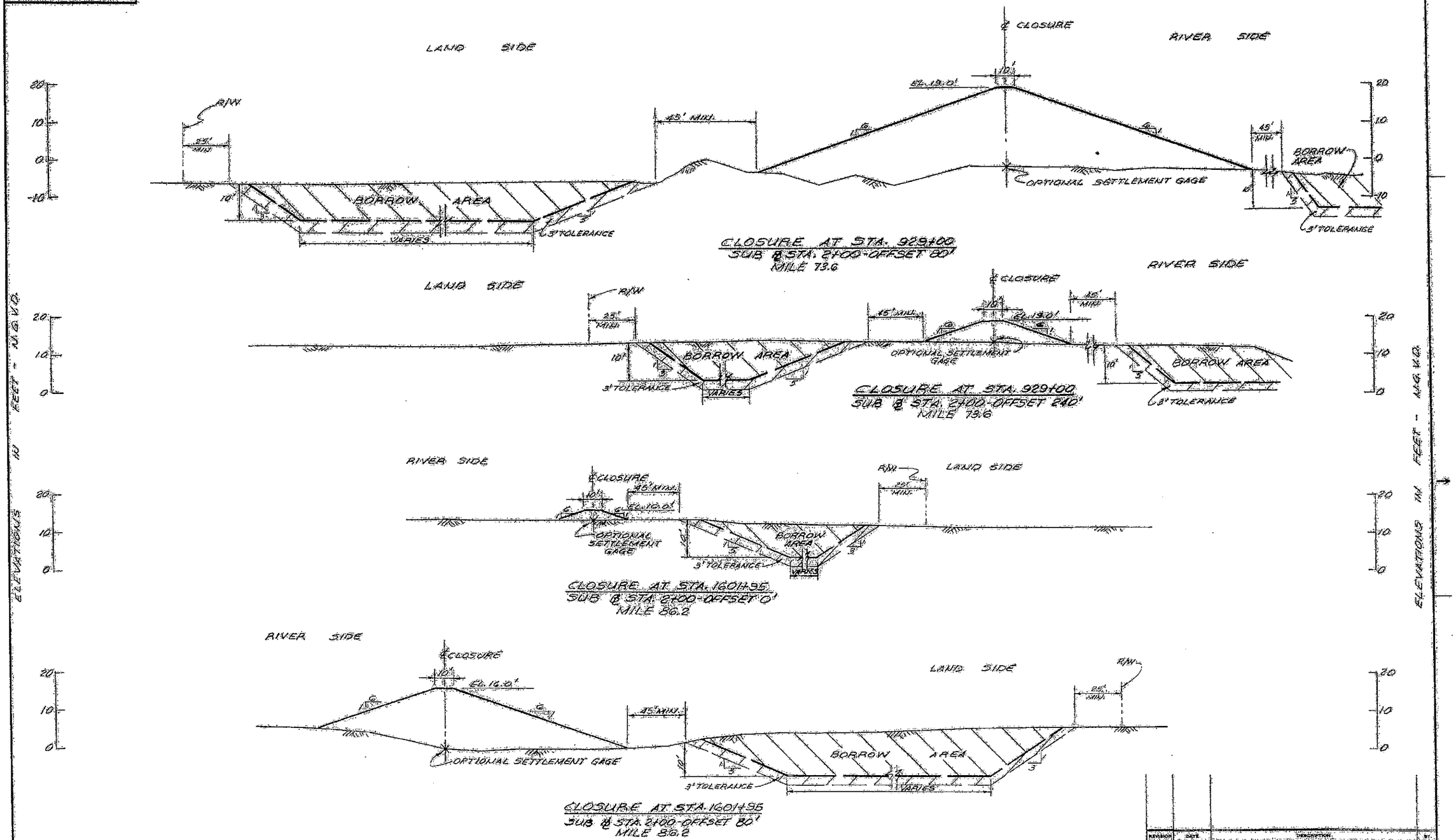
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE I
ST. MARTIN AND IBERIA PARISHES, LA.

CROSS SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
C.S.	C.M.	C.J.W.	APRIL 1991	AS SHOWN	H-8-30903

SUBMITTED: [signature] SPEC. NO.: DACW29-91-B-0038 DWG. 4 OF 8

SAFETY IS A PART OF YOUR CONTRACT



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

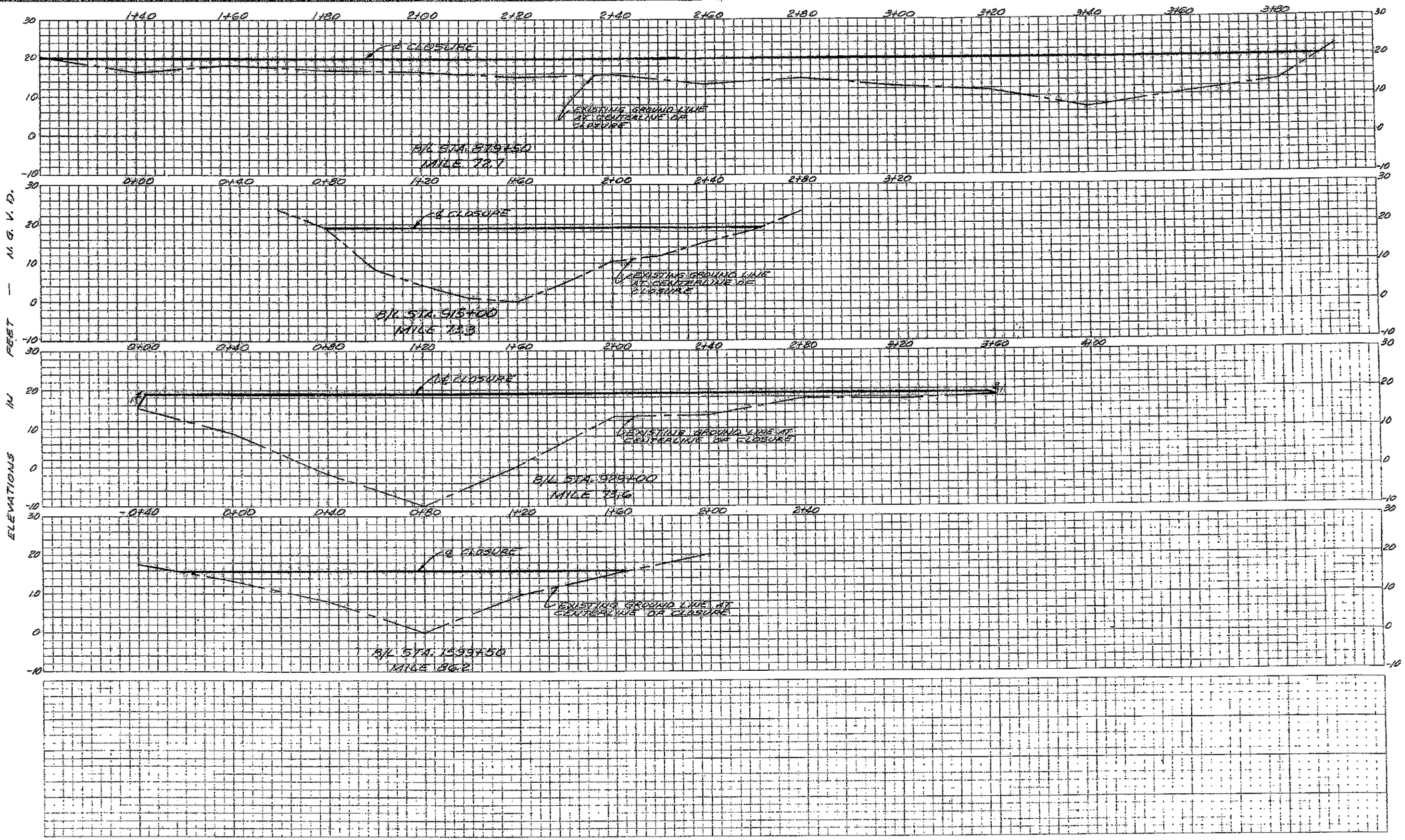
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, L.A.
CHANNEL TRAINING
CLOSURES PHASE I
ST. MARTIN AND IBERIA PARISHES, LA.

CROSS SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.G.	C.M.	L.L.W.	APRIL 1991	AS SHOWN	H-8-30903

SUBMITTED: SPEC. NO. DACW29-91-B-0038 DWG. 5 OF 8

VALVE INSTITUTE GATE VALVE MONITORING "YOUR KEY TO HIGHER PROFITS"



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE I
ST. MARTIN AND IBERIA PARISHES, LA.

PROFILE

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C. M.	L.S.W.	APRIL 1991	AS SHOWN	H-8-30903
SUBMITTED:			SPEC. NO. DACW29-91-B-0038		DWG. 6 OF 8

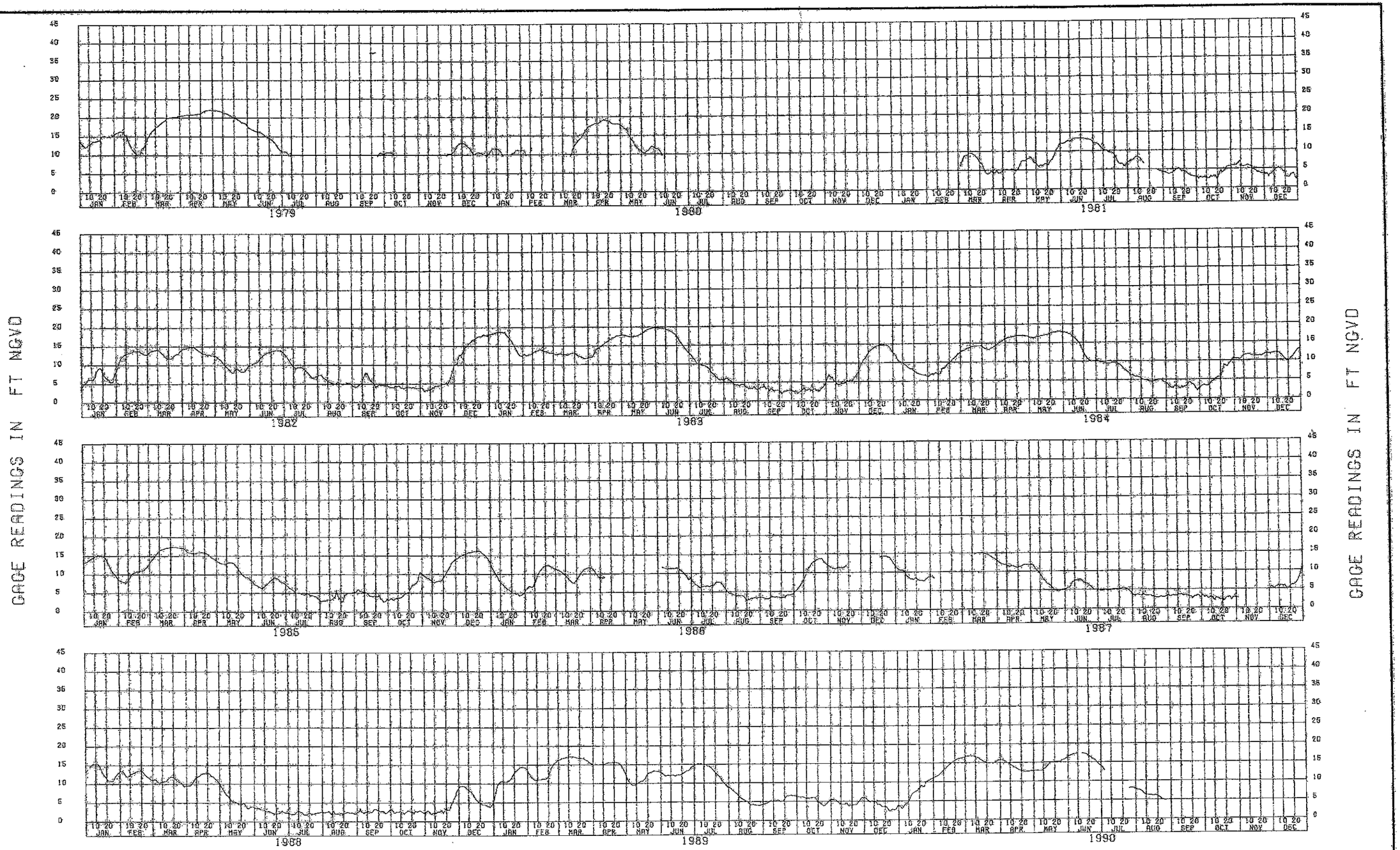
PATH NAME = CHICOT PASS
/ATCH/03455/STAGE//1DAY/OBSERVED/

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.

CHICOT PASS
STAGE HYDROGRAPHS

P.G.	D.M.	L.J.K.	APRIL 1991		H-8-30903
			DACW29-91-B-0038		7 of 8



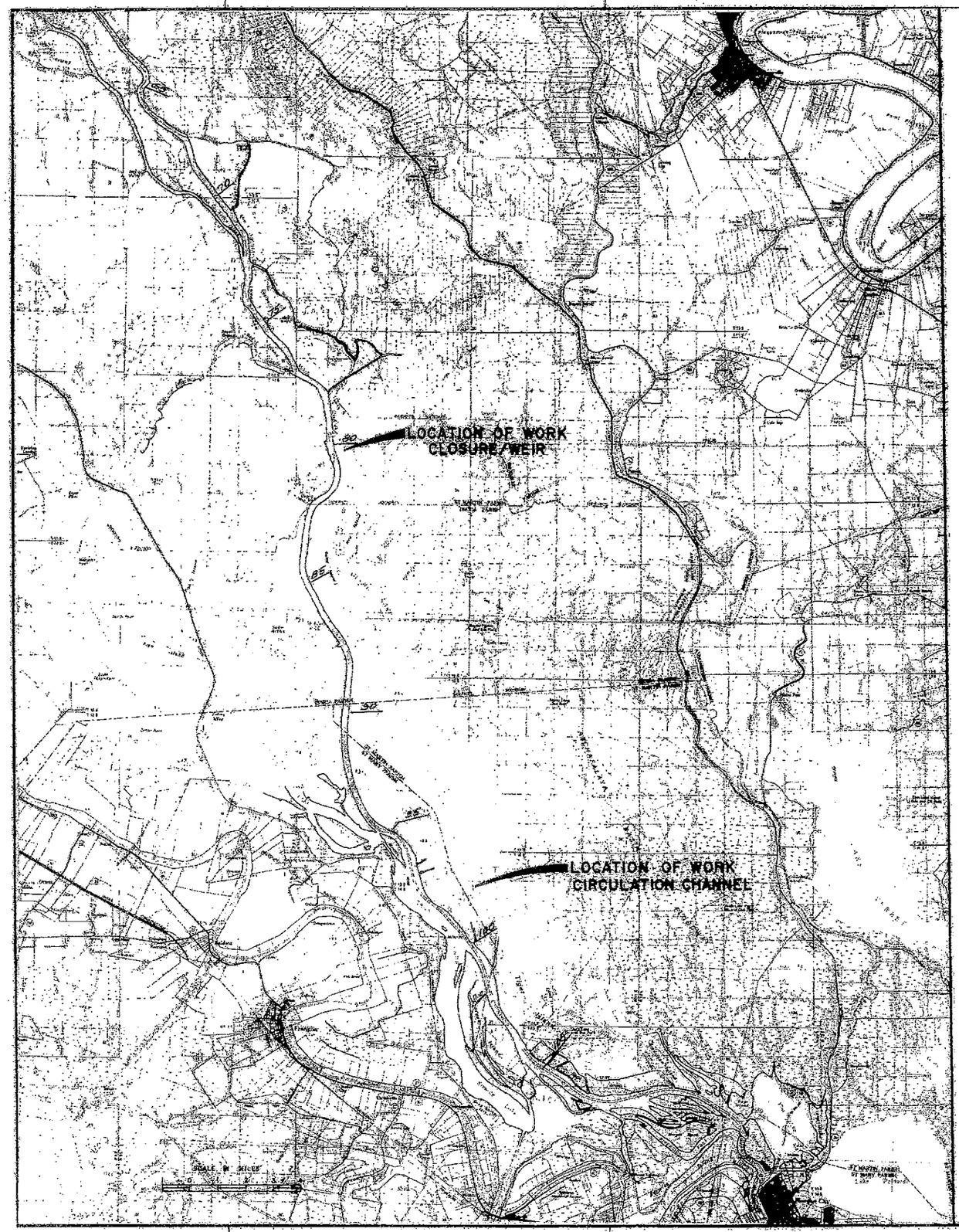
PATH NAME = BLIND TENSAS CUT
/ATCH/02315/STR05//1DAY/OBSERVED/

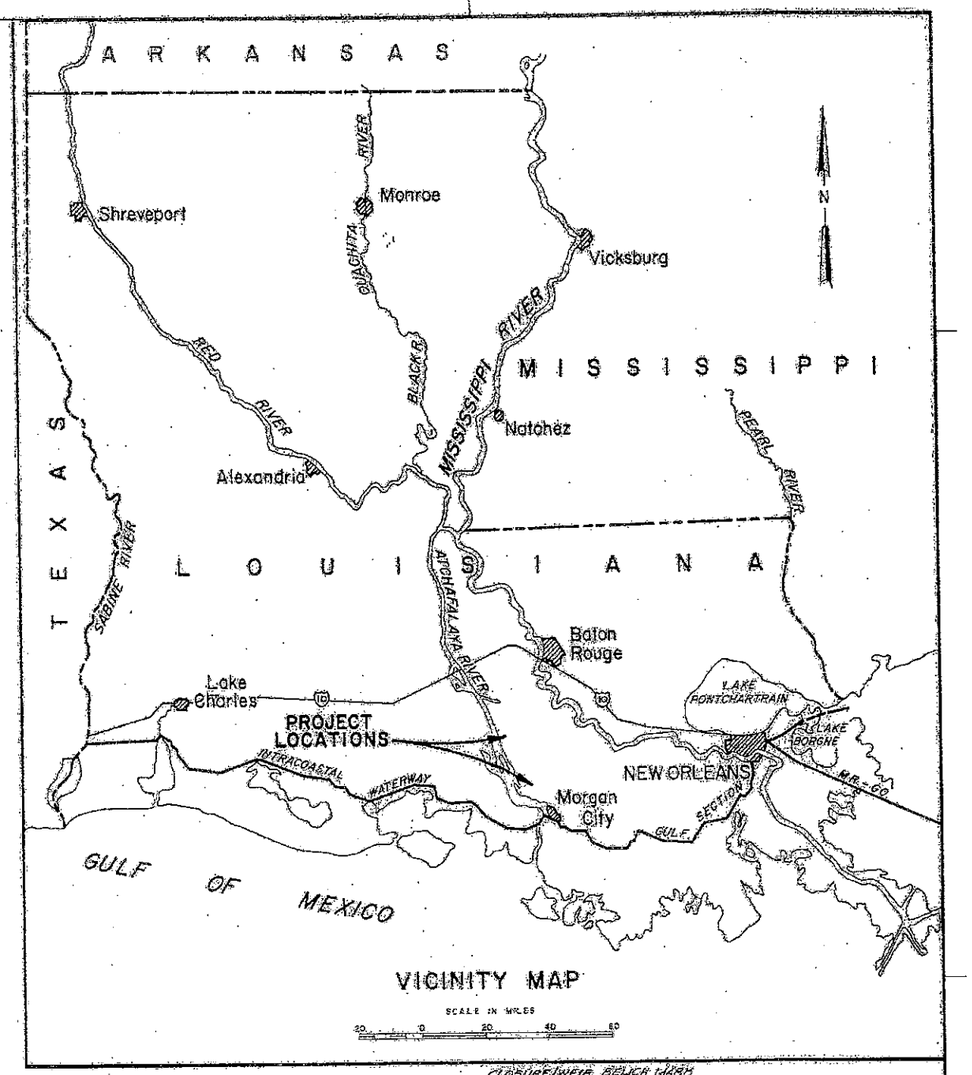
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.

BLIND TENSAS CUT
STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.C.	C.M.	L.J.M.	APRIL 1991		H-8-30903
SUBMITTED			SPEC. NO. DACW29-91-B-0038		8 8





VICINITY MAP

CLOSURE/WEIR BENCH MARK
ARMC V-30 U.S.E.
IT IS LOCATED ALONG THE ATCHAFALAYA RIVER, 1000 FEET SOUTHEAST OF ARMC P.I. 114 (1258+59.4) ON THE APPROXIMATE TANGENT BETWEEN ARMC P.I. 114 (1258+59.4) AND ARMC P.I. 115 (1277+04.2). IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 5/16 INCH STAINLESS STEEL ROD DRIVEN TO A DEPTH OF 108 FEET, PROTECTED BY A 6 INCH DIAMETER WHITE P.V.C. PIPE PROJECTING 1 FOOT ABOVE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-30 ARMC 1981. IT IS LOCATED 1 FOOT EAST OF A METAL WITNESS POST. ELEV. 14.062 N.G.V.D.

INDEX TO DRAWINGS

DWG.	DESCRIPTION
1	LOCATION MAP, VICINITY MAP AND INDEX
2	PLAN - INTERIOR CIRCULATION CHANNEL
3	PLAN - CLOSURE/WEIR
4	CROSS SECTIONS - INTERIOR CIRCULATION CHANNEL
5	CROSS SECTIONS - WEIR
6	CROSS SECTIONS AND DETAILS - CLOSURE/WEIR
7	CROSS SECTIONS AND DETAILS - CLOSURE/WEIR
8	PROFILE
9	HYDROGRAPHS
10	HYDROGRAPHS

INTERIOR CIRCULATION CHANNEL T.B.M. LIST:

1. T.B.M. - MILE 0 = G.I. SPIKE IN A 26" WILLOW NEAR P.I. AICE-1 = 0+00. ELEV. 11.64 M.S.L.
2. T.B.M. - MILE 1 = S.I. SPIKE IN A 8" WILLOW 2' ABOVE GROUND NEAR STA. 57+00. ELEV. 8.58 M.S.L.
3. T.B.M. - MILE 2 = G.I. SPIKE IN A 26" WILLOW NEAR AICE-20 (105+40.8) = AICE-1 = 0+00. ELEV. 10.82 N.G.V.D.

NOTE:
DRAWINGS IN THIS FOLIO HAVE BEEN REDUCED ONE HALF THE ORIGINAL SCALE

REVISION	DATE	DESCRIPTION	BY

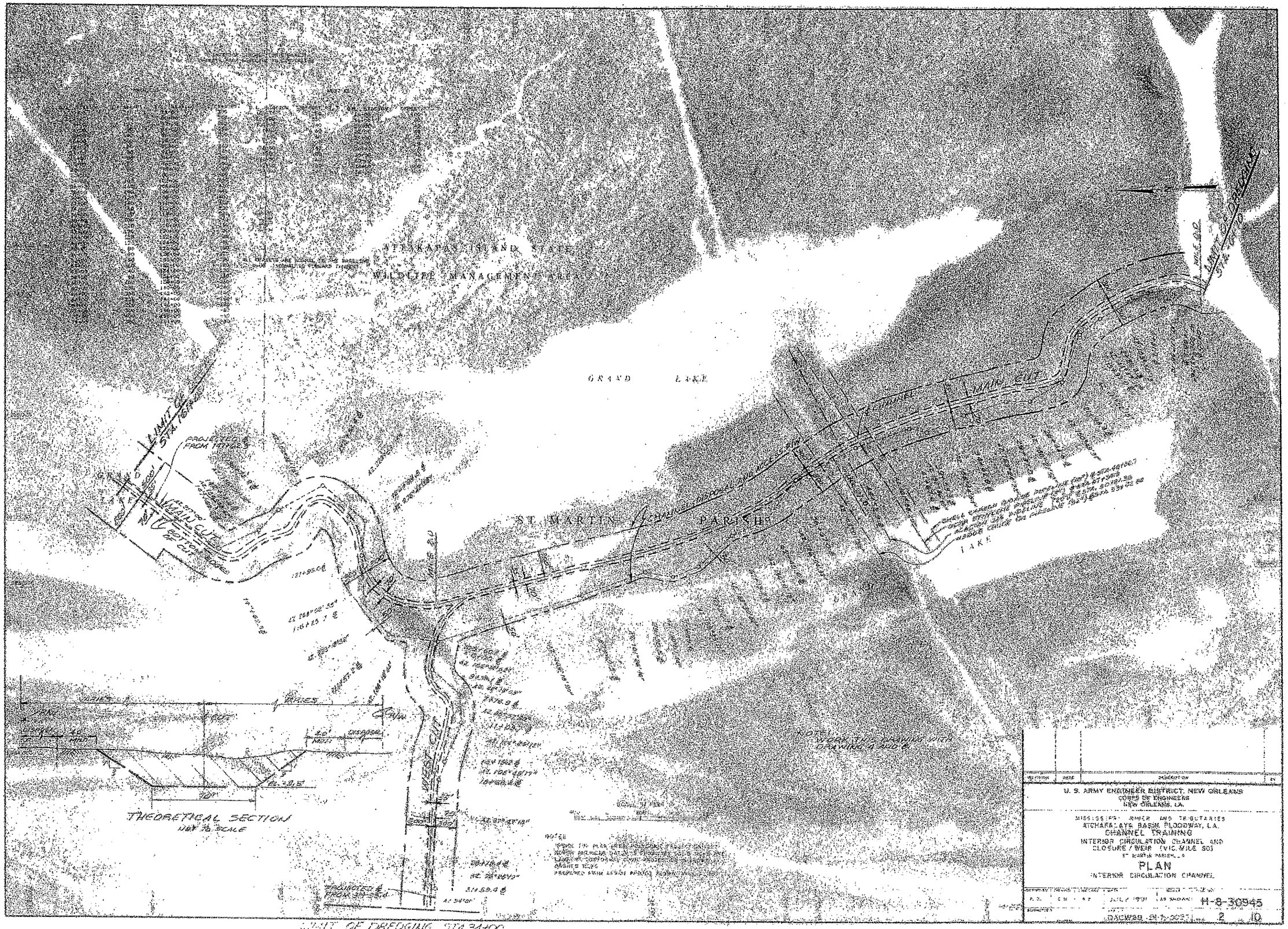
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

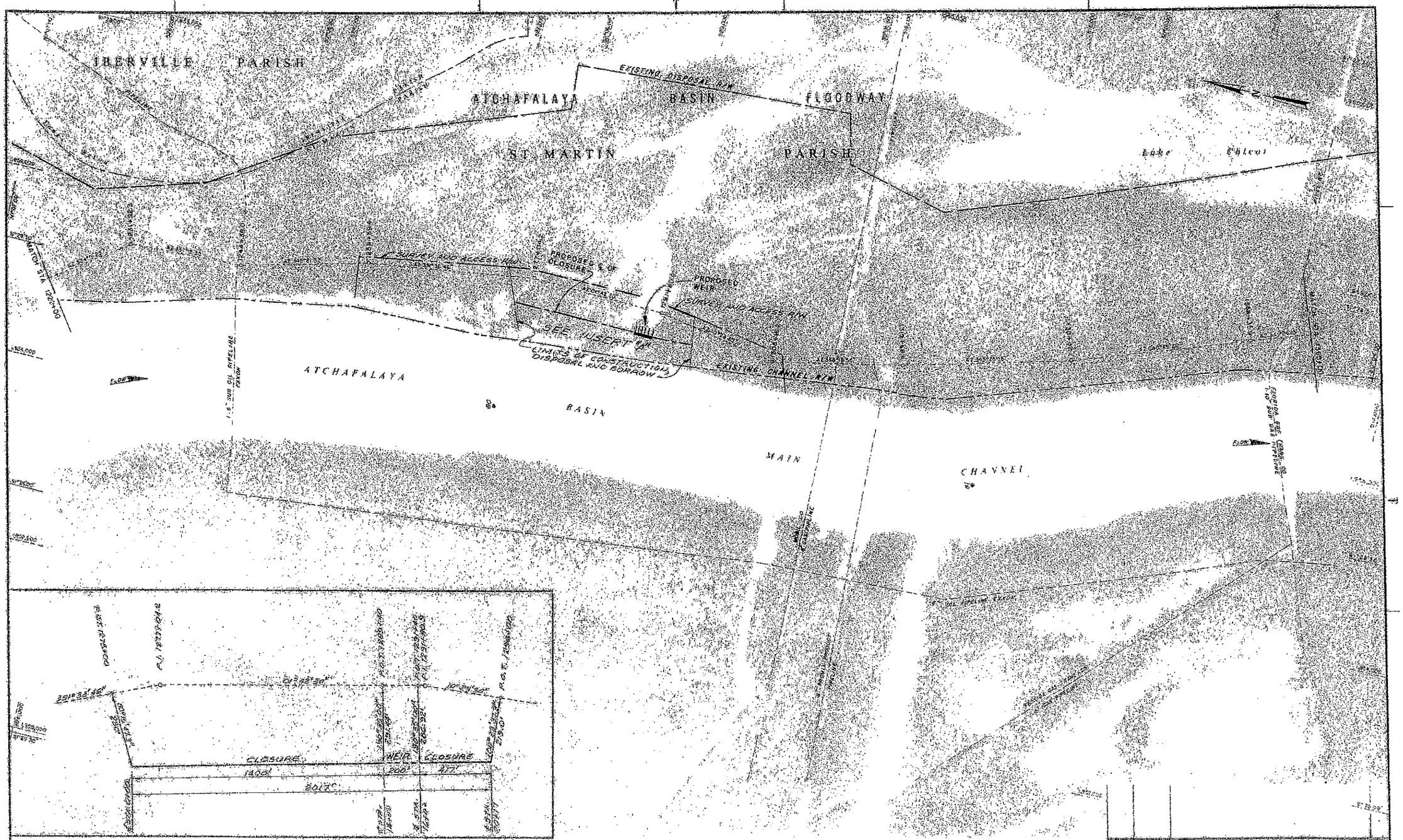
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND CLOSURE/WEIR (VIC. MILE 80)
ST. MARTIN PARISH, LA.

LOCATION MAP, VICINITY MAP AND INDEX

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
F. G.	C.M.	R.E.	JULY 1991	AS SHOWN	H-8-30945

SPEC. NO. DACW29-91-B-0037 DWG. 1 OF 10


ATTAKAPAS ISLAND STATE
WILDLIFE MANAGEMENT AREA
GRAND LAKE
ST. MARTIN PARISH
MAIN CUT
CHANNEL
LIMIT OF DREDGING
THEORETICAL SECTION
NOT TO SCALE
NOTE: WORK THIS DRAWING WITH DRAWING 4 AND 6
LIMIT OF DREDGING STA 34+00
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND
CLOSURE / WEIR (VIC. MILE 50)
ST. MARTIN PARISH, LA.
PLAN
INTERIOR CIRCULATION CHANNEL
JULY 1991
H-8-30945
DACW29-91-5-0037
2
10



NOTES

INSIDE THE PLAN AREA POLYCONIC PROJECTION 1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY DASHED TICKS

PREPARED FROM AERIAL PHOTOS FLOWN APRIL 6 1987

REVISION	DATE	DESCRIPTION	BY

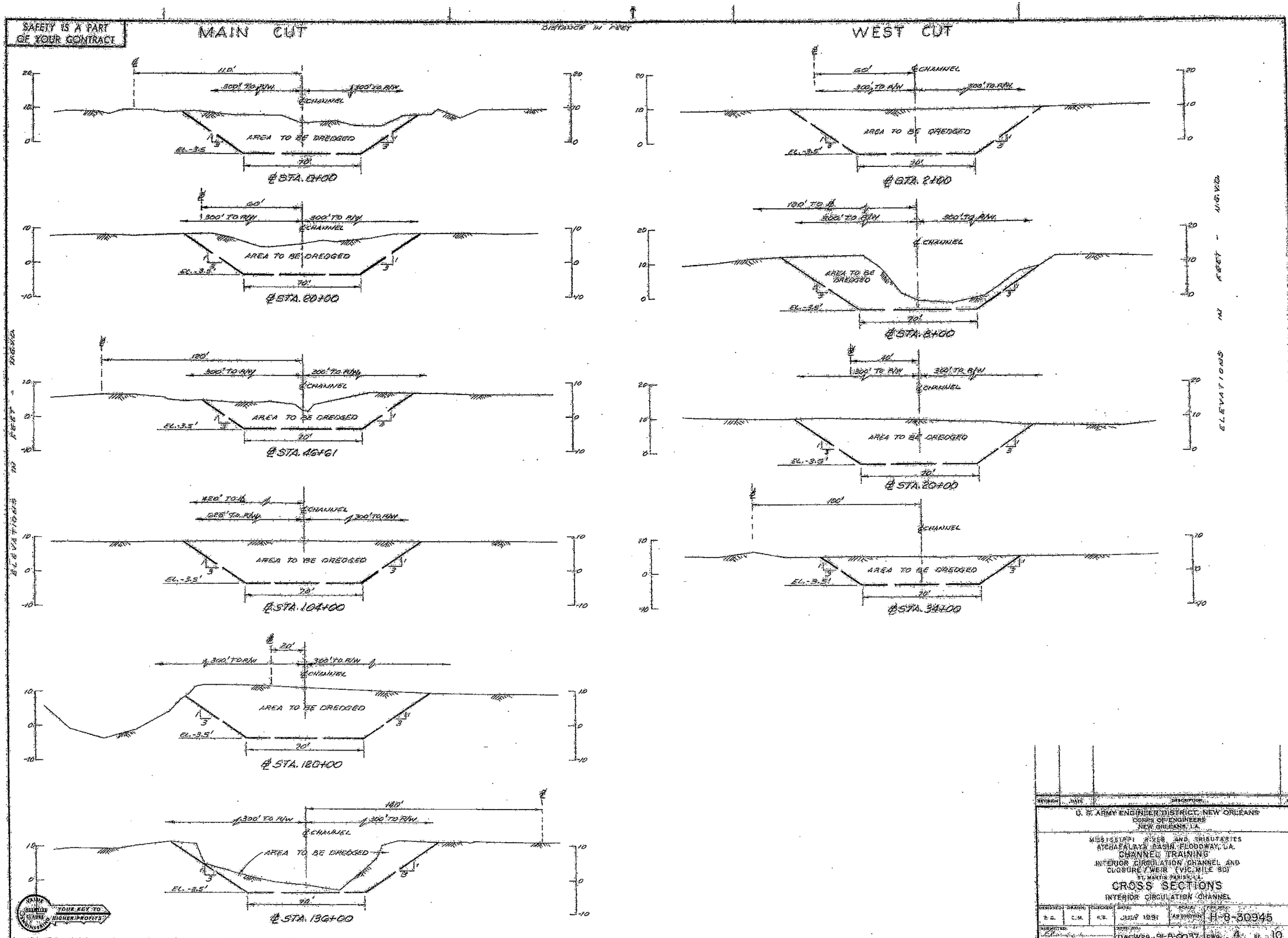
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND
CLOSURE / WEIR (VIC. MILE 30)
ST. MARTIN PARISH, LA.

PLAN
CLOSURE / WEIR

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C.M.	K.B.	JULY 1991	AS SHOWN	H-8-30945

SUBMITTED: SPEC. NO. DACW29-91-B-0032 DWG. 3 OF 10



REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

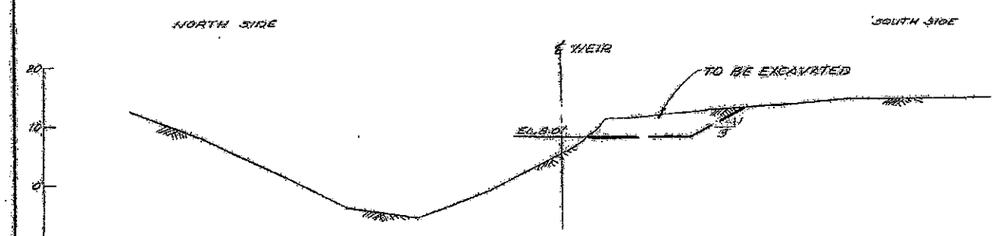
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN, FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND
CLOSURE / WEIR (VIC. MILE 80)
ST. MARTIN PARISH, LA.

CROSS SECTIONS
INTERIOR CIRCULATION CHANNEL

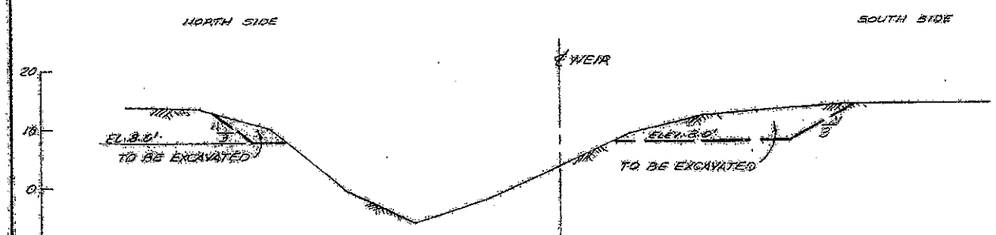
DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
B.G.	C.M.	R.B.	JULY 1991	AS SHOWN	H-8-30945

SUBMITTED: [signature] SPEC. NO. DACW29-91-B-0037 DWG. 4 OF 10

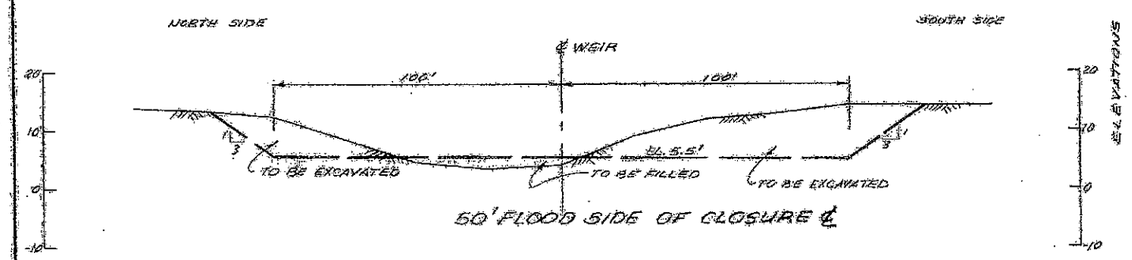
SAFETY IS A PART OF YOUR CONTRACT



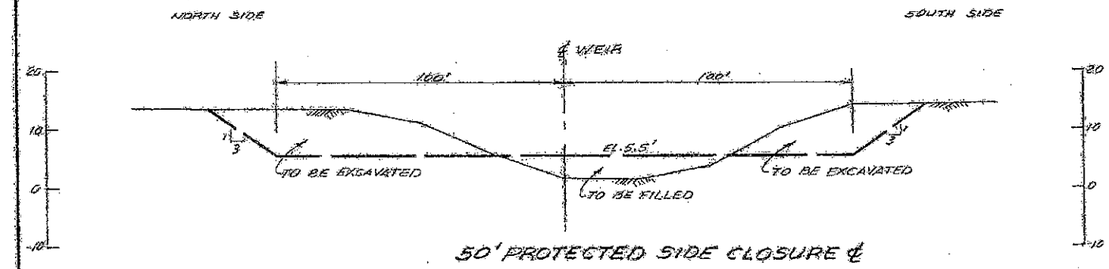
150' FLOOD SIDE OF CLOSURE ℄



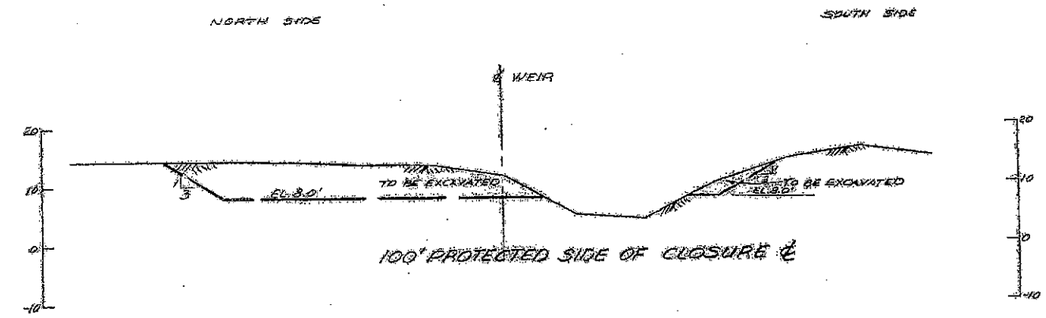
100' FLOOD SIDE OF CLOSURE ℄



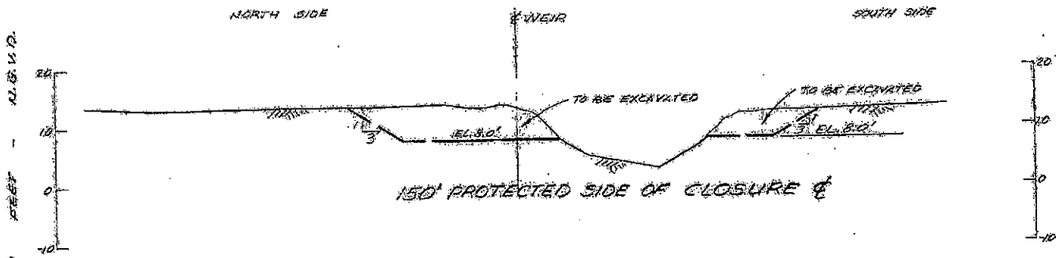
50' FLOOD SIDE OF CLOSURE ℄



50' PROTECTED SIDE CLOSURE ℄



100' PROTECTED SIDE OF CLOSURE ℄



150' PROTECTED SIDE OF CLOSURE ℄

ELEVATIONS IN FEET - N.G.V.D.

HORIZ. SCALE: 1" = 20'

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND
CLOSURE / WEIR (VIC. MILE 80)
ST. MARTIN PARISH, LA.

CROSS SECTIONS
WEIR

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
R. G.	C.M.	R.B.	JULY 1991	AS SHOWN	H-8-30945

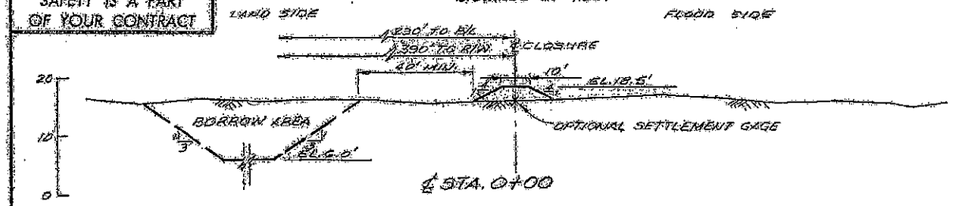
SUBMITTED: SPEC. NO.: DACW29-91-B-0037 DWG. 5 OF 10

VALUE INCENTIVE CLAUSE ENGINEERING "YOUR KEY TO HIGHER PROFITS"

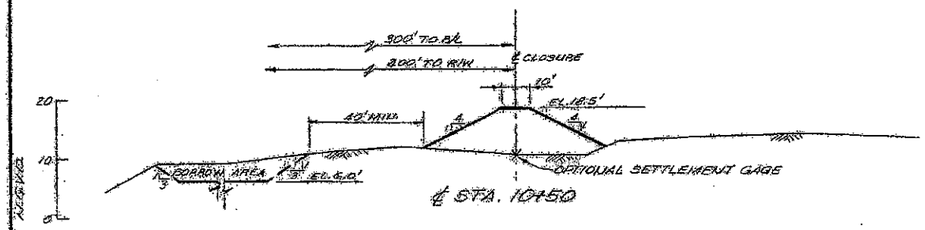
SAFETY IS A PART OF YOUR CONTRACT

DISTANCE IN FEET

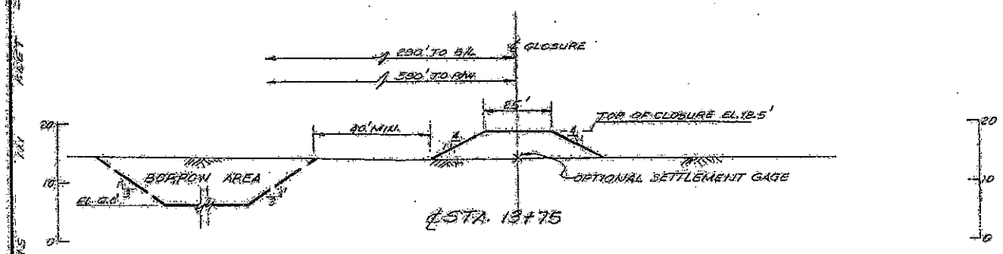
LAND SIDE — FLOOD SIDE



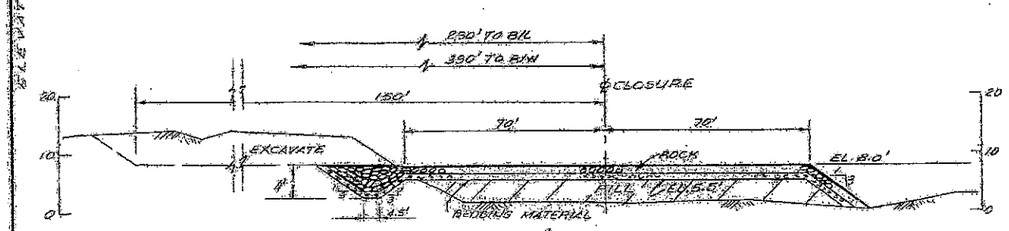
℄ STA. 0+00



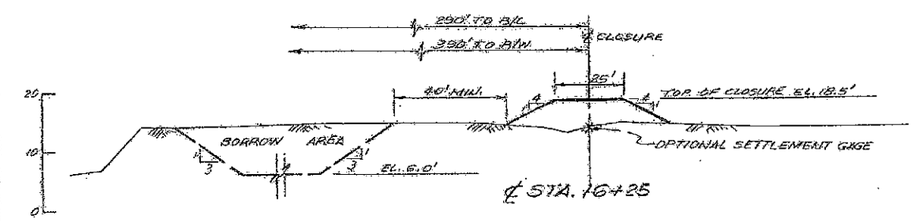
℄ STA. 10+50



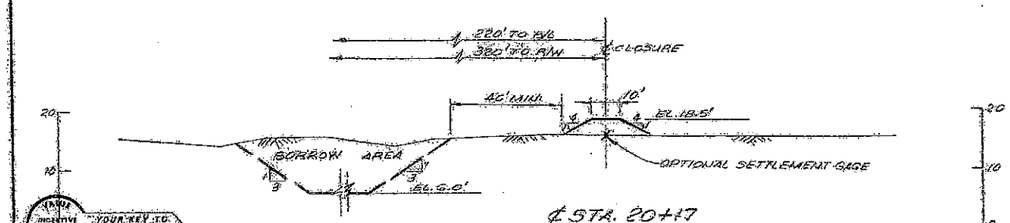
℄ STA. 13+75



℄ STA. 15+00

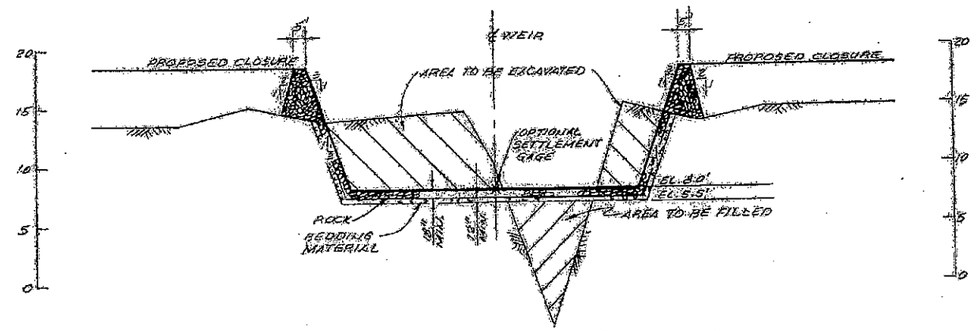


℄ STA. 16+25



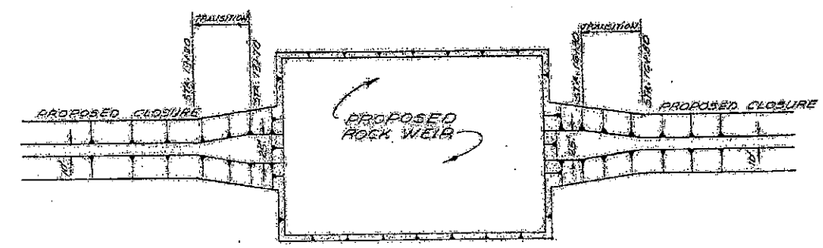
℄ STA. 20+17

ELEVATIONS IN FEET — N.G.V.D.



SECTION THRU ℄ OF CLOSURE

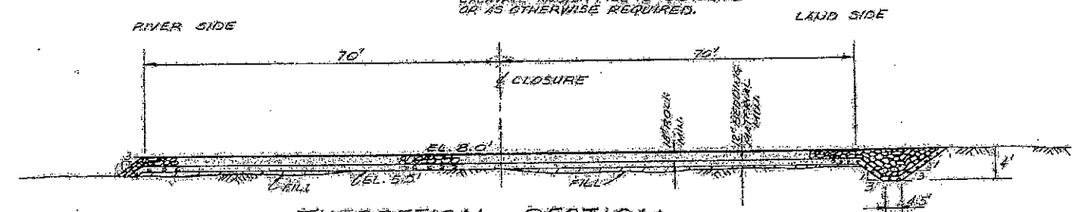
HORIZ. SCALE: 1" = 40'



PLAN

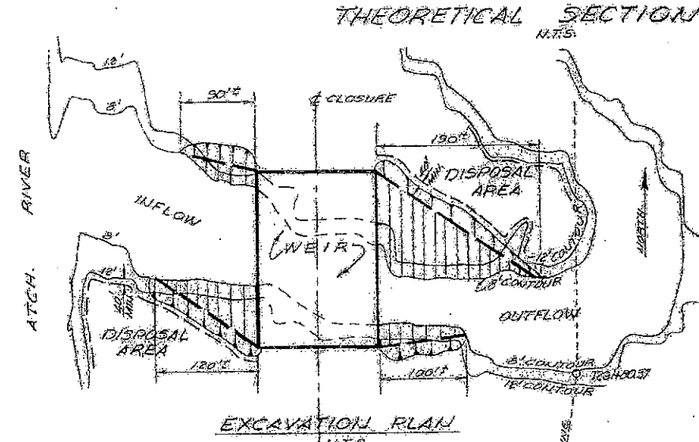
N.T.S.

NOTE:
EXCAVATE AND/OR FILL TO +5.5' N.G.V.D. OR AS OTHERWISE REQUIRED.



THEORETICAL SECTION

N.T.S.



EXCAVATION PLAN

N.T.S.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND CLOSURE / WEIR (VIC. MILE 89)
ST. MARTIN PARISH, LA.

CROSS SECTIONS AND DETAILS

CLOSURE / WEIR

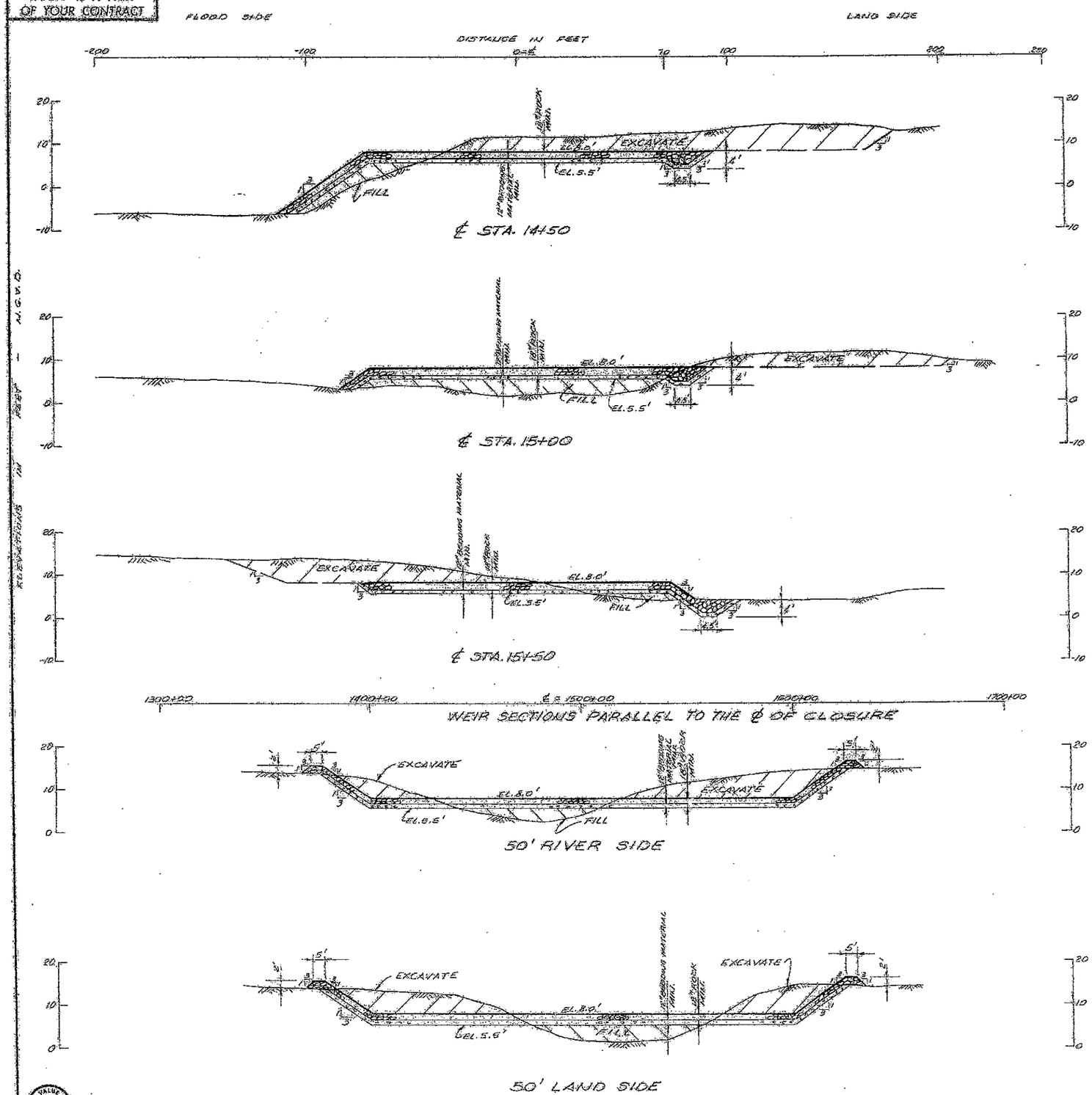
DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. B.	D. M.	R. B.	JUL. 9 1991	AS SHOWN	H-8-30945

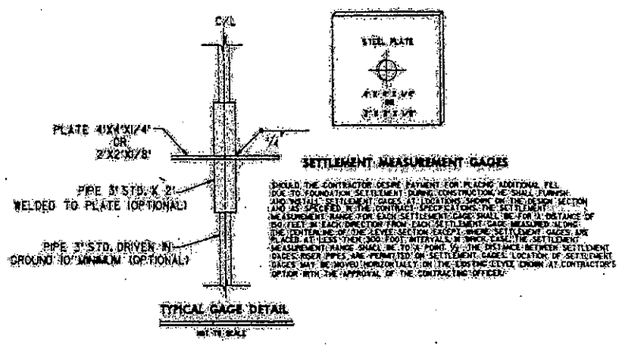
SUBMITTED: [signature]

SPEC. NO. DACW29-91-B-0037 DWG. 6 OF 10

HAWK INSTITUTE OF ALLIED ENGINEERING — YOUR KEY TO HIGHER PROFITS

SAFETY IS A PART OF YOUR CONTRACT





TYPICAL GAGE DETAIL

NOT TO SCALE

SETTLEMENT MEASUREMENT GAGES

SHOULD THE CONTRACTOR DESIRE PAYMENT FOR PLACING ADDITIONAL FILL DUE TO FOUNDATION SETTLEMENT DURING CONSTRUCTION, HE SHALL FURNISH AND INSTALL SETTLEMENT GAGES AT LOCATIONS SHOWN ON THE DESIGN SECTION AND AS SPECIFIED IN THE CONTRACT SPECIFICATIONS. THE SETTLEMENT MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 50 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE MEASURED ALONG THE CENTERLINE OF THE LEVEE SECTION EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THEN 300 FOOT INTERVALS IN WHICH CASE THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT ½ THE DISTANCE BETWEEN SETTLEMENT GAGES. RISER PIPES ARE PERMITTED ON SETTLEMENT GAGES. LOCATION OF SETTLEMENT GAGES MAY BE MOVED HORIZONTALLY ON THE EXISTING LEVEE CROWN AT CONTRACTOR'S OPTION WITH THE APPROVAL OF THE CONTRACTING OFFICER.

NOTES:

1. EXCAVATION TO +5.5' N.G.V.D. OR AS OTHERWISE REQUIRED FOR CONSTRUCTION OF WEIR TO THE GRADES AND DEPTHS AS SHOWN.
2. FILL TO +5.5' N.G.V.D. FOR CONSTRUCTION OF WEIR TO THE GRADES SHOWN.
3. ELEVATIONS BELOW +8' N.G.V.D. ARE AVAILABLE FOR DISPOSAL. DISPOSAL MAY NOT BE PLACED ABOVE +8' N.G.V.D. IN THE INFLOW OR OUTFLOW CHANNELS OF THE WEIR.

REVISION	DATE	DESCRIPTION	BY

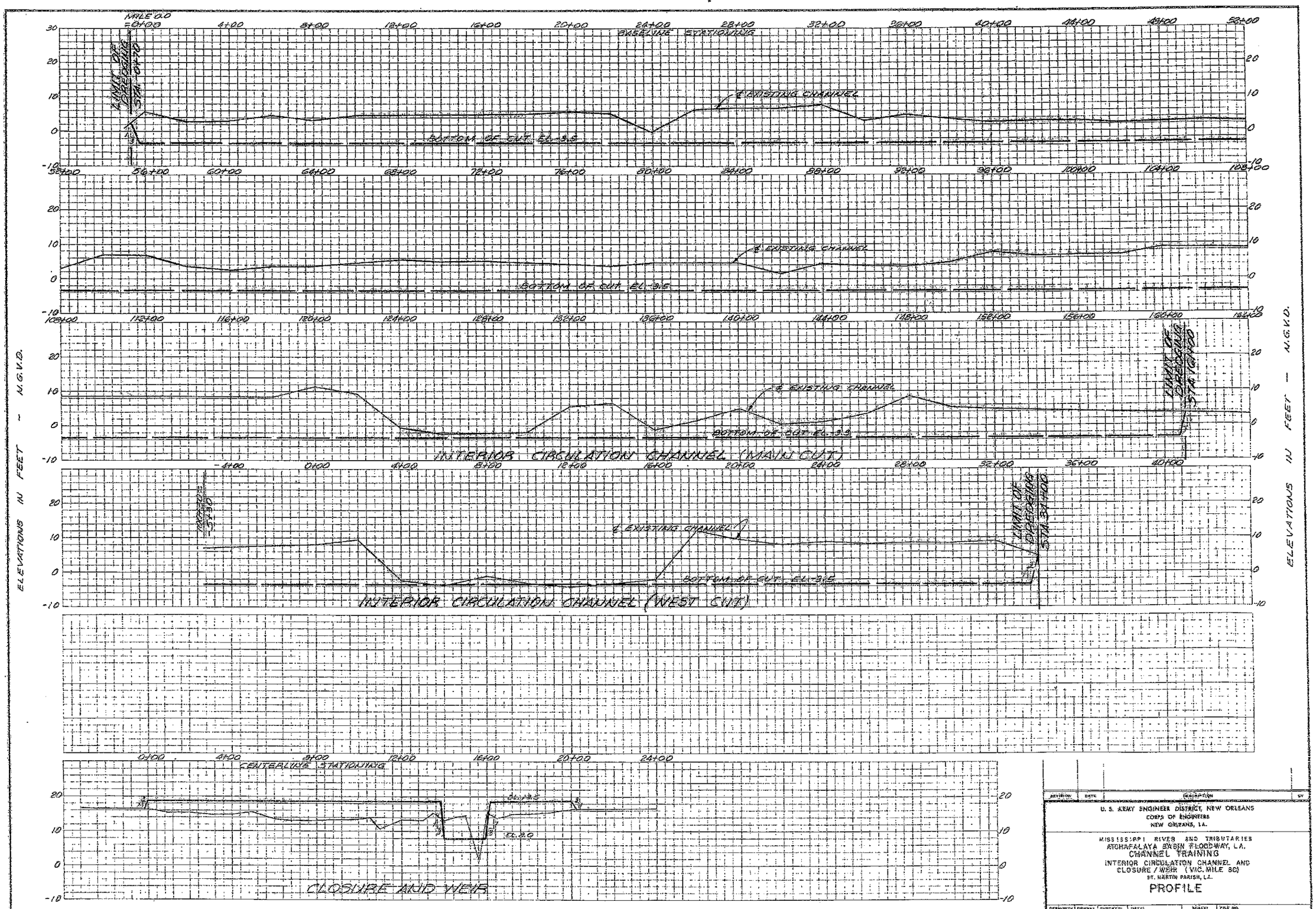
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN, FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND CLOSURE / WEIR (VIC. MILE 80)
ST. MARTIN PARISH, LA.

CROSS SECTIONS AND DETAILS
CLOSURE / WEIR

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. B.	C. H.	R. B.	JULY 1981	AS SHOWN	H-8-30945
SUBMITTED			SPEC. NO.		DWG. 7 OF 10
			DACW29-81-B-0037		

VALUE INCENTIVE CLAUSE CONTRACTOR — YOUR KEY TO HIGHER PROFITS



REVISION	DATE	DESCRIPTION	BY

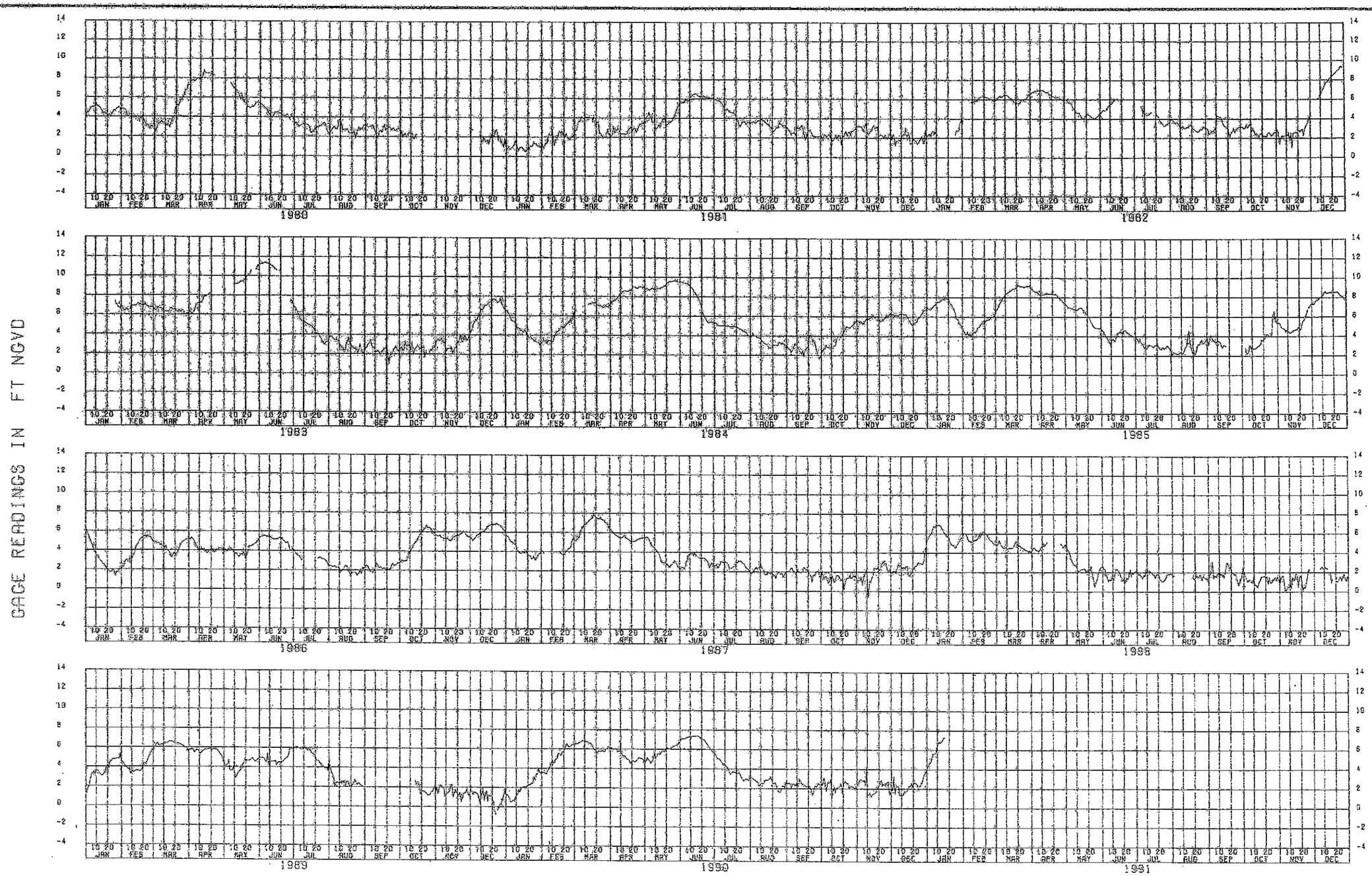
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND
CLOSURE / WEIR (VIC. MILE 80)
ST. MARTIN PARISH, LA.

PROFILE

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
P. G.	C. M.	R. B.	JULY 1991	AS SHOWN	H-8-30945

SUBMITTED: [signature] SPEC. NO. DACW29-91-B-0037 DWG. 8 OF 10



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SIX MILE LAKE NEAR VERDUNVILLE, LA.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
INTERIOR CIRCULATION CHANNEL AND
CLOSURE / WEIR (VIC. MILE 80)
ST. MARTIN PARISH, LA.

STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
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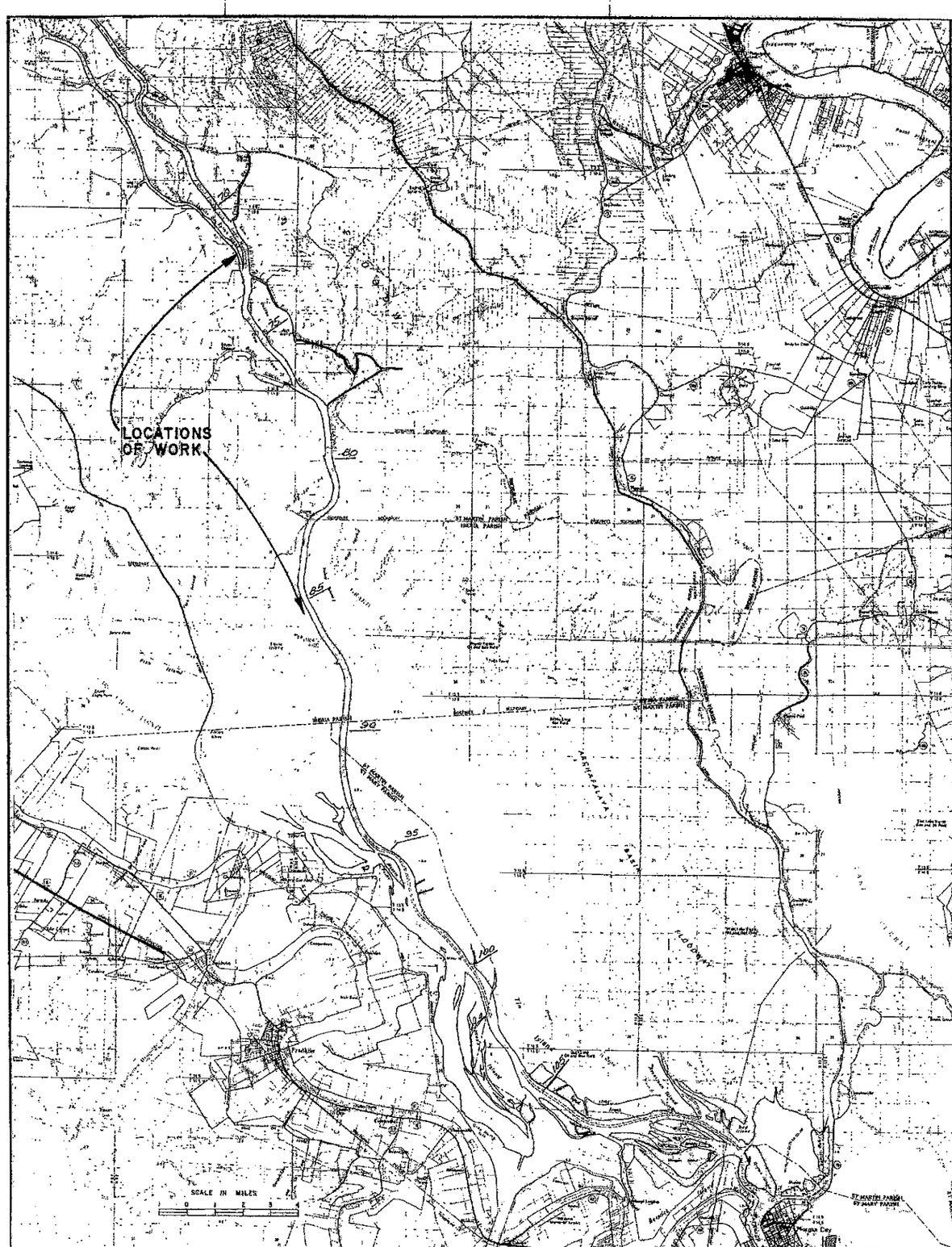
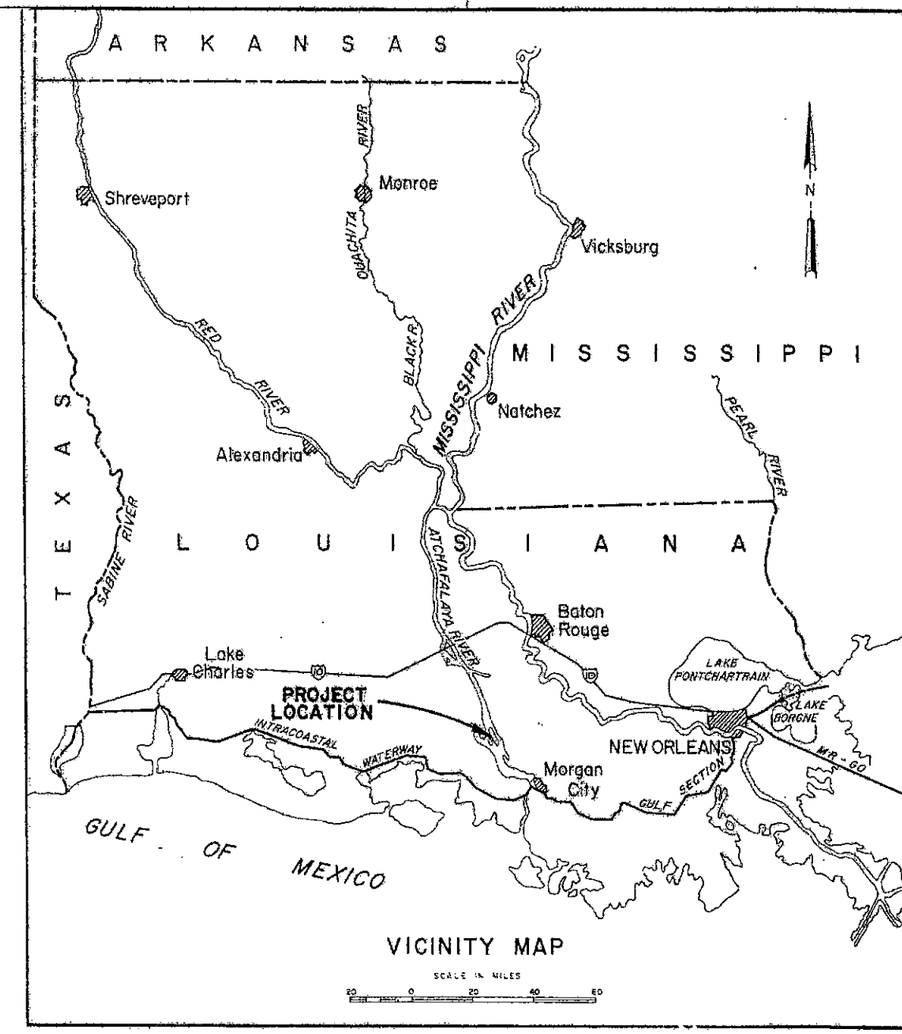
SUBMITTED:			CONTR. NO. DACW29-91-B-0037		9 of 10





INDEX TO DRAWINGS

DWG.	DESCRIPTION
1	LOCATION MAP, VICINITY MAP AND INDEX
2	PLAN STA. 1643+00 TO STA. 1780+00
3	PLAN STA. 1960+00 TO STA. 2058+00
4	PLAN STA. 2058+00 TO STA. 2193+00
5	PLAN STA. 2193+00 TO STA. 2337+00
6	PLAN STA. 2337+00 TO STA. 2485+00
7	PLAN STA. 2485+00 TO STA. 2625+00
8	CROSS SECTIONS
9	CROSS SECTIONS
10	CROSS SECTIONS
11	PROFILE
12	PROFILE
13	HYDROGRAPHS
14	HYDROGRAPHS
15	HYDROGRAPHS
16	

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

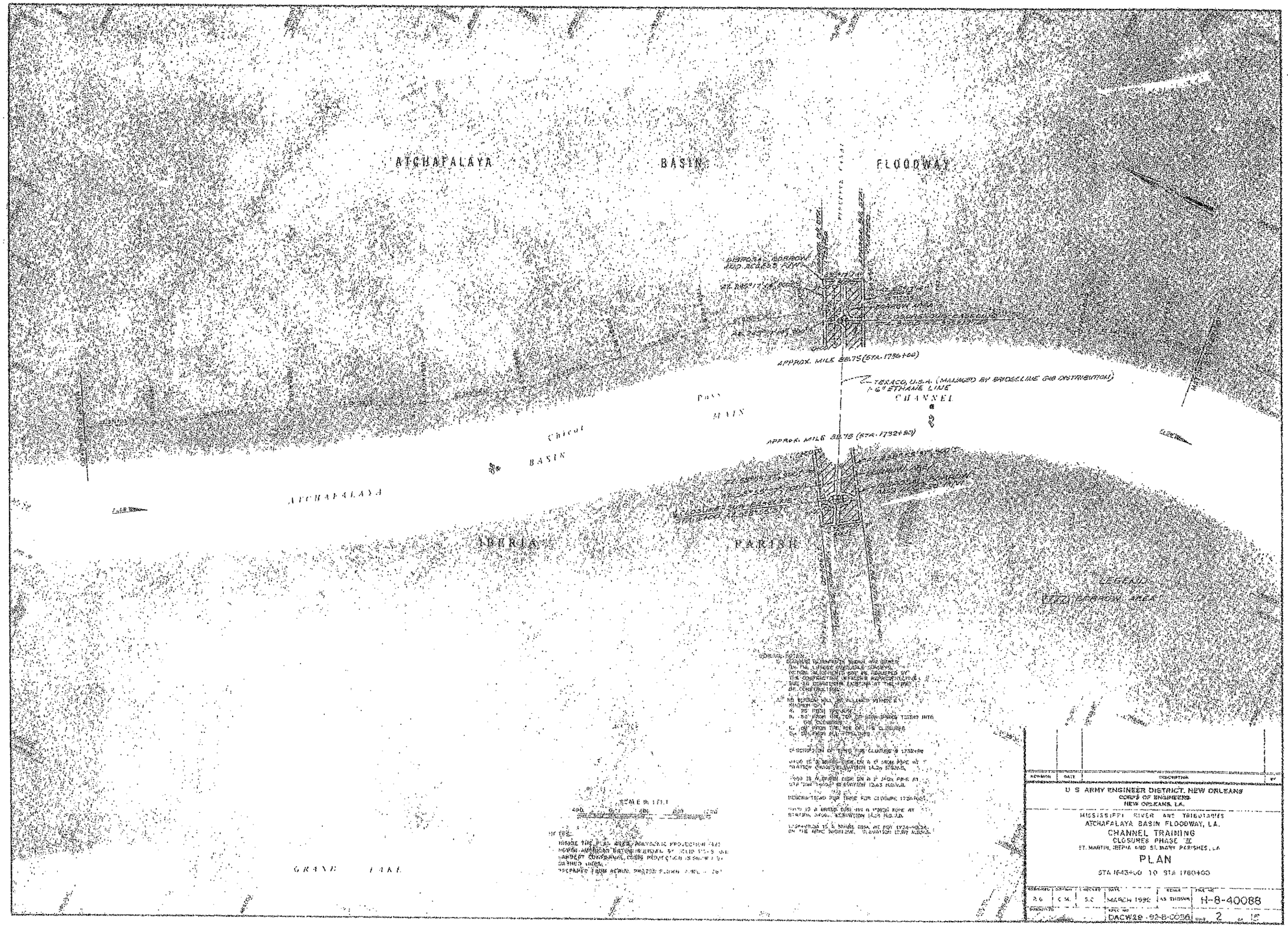
SUBMITTED: CHIEF, DESIGN BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
APPROVED: CHIEF, ENGINEER DIVISION

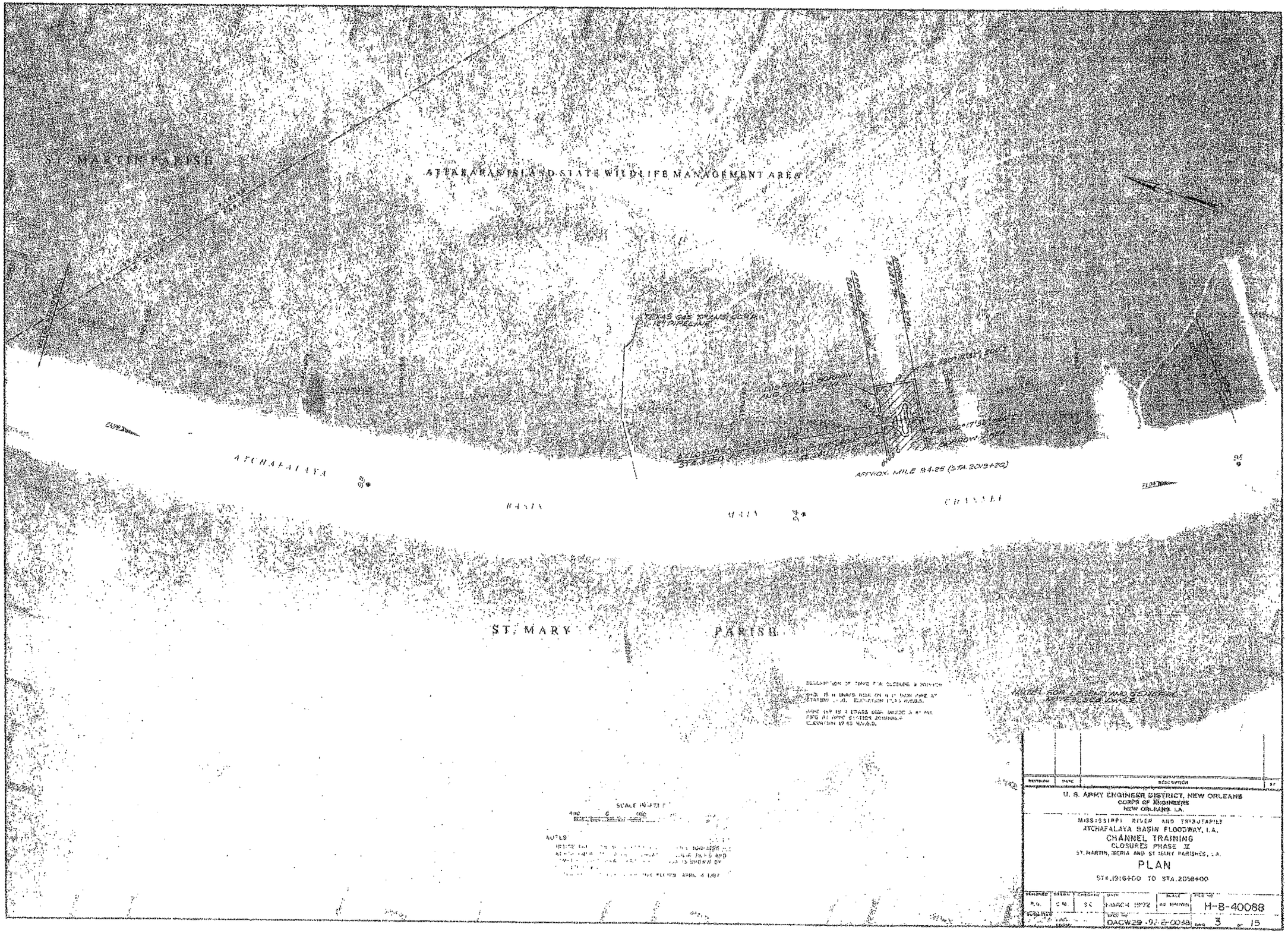
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.

LOCATION MAP, VICINITY MAP AND INDEX

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO
P.G.	C.M.	S.C.	MARCH 1998	AS SHOWN	H-8-40088

SUBMITTED: CHIEF, DESIGN BRANCH
SPEC NO: DACW29-98-B-0098
DWG. 1 OF 15


ATCHAFALAYA BASIN FLOODWAY
APPROX. MILE 88.75 (STA. 1736+00)
TEXACO, U.S.A. (MANAGED BY BRIDGELINE GAS DISTRIBUTION)
1-6" ETHANE LINE
CHANNEL
Pass
MAIN
Chicot
BASIN
APPROX. MILE 88.75 (STA. 1732+50)
ATCHAFALAYA
IBERIA
PARISH
LEGEND
BORROW AREA
GRAND LAKE
SCALE IN FEET
NOTES:
REVISION
DATE
DESCRIPTION
BY
U S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA
PLAN
STA 1643+00 TO STA 1760+00
R.G.
C.M.
S.C.
MARCH 1992
AS SHOWN
H-8-40088
DACW29-92-B-0036
2
15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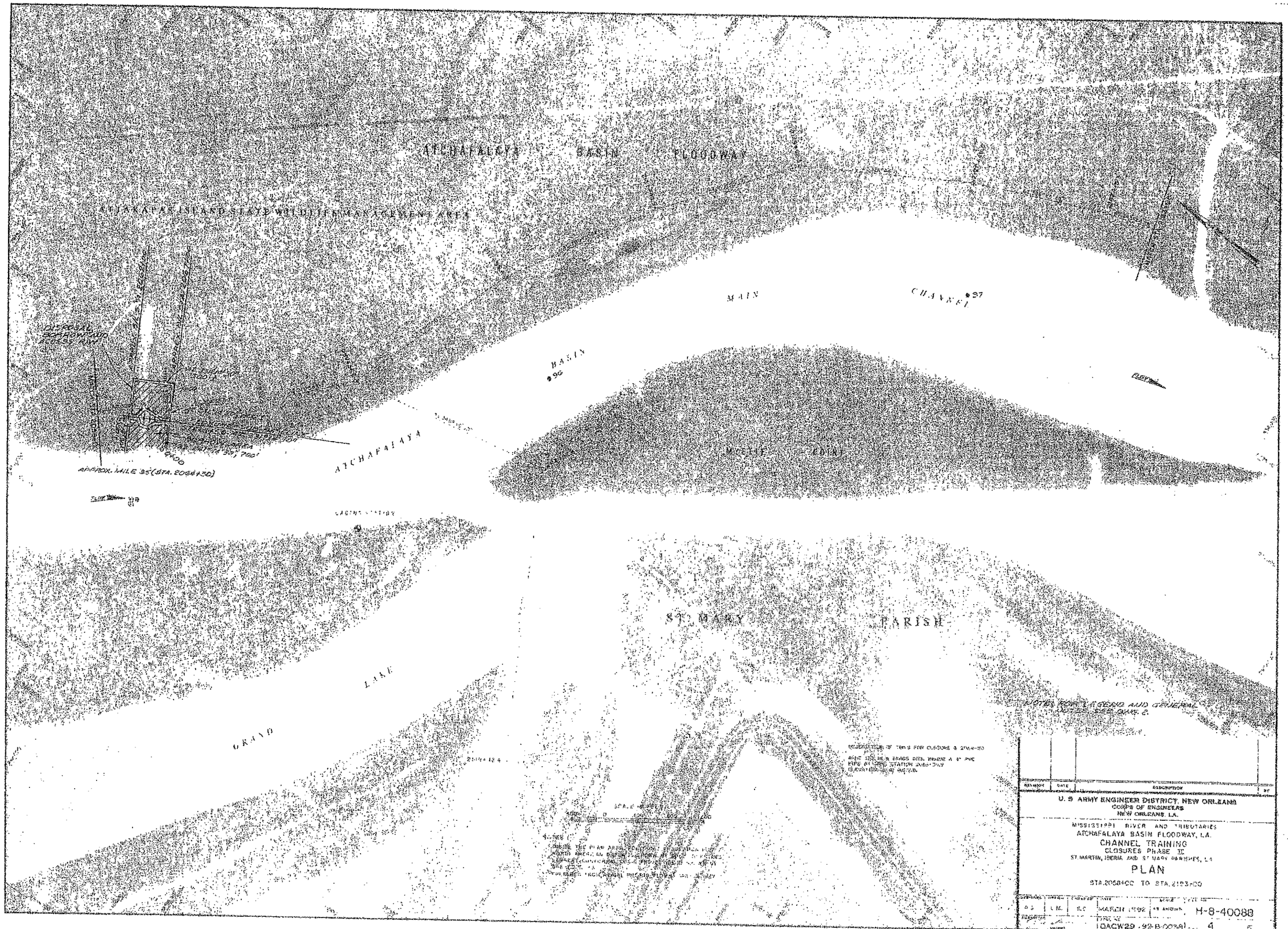
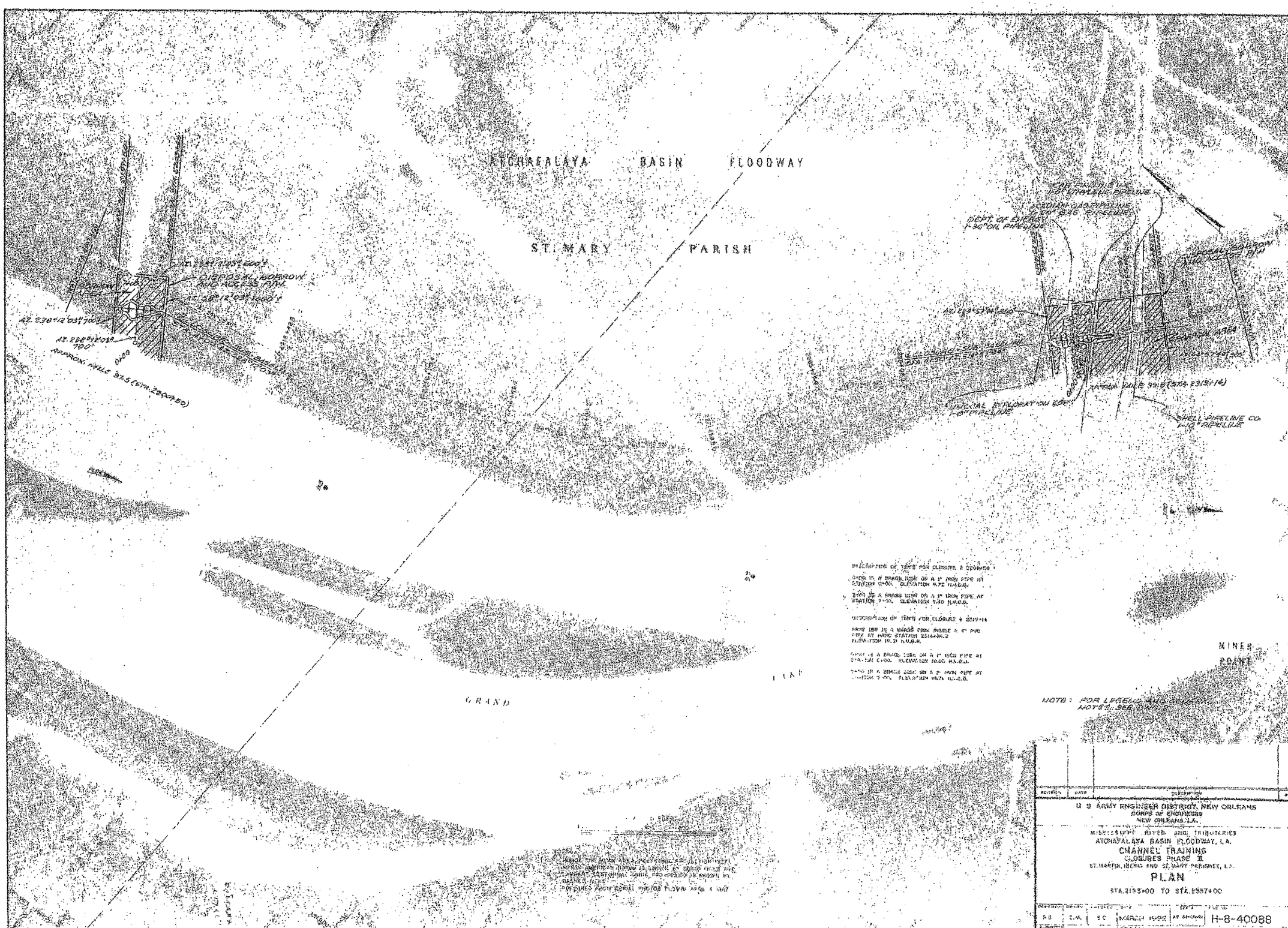
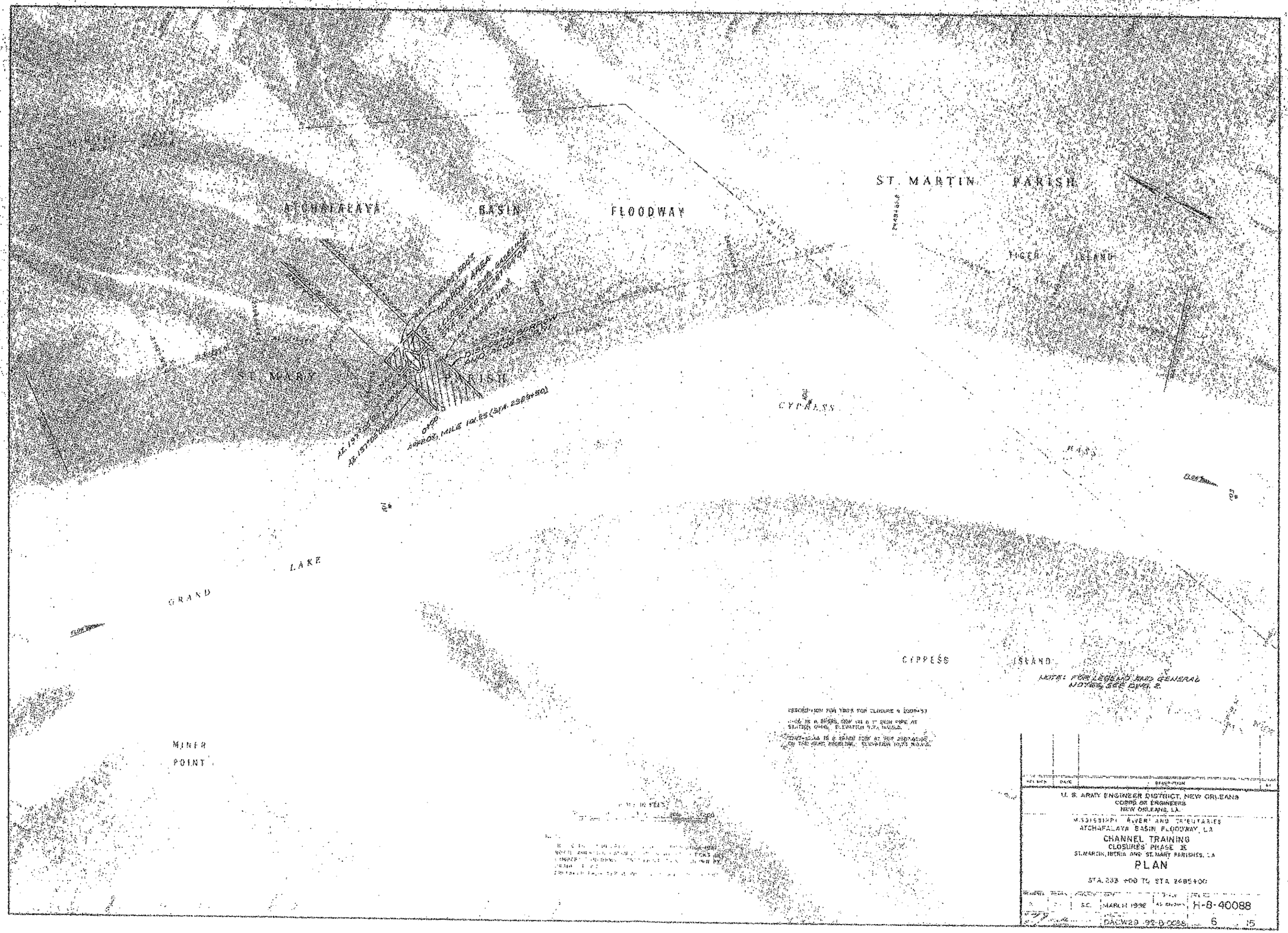
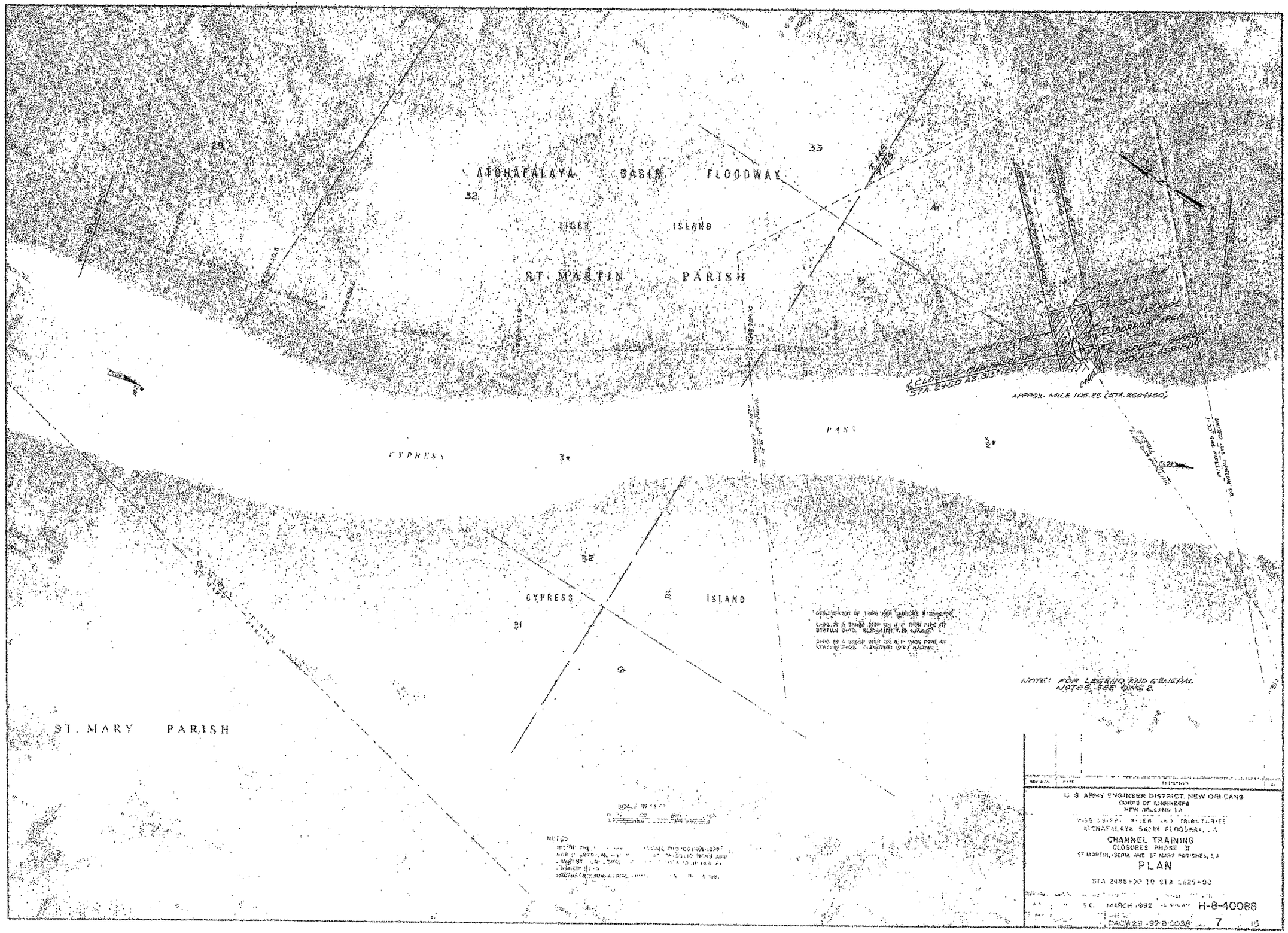
ATTAKAPAS ISLAND STATE WILDLIFE MANAGEMENT AREA
TEXAS GAS TRANS. CORP.
12" PIPELINE
APPROX. MILE 94.25 (STA. 2019+20)
ATCHAFALAYA
BASIN
MAIN
CHANNEL
ST. MARY
PARISH
SCALE IN FEET
NOTES
NOTE: FOR LEGEND AND GENERAL NOTES, SEE DWG. 2
REVISION
DATE
DESCRIPTION
BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.
PLAN
STA. 1916+00 TO STA. 2058+00
DESIGNED
DRAWN
CHECKED
DATE
MARCH 1972
SCALE
AS SHOWN
FILE NO.
H-8-40088
SPEC NO.
DACW29-92-B-0048
DWG
3
OF
15

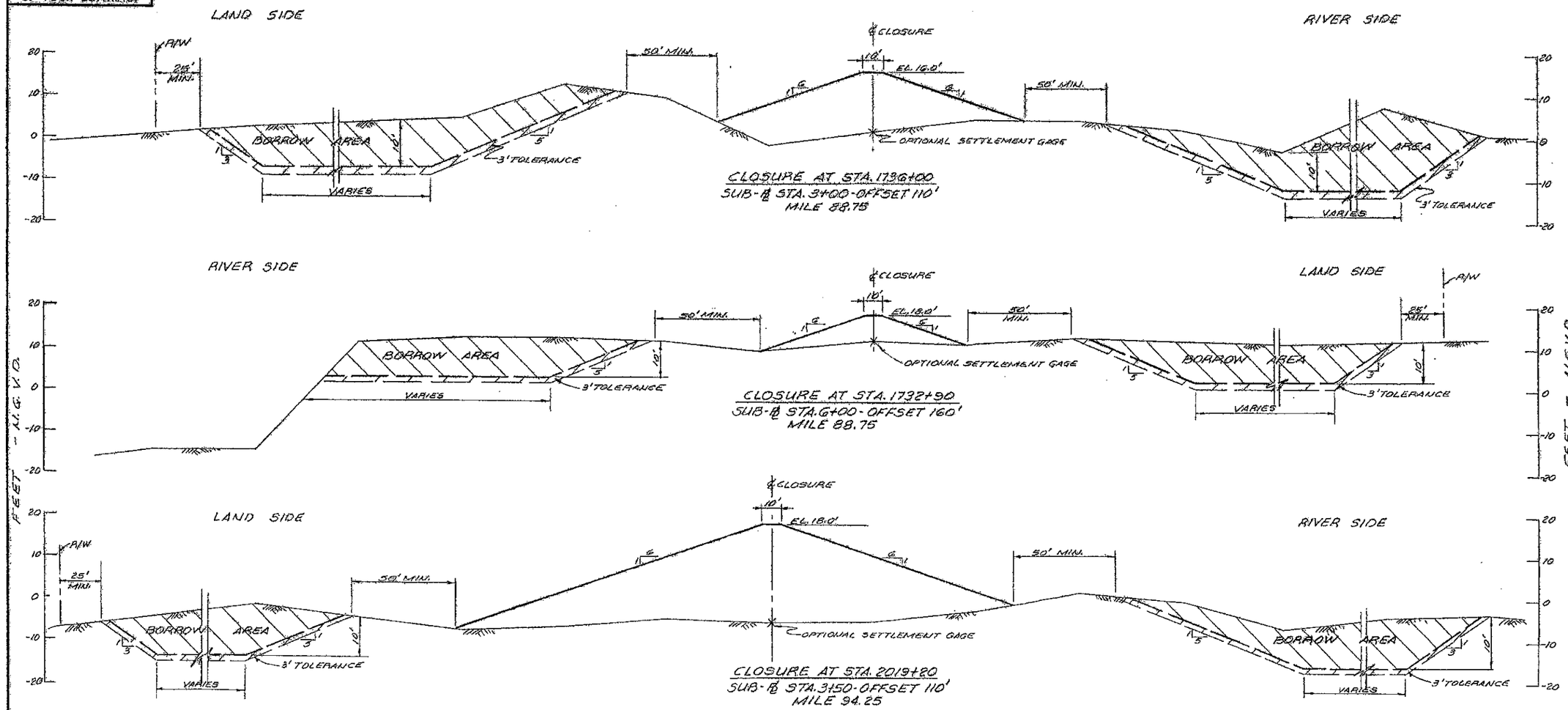

ATCHAFALAYA BASIN FLOODWAY
ATJAKAPAS ISLAND STATE WILDLIFE MANAGEMENT AREA
MAIN CHANNEL
BASIN
ATCHAFALAYA
MYETTE POINT
ST. MARY PARISH
GRAND LAKE
APPROX. MILE 35 (STA. 2064+50)
NOTE: FOR LEGEND AND GENERAL NOTES SEE DWG. 2.
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.
PLAN
STA. 2058+00 TO STA. 2193+00
MARCH 1992
H-8-40088
DACW29-92-B-0038
4

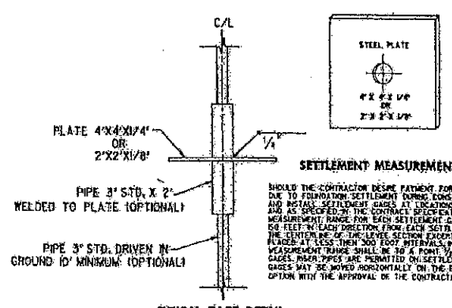

ATCHAFALAYA BASIN FLOODWAY
ST. MARY PARISH
GRAND
MINER POINT
NOTE: FOR LEGEND AND GENERAL NOTES, SEE DWG. 2
U S ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.
PLAN
STA. 2195+00 TO STA. 2557+00
MARCH 1992
H-8-40088
DACW29-92-B-0038
5
15


ATCHAFALAYA
BASIN
FLOODWAY
ST. MARTIN
PARISH
TIGER
ISLAND
ST. MARY
PARISH
CYPRESS
GRAND
LAKE
CYPRESS
ISLAND
MINER
POINT
NOTE: FOR LEGEND AND GENERAL NOTES, SEE DWG. 2.
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA
PLAN
STA. 233 +00 TO STA 268+00
S.C.
MARCH 1992
H-8-40088
DACW29-92-D-0036
6
15


ATCHAFALAYA BASIN FLOODWAY
TIGER ISLAND
ST. MARTIN PARISH
CYPRESS
PASS
CYPRESS ISLAND
ST. MARY PARISH
BORROW AREA
DISPOSAL, BORROW AND ACCESS R/W
APPROX. MILE 105.25 (STA. 2604+50)
NOTE: FOR LEGEND AND GENERAL NOTES, SEE DWG. 2
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA
ATCHAFALAYA BASIN FLOODWAY, LA
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA
PLAN
MARCH 1992
H-8-40088
7
15

SAFETY IS A PART OF YOUR CONTRACT





TYPICAL GAGE DETAIL

NOT TO SCALE

SETTLEMENT MEASUREMENT GAGES

SHOULD THE CONTRACTOR DESIRE PAYMENT FOR PLACING ADDITIONAL FILL DUE TO FOUNDATION SETTLEMENT DURING CONSTRUCTION, HE SHALL FURNISH AND INSTALL SETTLEMENT GAGES AT LOCATIONS SHOWN ON THE DESIGN SECTION AND AS SPECIFIED IN THE CONTRACT SPECIFICATIONS. THE "OPTIMUM" MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 50 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE MEASURED ALONG THE CENTERLINE OF THE LEVEE SECTION EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THAN 300 FOOT INTERVALS, IN WHICH CASE THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT ½ THE DISTANCE BETWEEN SETTLEMENT GAGES. MARK POPPES ARE PERMITTED ON SETTLEMENT GAGES. LOCATION OF SETTLEMENT GAGES MAY BE MOVED HORIZONTALLY ON THE EXISTING LEVEE CROWN AT CONTRACTOR'S OPTION WITH THE APPROVAL OF THE CONTRACTING OFFICER.

NOTE:
THE THEORETICAL SECTIONS SHOWN ARE A PICTORIAL REPRESENTATION OF THE CLOSURE AND WILL BE USED FOR ACCEPTANCE AND PAY PURPOSES. THE CONTRACTOR SHOULD TAKE INTO ACCOUNT THE LIKELY HOOD THAT MUCH FLATTER SIDE SLOPES WILL RESULT DURING CONSTRUCTION.

REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

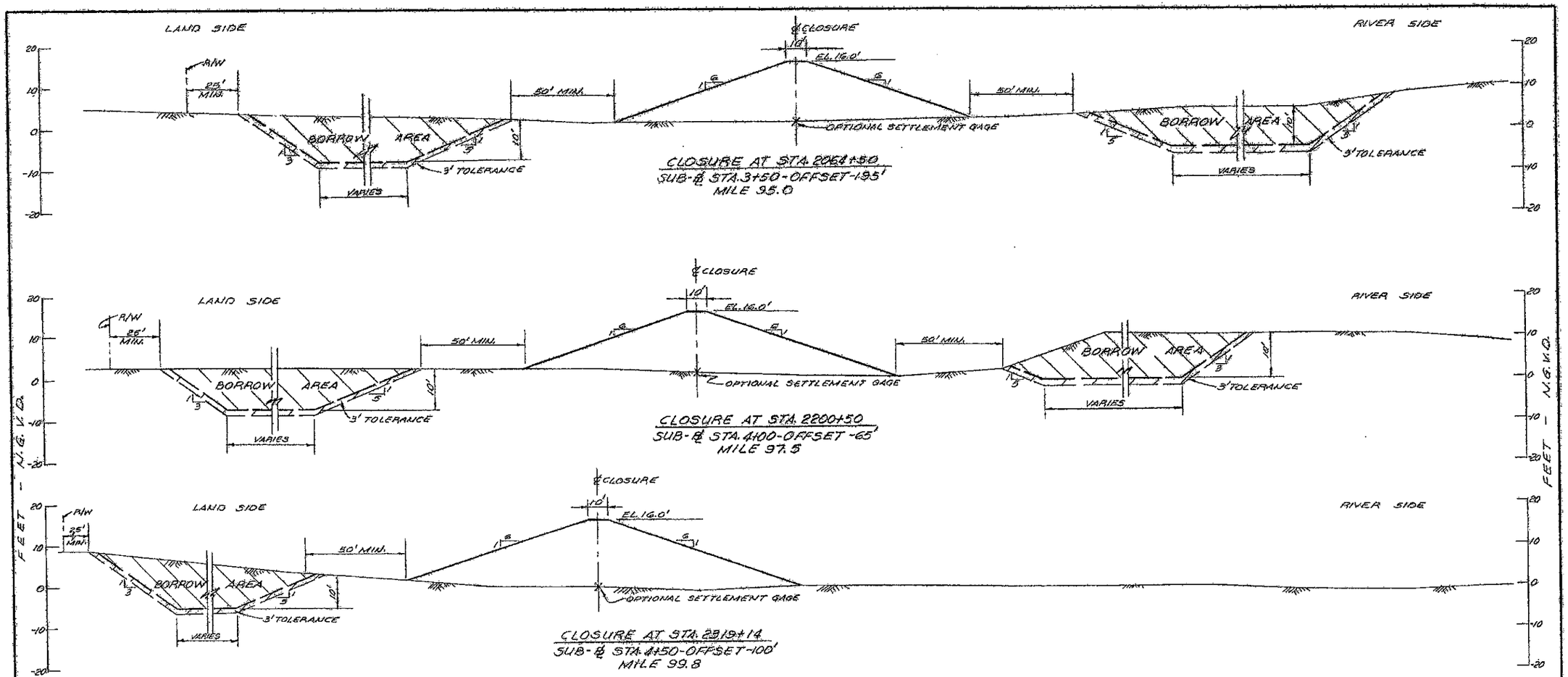
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.

CROSS SECTIONS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C. M.	S.C.	MARCH 1992	AS SHOWN	H-8-40088

SUBMITTED: SPEC. NO.: DACW29-92-B-0098 DWG. 8 OF 15

"YOUR KEY TO HIGHER PROFILES"



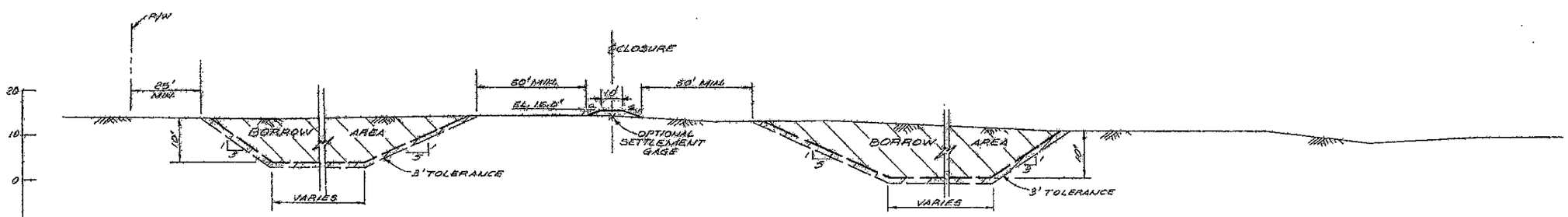
REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.

CROSS SECTIONS

DESIGNED: P.G. DRAWN: C.M. CHECKED: S.C. SUBMITTED:	DATE: MARCH 1992	PLOT SCALE:	FILE NO. H-8-40088
	DESIGN FIRM:		
	SPEC. NO. DACW29-92-B-0038	DWG. 9 OF 15	



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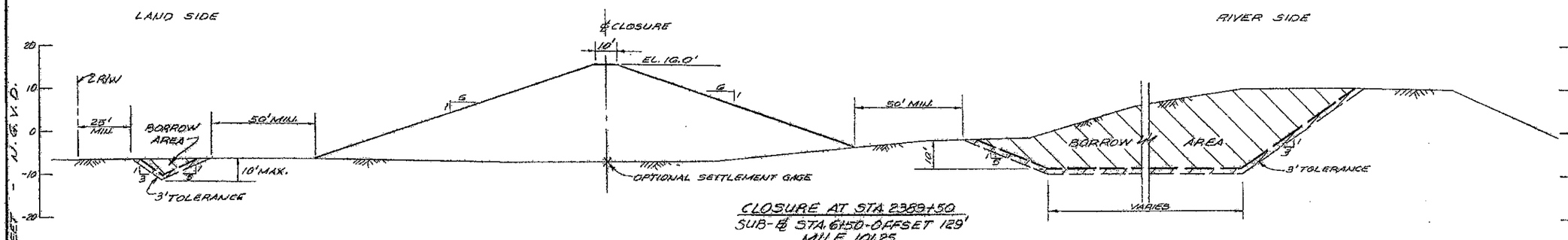
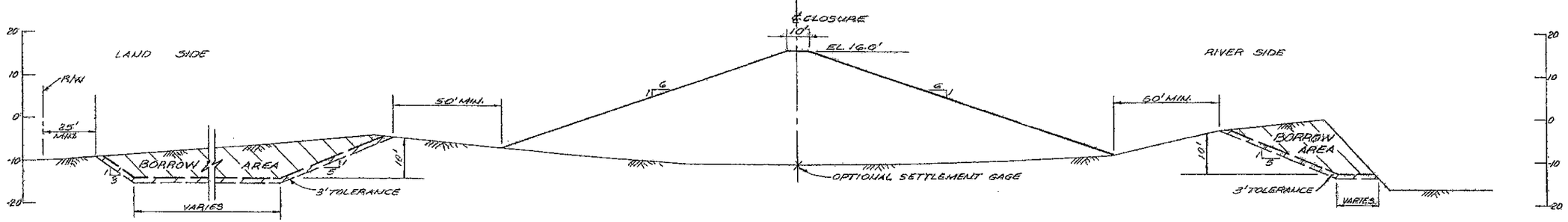
MILE 99.8



CLOSURE AT STA. 2389+50
SUB-℄ STA. 6+50-OFFSET 129'
MILE 101.25



CLOSURE AT STA. 2604+50
SUB-℄ STA. 2+50-OFFSET-130'
MILE 105.25

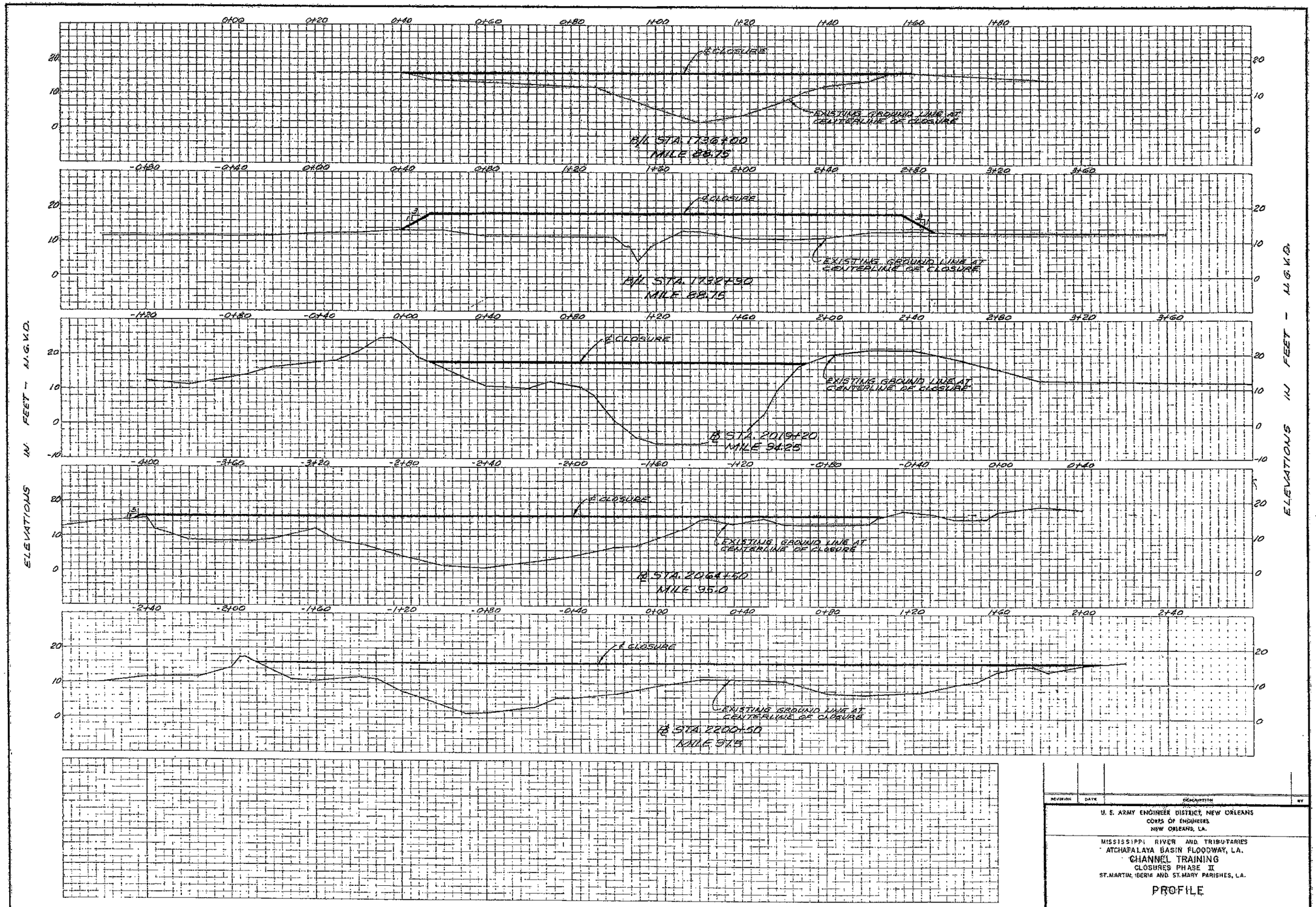
REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.

CROSS SECTIONS

DESIGNED: P.G.	DATE: MARCH 1992	PLOT SCALE:	FILE NO. H-8-40088
DRAWN: C.M.			
CHECKED: S.G.	DESIGN FILE:		
SUBMITTED:	SPEC. NO. DACW29-92-B-0038		DWG. 10 OF 15



REVISION	DATE	DESCRIPTION	BY

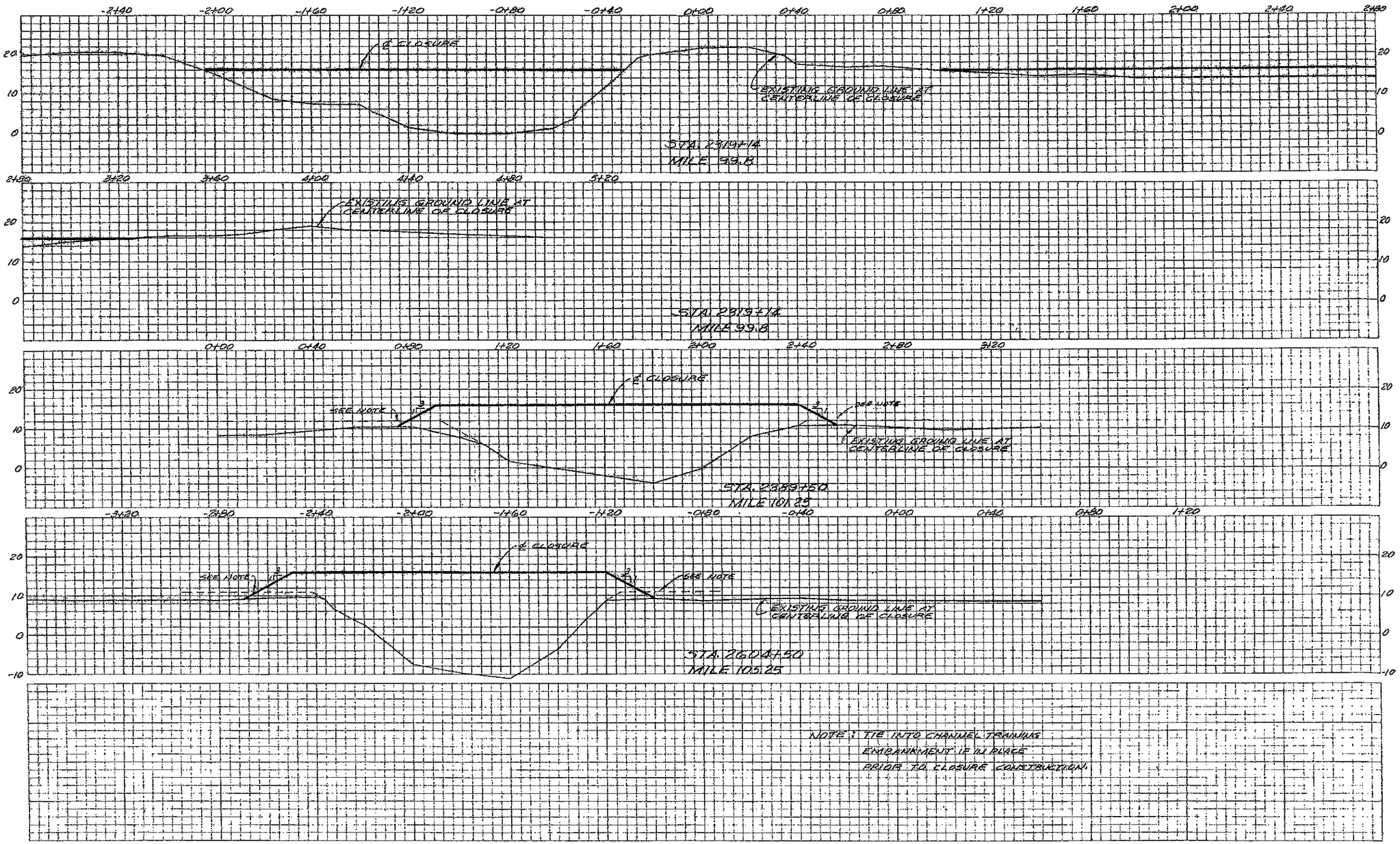
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.

PROFILE

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C.M.	S.C.	MARCH 1992	AS SHOWN	H-8-40088

SUBMITTED: [signature] REQ. NO. DACW29-92-B-0038 DWG. 11 OF 15



NOTE: TIE INTO CHANNEL TRAINING EMBANKMENT IF IN PLACE PRIOR TO CLOSURE CONSTRUCTION.

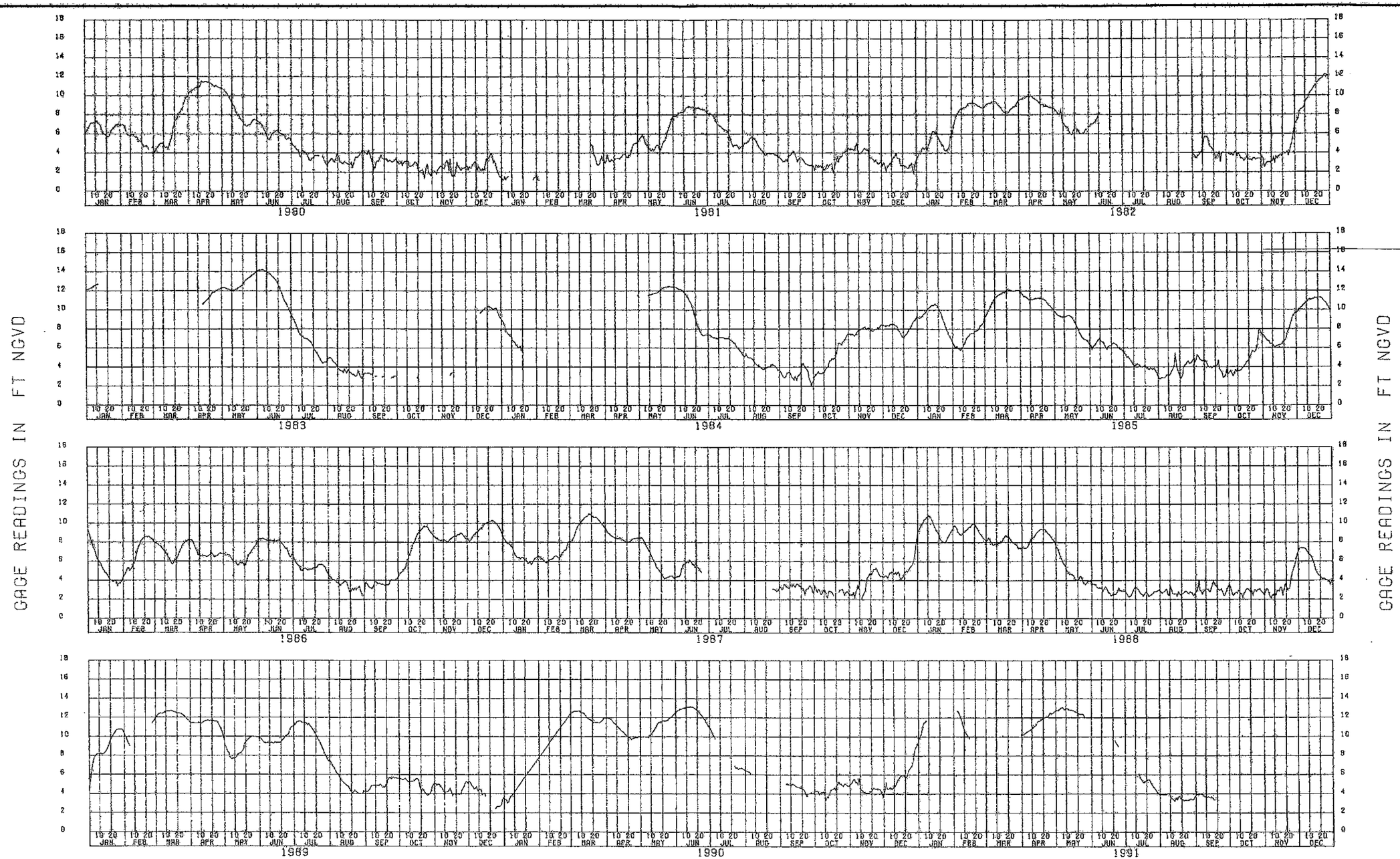
REVISION	DATE	DESCRIPTION	BY

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II
ST. MARTIN, IBERIA AND ST. MARY PARISHES, LA.

PROFILE

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P.G.	C.M.	S.C.	MARCH 1992	AS SHOWN	H-8-40088
SUBMITTED BY			SPEC. NO. DACW29-92-B-0038	DWG. 12 OF 15	



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U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

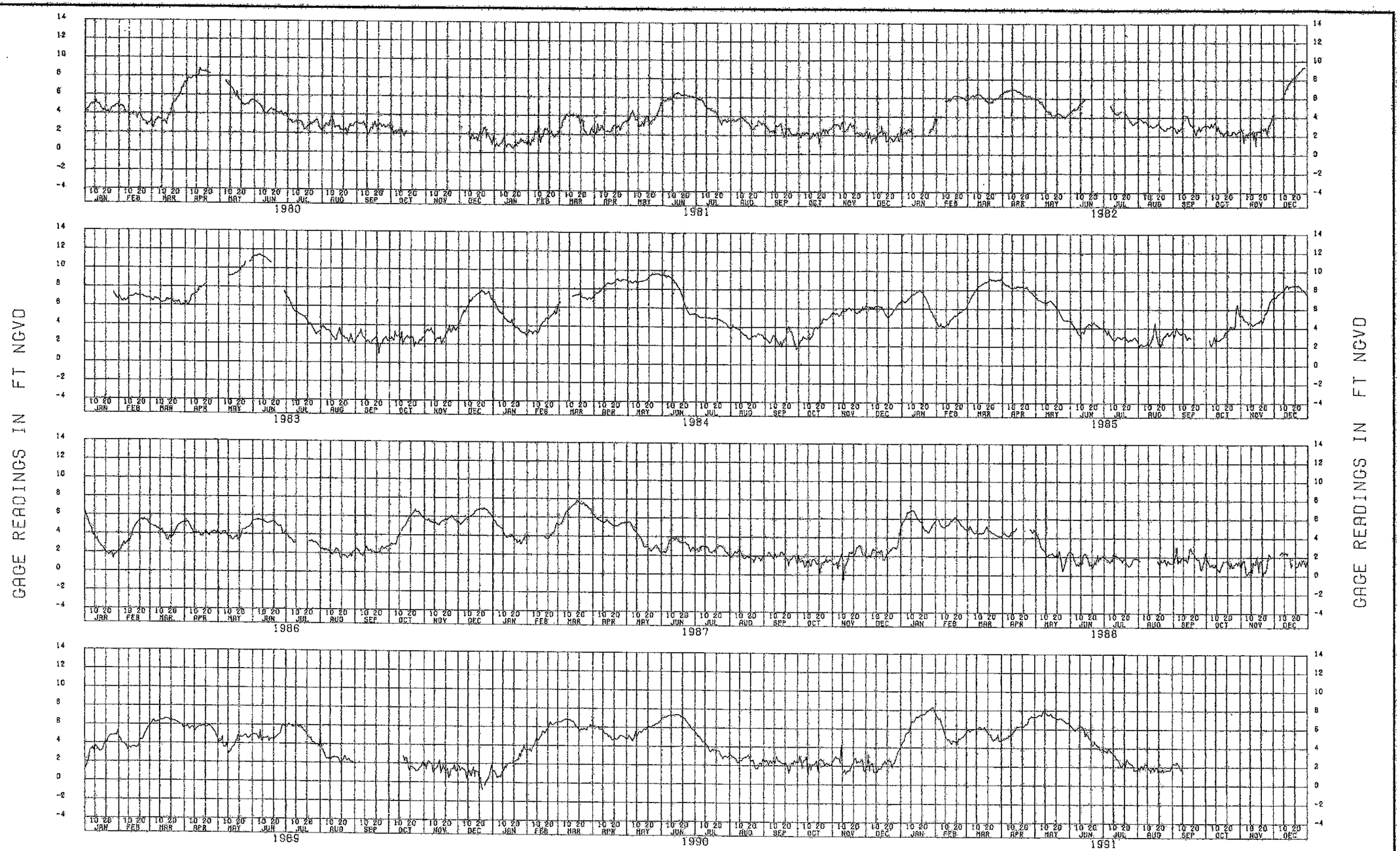
MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.

CHANNEL TRAINING
CLOSURES PHASE II

MYETTE POINT

STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
P. G.	C.M.	S.C.	MARCH 1992	AS SHOWN	H-8-40088
SUBMITTED			CONT. NO. DACW29-91-B-0038		13 of 15



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U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.
CHANNEL TRAINING
CLOSURES PHASE II

VERDUNVILLE

STAGE HYDRUGRAPHS

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.
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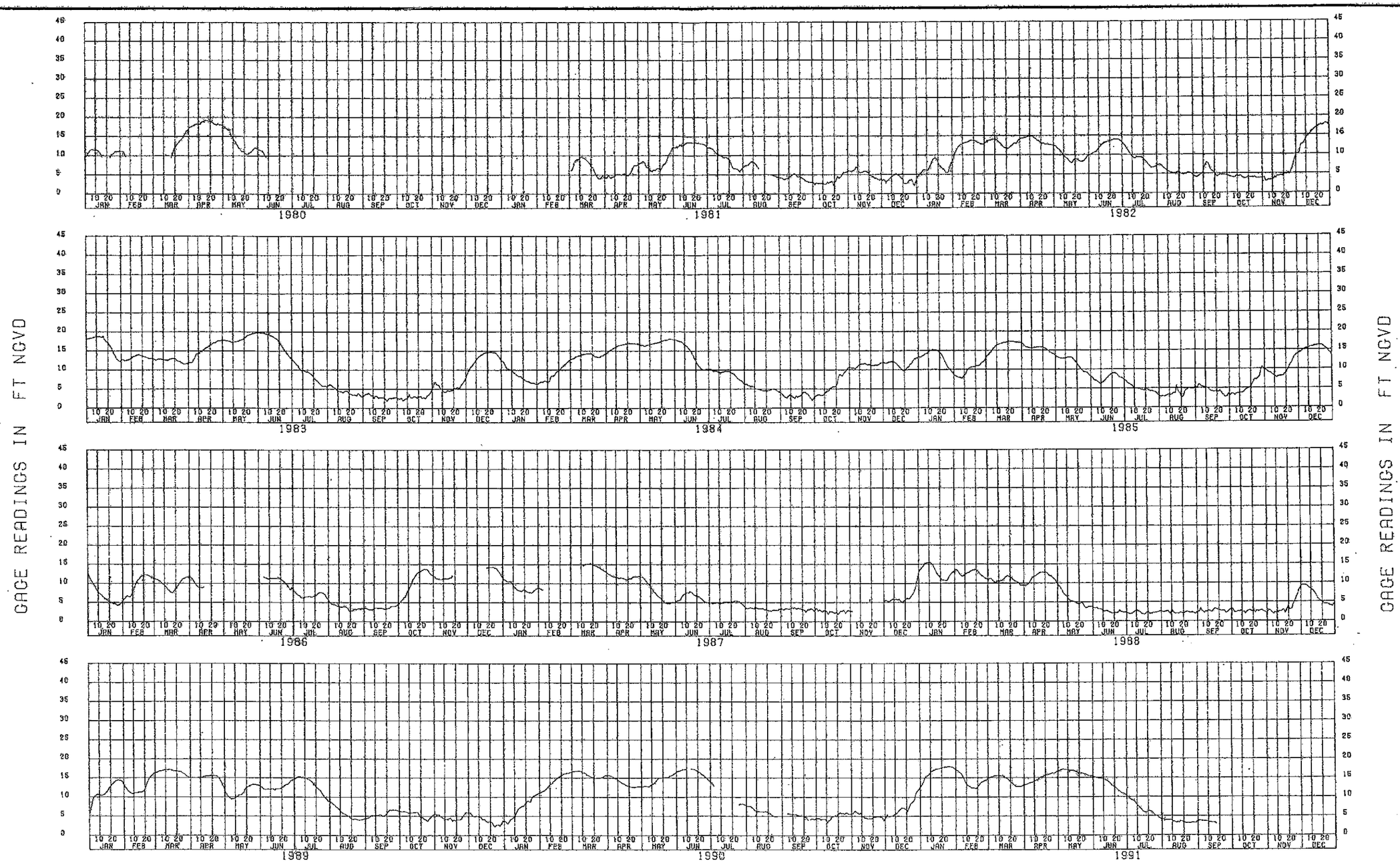
SUBMITTED:			SPEC. NO. DACW29-92-B-0058		14 of 15



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U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LA.

MISSISSIPPI RIVER AND TRIBUTARIES
ATCHAFALAYA BASIN FLOODWAY, LA.

CHANNEL TRAINING
CLOSURES PHASE II

BLIND TENSAS CUT

STAGE HYDROGRAPHS

DESIGNED	DRAWN	CHECKED	DATE	SCALE	FILE NO.
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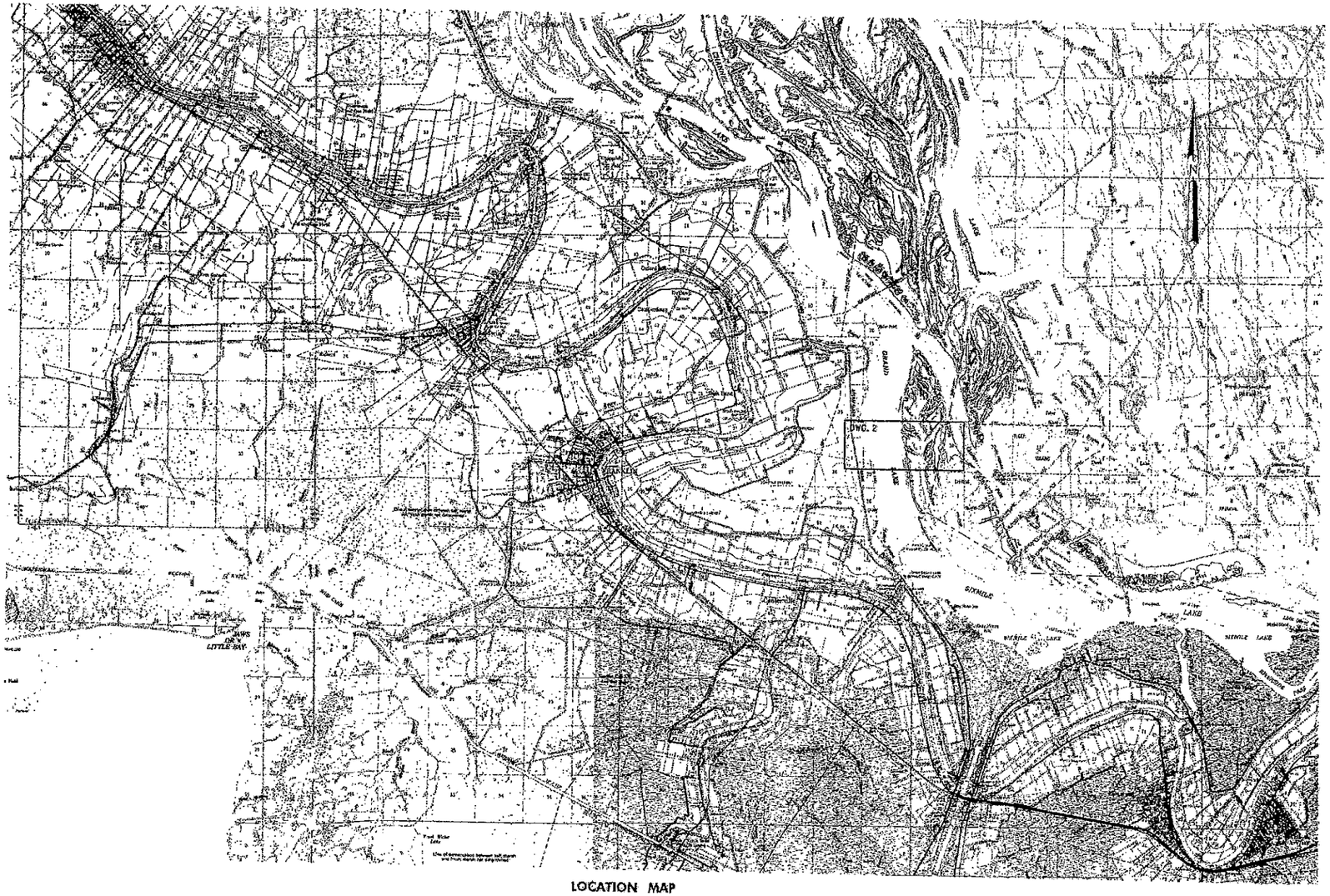
SUBMITTED: DACW-29-92-B-0058

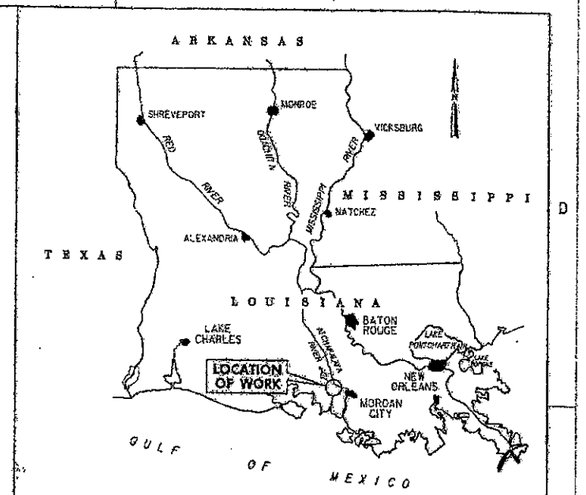
15 15



LOCATION MAP

SCALE IN MILES

1 0 1 2 3 4



VICINITY MAP

SCALE IN MILES

40 0 40 80 120 160 200

INDEX OF DRAWINGS

DWG	DESCRIPTION
1	LOCATION MAP, VICINITY MAP AND INDEX OF DRAWINGS
2	PLAN AND PROFILE
3	TYPICAL SECTIONS
4	TYPICAL SECTIONS
5	UPSTREAM HYDROGRAPH
6	DOWNSTREAM HYDROGRAPH

ATCHAFALAYA BASIN FLOODWAY

STA. 0+00 TO STA. 47+00

WAX LAKE OUTLET CONTROL ROCK WEIR MODIFICATION

ST. MARY AND ST. MARTIN PARISHES, LOUISIANA

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
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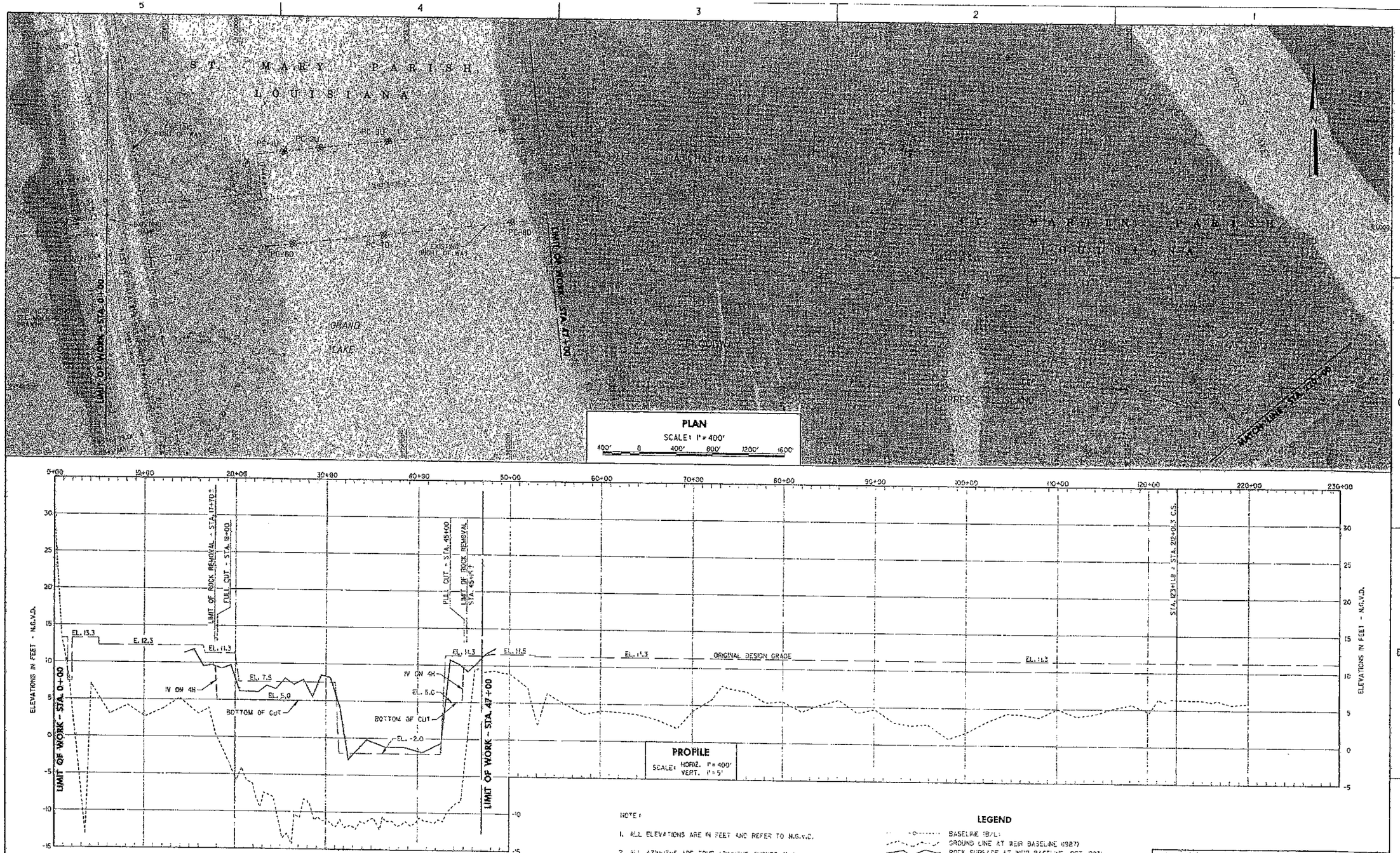
NEW ORLEANS, LOUISIANA

ATCHAFALAYA BASIN FLOODWAY, LOUISIANA
WAX LAKE OUTLET CONTROL
ROCK WEIR MODIFICATION
STA. 0+00 TO STA. 47+00
ST. MARY AND ST. MARTIN PARISHES, LOUISIANA

LOCATION MAP, VICINITY MAP AND INDEX OF DRAWINGS

DESIGNED BY: COATES
DRAWN BY: WEIDENBACHER
CHECKED BY: GAUTREAUX
SUBMITTED BY:
DESIGN ENGINEER
DATE:
PLOT SCALE:
PLOT DATE:
CADD FILE: 40409LDLDGN
SOLICITATION NO. DACW29-
FILE NO. H-8-40409
DWG. 1 OF 6

C·A·D



RIGHT OF WAY		
STATION TO STATION	DISTANCE TO BASELINE (FT) CYPRESS PASS (NORTH SIDE)	GRAND LAKE (SOUTH SIDE)
0+00	75	500
17+00	75 TO 500	500
47+00	500 TO 75	500 TO 300
123+11.8= 202+01.3	75	300 TO 185
231+00	75	185 TO 45

ALL R/W DISTANCES ARE MEASURED ALONG THE TRAVERSE PERPENDICULAR TO THE BACK TANGENT EXCEPT WHERE OTHERWISE INDICATED.

FILE CLUSTER LOCATIONS				
FILE CLUSTER DESIGNATION	BASELINE STATION	OFFSET	TIP ELEVATION	WARNING SIGN
PC-10	20+00	500' UPSTREAM	-30	YES
PC-20	24+00	500' UPSTREAM	-30	NO
PC-30	34+50	500' UPSTREAM	-32	YES
PC-50	44+00	500' UPSTREAM	-30	YES
PC-60	20+00	500' DOWNSTREAM	-24	YES
PC-70	30+00	500' DOWNSTREAM	-32	YES
PC-80	44+00	500' DOWNSTREAM	-30	YES

NOTES:
1. TOP ELEVATION OF PILE - EL. 28.0.
2. LOCATION OF THE PILE CLUMPS SHOWN ON PLAN VIEW.

NOTE:

1. ALL ELEVATIONS ARE IN FEET AND REFER TO N.G.V.D.
2. ALL AZIMUTHS ARE TRUE AZIMUTHS TURNED IN A CLOCKWISE DIRECTION FROM 0 DEGREES (DUE SOUTH).
3. THE NATURAL GROUND LINE IS TYPICAL FOR DESIGN SECTIONS. ACTUAL ELEVATIONS MAY VARY FROM THAT SHOWN.
4. LAND ACCESS WILL BE VIA LA. HWY. 87 TO THE BRIDGE CROSSING THE BORROW PIT JUST NORTH OF THE VERDUNVILLE CANAL ON WABPL ITEM W02, THEN VIA THE LEVEE BERM ROAD TO THE RAMP AT STA. 5352+93.7. ACCESS VIA THE LEVEE CROWN ROAD WILL NOT BE PERMITTED EXCEPT AT THE RAMP CROSSING DESCRIBED ABOVE.
5. SEE DWG. 3 FOR BENCH MARK DATA.

LEGEND

- BASELINE (B/L)
- GROUND LINE AT WEIR BASELINE (1927)
- ROCK SURFACE AT WEIR BASELINE (OCT 1993)
- RIGHT OF WAY (R/W)
- LIMIT OF ROCK REMOVAL
- ORIGINAL DESIGN GRADE (ROCK WEIR)

NOTE:
INSIDE THE PLAN AREA POLYCONIC PROJECTION - 1927 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY DASHED TICKS PREPARED FROM AERIAL PHOTOS FLOWN NOVEMBER 1984.

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STA. 0+00 TO STA. 47+00
ST. MARY AND ST. MARTIN PARISHES, LOUISIANA

ROCK WEIR PLAN AND PROFILE

DESIGNED BY: COATES DRAWN BY: WEIDENBACHER CHECKED BY: DAUTREAUX	DATE:	PLOT SCALE:	PLOT DATE:
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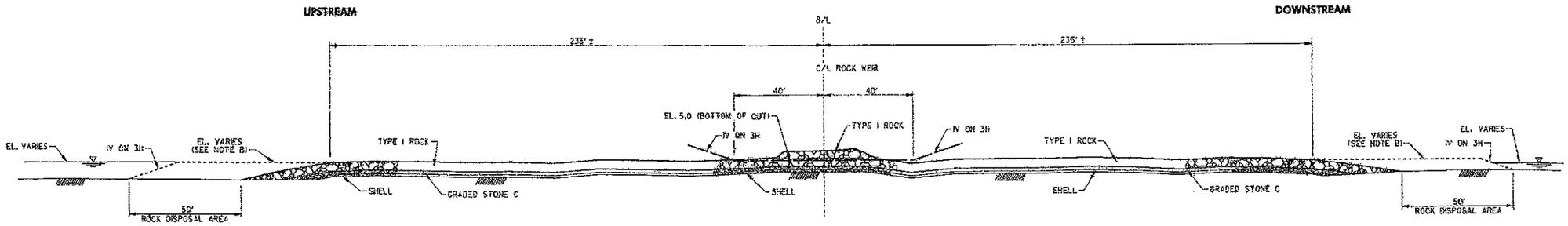
DESIGN ENGINEER	SOLICITATION NO. DACW29-		DWG. 2 OF 6



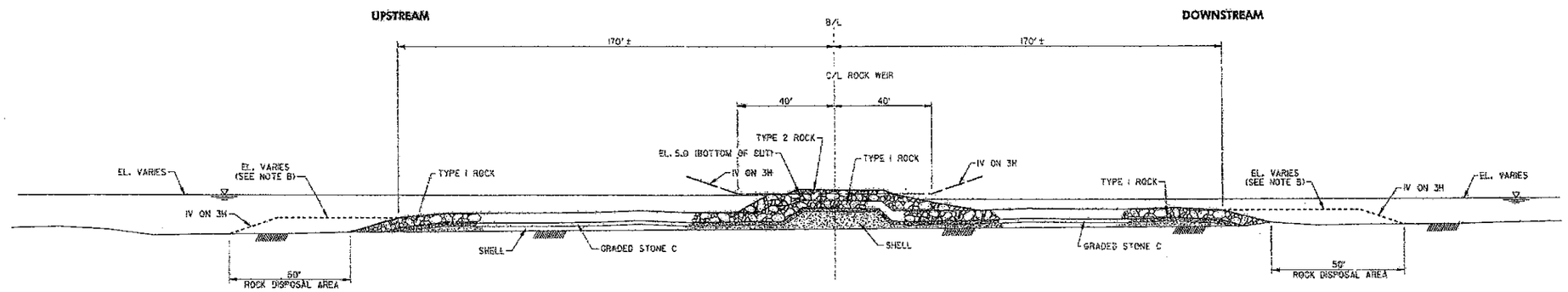
TYPICAL SECTION

NOT TO SCALE

STA. 18+00 TO STA. 20+00

TRANSITION FROM STA. 17+70 ± TO STA. 18+00

(CROSS SECTION AT 17+70 SIMILAR TO TYPICAL SECTION SHOWN)



TYPICAL SECTION

NOT TO SCALE

STA. 20+00 TO STA. 24+50

BENCH MARK INFORMATION

BENCH MARKS	ELEVATION N.G.V.D.	DESCRIPTION
WABPL V-6 U.S.E.	8.783	IT IS LOCATED ALONG THE WABPL, 15.5 MILES SOUTHEAST OF LOCK 1 U.S.E. NEAR CHARENTON, AT LEVEE STA. 5238+13, 175 FEET SOUTHWEST OF THE CENTERLINE OF THE LEVEE, 72.5 FEET SOUTHWEST OF THE SHELL ROAD WHICH FOLLOWS THE LEVEE, 32 FEET NORTHEAST OF A BORROW PIT. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 5/16 INCH STAINLESS STEEL ROD DRIVEN TO THE DEPTH OF 68 FEET, PROTECTED BY A 6 INCH DIAMETER WHITE PVC PIPE PROJECTING 1 FOOT ABOVE THE GROUND. ACCESS IS THROUGH THE ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOME CAP ARE STAMPED V-8 WABPL 1981. THE MARK IS CENTERED IN THE TRIANGLE, FORMED BY THREE 2 INCH DIAMETER, 4 FEET TALL PIPES PAINTED YELLOW.
WABPL V-10 U.S.E.	9.596	IT IS LOCATED ALONG THE WABPL, 13.0 MILES SOUTHEAST OF LOCK 1 U.S.E. NEAR CHARENTON AT LEVEE STA. 5365+39, 170.5 FEET WEST OF THE CENTERLINE OF THE LEVEE, 68 FEET WEST OF THE CENTERLINE OF THE SHELL ROAD WHICH FOLLOWS THE LEVEE, 89 FEET EAST OF A BORROW PIT. IT IS A STAINLESS STEEL DOMED CAP CRIMPED ON A 3/16 INCH STAINLESS STEEL ROD DRIVEN TO A DEPTH OF 80 FEET PROTECTED BY A 6 INCH DIAMETER WHITE PVC PIPE PROJECTING 1 FOOT ABOVE THE GROUND. ACCESS IS HAD THROUGH AN ALUMINUM CAP ON TOP OF THE PIPE. BOTH THE ALUMINUM CAP AND THE DOMED CAP ARE STAMPED V-10 WABPL 1981. THE MARK IS CENTERED IN THE TRIANGLE FORMED BY THREE, 2 INCH DIAMETER, 4 FEET TALL PIPES PAINTED YELLOW.

NOTE A: ROCK, STONE AND SHELL CONFIGURATIONS AND GROUND LINE BENEATH WEIR ARE APPROXIMATIONS.

NOTE B: THE MAXIMUM ELEVATION OF THE ROCK DISPOSAL AREA SHALL NOT EXCEED THE ELEVATION OF THE EXISTING ADJACENT ROCK BERM.

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WAX LAKE OUTLET CONTROL
ROCK WEIR MODIFICATION

STA. 0+00 TO STA. 47+00

ST. MARY AND ST. MARTIN PARISHES, LOUISIANA

ROCK WEIR TYPICAL SECTIONS

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	CADD FILE: 40409_03.DGN		FILE NO. H-B-40409
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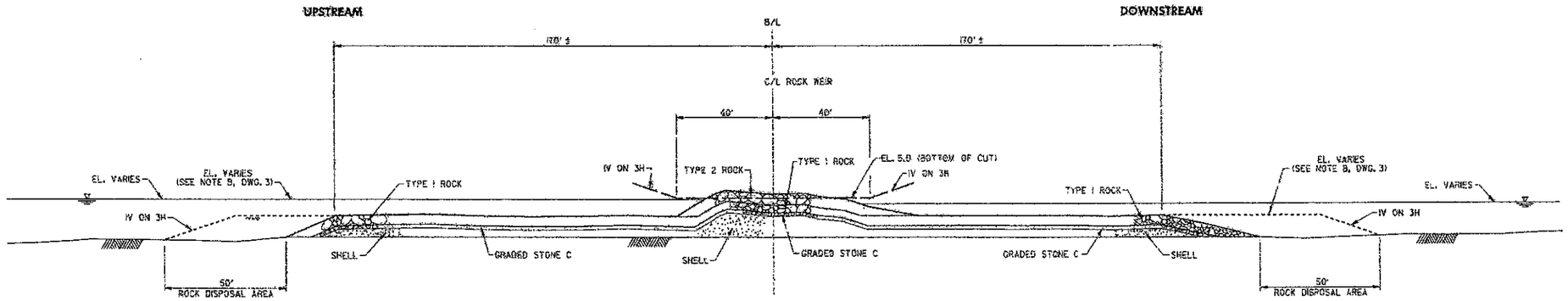
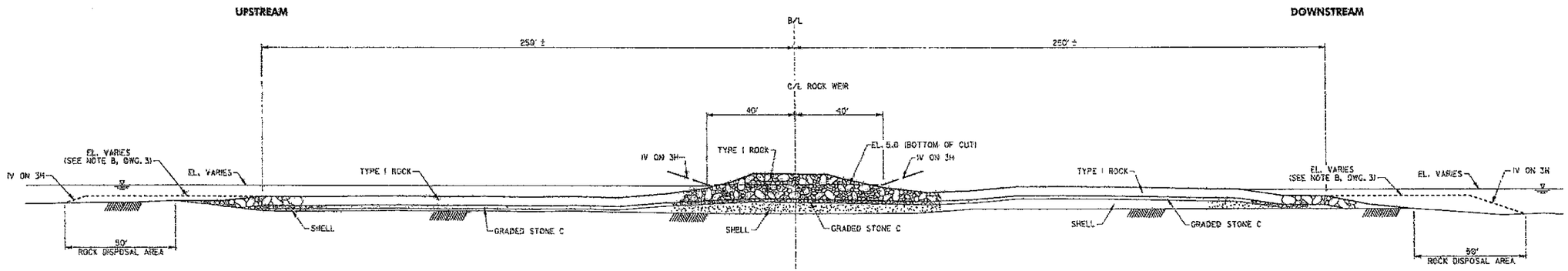


TYPICAL SECTION

NOT TO SCALE

STA. 24+50 TO STA. 31+50



TYPICAL SECTION

NOT TO SCALE

STA. 43+00 TO STA. 45+00

TRANSITION FROM STA. 45+00 TO STA. 46+15
(CROSS SECTION AT STA. 45+15 SIMILAR TO TYPICAL SECTION SHOWN)

NOTE:

ROCK, STONE AND SHELL CONFIGURATIONS AND GROUND LINE BENEATH WEIR ARE APPROXIMATIONS.

STONE GRADATION	
GRADED STONE C	
CUMULATIVE % FINER BY WEIGHT	STONE WEIGHT (LBS)
100	400
70 - 100	250
52 - 80	100
32 - 58	30
15 - 34	5
2 - 20	1
0 - 5	< 1/2' MAX. DIM.

% LIGHTER BY WEIGHT	ROCK GRADATION (LBS)	
	TYPE 1	TYPE 2
100	1590 - 600	3500 - 1400
50	650 - 300	1500 - 700
15	330 - 100	700 - 200

NOTE:

5% OF THE MATERIAL MAY WEIGH MORE THAN 400 LBS. HOWEVER, NO PIECE SHALL WEIGH MORE THAN 800 LBS.

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WAX LAKE OUTLET CONTROL
ROCK WEIR MODIFICATIONS

STA. 0+00 TO STA. 47+00

ST. MARY AND ST. MARTIN PARISHES, LOUISIANA

ROCK WEIR
TYPICAL SECTIONS

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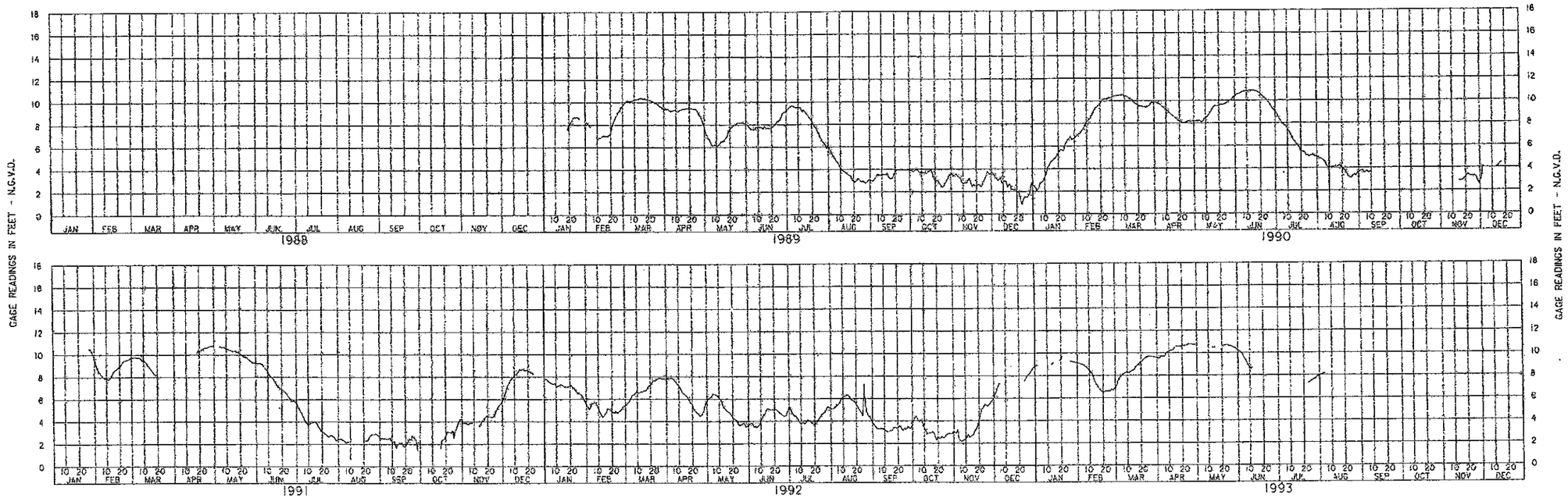

SIX MILE LAKE BOAT LAUNCH - UPSTREAM
PATH NAME = /ATCH/03030/STAGE//1DAY/OBSERVED/

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STA. 0+00 TO STA. 47+00

ST. MARY AND ST. MARTIN PARISHES, LOUISIANA

UPSTREAM HYDROGRAPH

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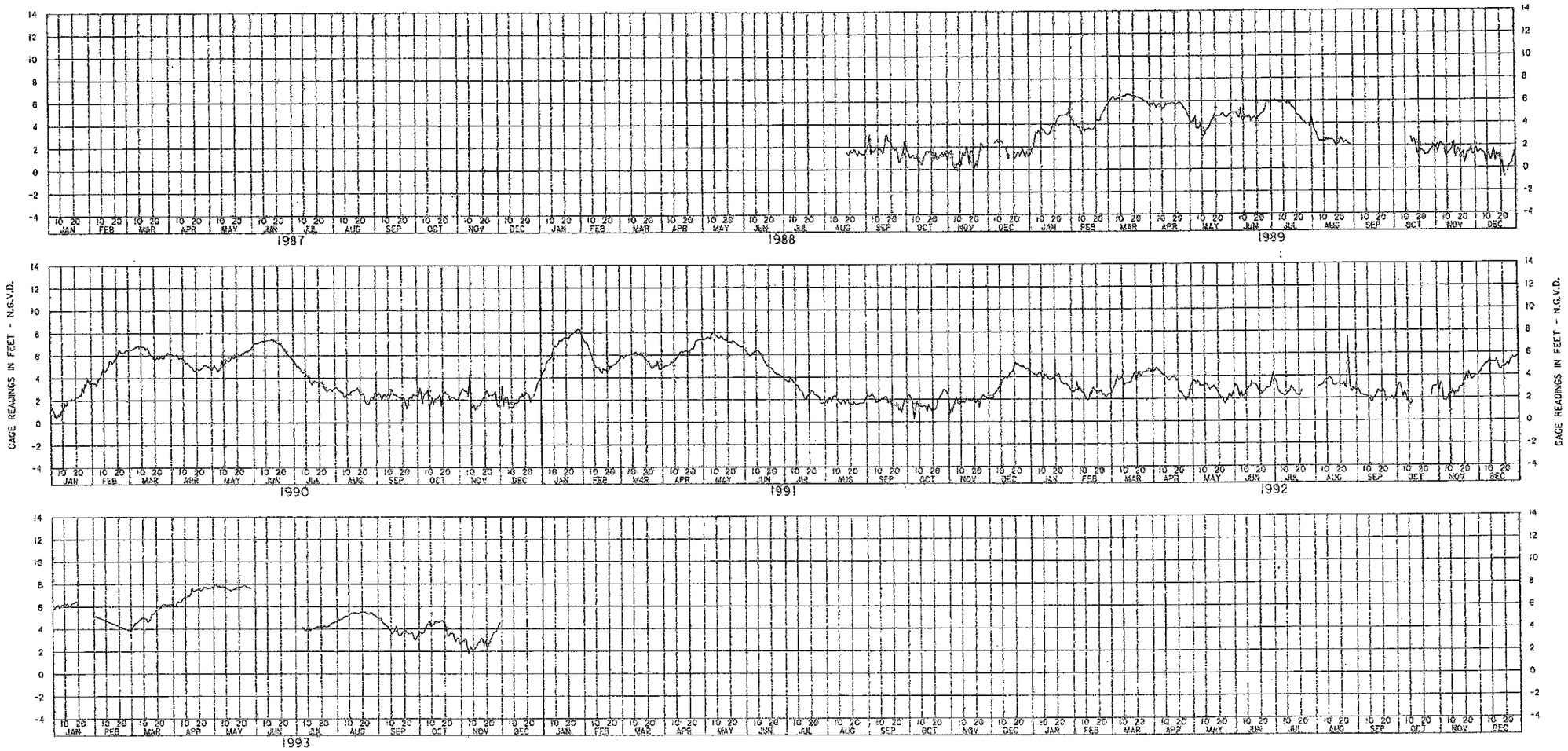
DESIGN ENGINEER	SOLICITATION NO. DACW29-		DWG. 5 OF 6



SIX MILE LAKE (VERDUNVILLE)
PATH NAME = /ATCH/03045/STAGE//1DAY/OBSERVED/

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DOWNSTREAM HYDROGRAPH

DESIGNED BY: COATES DRAWN BY: WEIDENBACHER CHECKED BY: GAUTREAUX	DATE:	PLOT SCALE:	PLOT DATE:
SUBMITTED BY:	CADD FILE: SIMPLEDGN		FILE NO. H-8-40409
DESIGN ENGINEER	SOLICITATION NO. DACW29-		DWG. 6 OF 6