

DESIGN REPORT

ON

PRELIMINARY PHASE

OF

SONIAT CANAL

NORTH DILTON STREET TO CANAL NO.3

Southeast Louisiana Project,

Jefferson Parish

DPW No.92-008C-DR

Prepared by

HARTMAN ENGINEERING, INC.

Consulting Engineers

527 W. Esplanade Avenue

Kenner, Louisiana

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DESIGN REPORT
Preliminary Phase
Soniat Canal - North Dilton Street to Canal No.3

I. General. This report presents the results of the studies done for the preliminary phase of the title project. It describes existing conditions, design methods and parameters, alternatives considered, and conclusions.

II. Project Description. The project includes increasing the flow capacity of Soniat Canal from North Dilton Street (south of West Metairie Ave.) to Canal No.3 (north of Veterans Memorial Blvd.), relocating interfering utilities and modifying the canal crossings at West Metairie Ave. and Veterans Memorial Blvd. to suit the enlarged canal. The work is divided into two reaches - North Dilton Street to the West Napoleon Canal (Reach 27/28), a distance of about 5,200 feet, and West Napoleon to Canal No.3 (Reach 29), a distance of about 4,100 feet.

III. General. The plans developed herein are based on recent topographic surveys, hydraulic data consistent with the Southeast Louisiana Project, Jefferson Parish.

IV. Design Parameters.

A. Hydraulic Data.

1. The improved canal is designed for the following flows. The flows are considered downstream of the points given except for the flow at Canal No.3, the downstream end of the Soniat Canal:

Soniat Canal at West Metairie Avenue	4,700 cfs
Soniat Canal at West Napoleon Canal	4,800 cfs
Soniat Canal at Canal No.3	5,000 cfs

2. The following Manning Numbers (n), water surface elevations, and canal bottom elevations were used in the hydraulic analysis. For composite concrete, aggregate and earth sections a composite "n" was used proportioned to the amount of wetted perimeter for each surface:

<u>Surface of Canal Lining</u>	<u>"n"</u>
Concrete	0.015
Earth	0.035
Concrete and Aggregate	0.023

<u>Location on Soniat Canal</u>	<u>Water Surface Elevation (SELA)</u>	<u>Invert Elevation</u>
West Metairie	-3.9 NGVD (16.53 Cairo Datum)	-17.5 (2.96)
West Napoleon	-4.4 (16.03)	-18.7 (1.77)
Canal No.3	-4.6 (15.83)	-19.7 (0.70)

B. Geographical Constraints. Except for consideration of a parallel canal from West Napoleon to Canal No.3, all alternatives are confined to the area now occupied by the existing canal and adjacent servitudes. The area is bounded by the large Entergy Powerline and open powerline right-of-way on the east and residential property on the west. All alternatives, to be considered viable, have maintenance access from both banks. The maintenance access used is a nominal width of 15 feet at top of bank. This maintenance area is elevated nominally one foot above adjacent natural ground to maintain existing drainage conditions and have a dry maintenance platform. Alternatives were developed with the goal of avoiding dewatering and minimizing non-negligent damages to adjacent properties from subsidence by lowering the water table.

V. Method of Analysis.

A. Hydraulics. The hydraulic design is done using basic energy equations and Manning's Formula for open channel flow. The intent of the process was to have the sections developed in the preliminary phase be from the New Orleans District, U.S. Army Corps of Engineers (USACE) UNET model for the Southeast Louisiana Project, Jefferson Parish (SELA). This was not done. All sections prepared herein have not been run in the SELA UNET model by the USACE.

B. Geotechnical. The geotechnical design is being done to USACE standards and guides using standard methods and practices by Eustis Engineering. The preliminary phase was developed using geotechnical analysis by Eustis, furnished verbally, that will be included before they are put in their Geotechnical report.

C. Relocations. The relocation of utilities estimate were prepared from face to face meetings with utility owners, reviewing the project plan, and obtaining cost estimates from the owners.

D. Bridges. Preliminary bridge designs were performed based on road classification and minimizing the impact of the bridge replacement on road traffic and on reducing head loss in the canal at the bridges. On both bridges, precast prestressed concrete girders would either raise the roadway an unacceptable amount or allow the bottom of the beams to intrude into the flow. Steel stringer bridges allow the bridges to be designed with the proper freeboard over the flow lines without raising the road surface. The West Metairie Avenue bridges are designed with two supports in the canal and the Veterans Memorial Boulevard bridges are designed with one support in the canal.

VI. Canal Improvement Alternatives Considered.

A. North Dilton Street To West Napoleon Canal.

1. The existing width along the canal in this reach is in the range of about 145 feet. The first alternative attempted was a trapezoidal canal with concrete paving and aggregate lining. The design cross-section and hydraulic calculations are shown on Plate 1. This cross-section requires approximately 175 feet of width (160 foot channel, 15 foot west side access). This is wider than the area available.

2. A modification of the trapezoidal canal section was then considered. It consisted of 6 foot high retaining walls with a concrete paved and aggregate lined trapezoidal channel in between. Because the canal side slopes are not as high as the unretained section, side slopes could be steepened. Numerous iterations resulted in the section shown in Plate 2. It has concrete and steel sheet pile cantilevered walls retaining 6 feet of both banks, side slopes that vary from 1 on 3 to 1 on 2.5, with a constant width of 122 feet between the retaining walls. See

Plate 2. The retaining walls are 45 feet to 50 feet long from top of wall to tip of sheet piling.

B. West Napoleon Canal to Canal No.3.

1. Concrete U-Frame. North of West Napoleon the area available to improve the canal narrows to less than 125 feet. This constricted area reduces the options available. The obvious alternative is a soil founded concrete U-frame canal. A U-frame with 103 feet clear between the walls will carry the required 5,000 cfs. This fits in the space available.

2. Alternatives. Alternatives to the concrete U-frame were considered. Reducing the width of the narrow sheet pile retained section developed for the North Dilton to West Napoleon reach leads to a section with a large pile supported T-walls with an aggregate bottom between. The section is too wide for the available area. By inspection, the pile supported T-wall with a concrete canal bottom is more expensive and more disruptive than the U-frame and ,therefore, is not considered further. Tied-back sheet pile walls were considered but offer no apparent advantages over the U-frame.

3. Parallel Canal.

a. A parallel canal was considered on the east side of the canal between the large powerline and the eastern limit of the clear area. Consideration of a parallel canal for this reach is based on a maximum sized parallel canal that can fit in the available area. It was agreed that this is a canal 12 to 13 feet deep, with one on three side slopes and a 14-foot bottom width. This maximum sized, concrete and aggregate lined, trapezoidal parallel canal would yield a flow in the parallel canal of about 800 cfs.

b. The Soniat Canal must pass the remaining 4,200 cfs. Improving the Soniat Canal with concrete paving and aggregate lining, and no enlargement, increases its capacity to about 3,000 cfs. To improve Soniat Canal to carry 4,200 cfs and stay within the area available, requires a concrete U-frame flume 81 feet wide. Other alternatives to the U-

frame/parallel canal were considered but only the U-frame/parallel canal passes the SELA flow and stays within the available areas.

c. From the studies the following conclusions are made for parallel canals from West Napoleon to Canal No.3:

(1) The parallel canal would be wider than the existing Soniat Canal, much wider than the space available for the canal, without enlarging and improving the Soniat Canal.

(2) The concrete U-frame/parallel canal estimated cost is \$34 million, \$5 million more than a concrete U-frame flume in the Soniat Canal sized to carry the total flow. Preliminary estimates are attached.

(3) The invert of the parallel canal is lower than the existing ground water level and will cause dewatering and, ultimately, subsidence of the adjacent residential and commercial area.

(4) The Veterans Memorial Blvd. crossing of the parallel canal is close to the Power Blvd./Veterans Memorial Blvd. intersection. The approaches to this crossing will interfere with the Power Blvd./Veterans Memorial Blvd. intersection and be a major consideration in developing the bridge crossing.

(5) The clear space considered for the parallel canal is currently included in the Jefferson Parish transportation plan as a future north-south thoroughfare. This is the last clear and available space for such a route.

VII. Conclusions.

A. North Dilton Street to West Napoleon Canal. Improve this reach by enlarging the existing canal, constructing 6-foot high retaining walls, and paving the enlarged canal with concrete and aggregate. The canal will not need to be dewatered for construction and therefore not affect the adjacent foundations. The work can be done with the canal passing drainage flow. This design can be aligned to fit between the fences behind the residential property and the foundations for the towers supporting the large power line with proper allowances for maintenance access along the banks. The total estimated cost is \$18 million. The preliminary estimates are attached.

B. West Napoleon Canal to Canal No. 3. Improve this reach by constructing a concrete U-frame flume in the existing Soniat Canal. This type improvement required dewatering and coffer damming. There is potential for non-negligent damage to adjacent residential properties during construction. Monitoring of the groundwater levels is required along with pre and post construction damage surveys of the residential areas to determine construction related damages, if any. The total estimated cost of the concrete U-frame from West Napoleon to Canal No.3 is \$29 million. The total estimated cost for a parallel canal/U-frame improvement for this reach of canal is \$29 million. The preliminary estimates are attached.

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SONIAT CANAL
NORTH DILTON STREET TO CANAL NO.3
Southeast Louisiana Project,
Jefferson Parish
DPW No.92-008C-DR

COST ESTIMATES

COST ESTIMATE

PROJECT : SONIAT CANAL, REACHES 27 & 28, NORTH DILTON TO WEST NAPOLEON

Preliminary Estimate Recommended Plan

Feature 09 Channels and Canals

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	L.S.	535,450	535,450
2	Clearing	1	L.S.	20,000	20,000
3	Drainage	1	L.S.	50,000	50,000
4	Canal Excavation	100,000	Cu.Yd	6	600,000
5	Structure Excavation	15,407	Cu.Yd	8	123,256
6	Retaining Wall Concrete	6,132	Cu.Yd	300	1,839,600
7	Concrete Paving	2,119	Cu.Yd	220	466,180
8	Aggregate Canal Lining	21,185	Cu.Yd	20	423,700
9	Sheet Piling	477,000	Sq.Ft	15	7,155,000
10	Backfill	3,926	Cu.Yd	8	31,408
11	SUBTOTAL				\$11,244,594
12	CONTINGENCIES 20%+/-				2,255,406
13	TOTAL CONSTRUCTION COST, CANAL				\$13,500,000

COST ESTIMATE

PROJECT : SONIAT CANAL, REACHES 27 & 28, NORTH DILTON TO WEST NAPOLEON

Feature 02 Relocations

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	12-inch Waterline @ Sta. 105+00	1	L.S.	87,000	87,000
2	8-inch Water Pipeline @ Sta. 137+00	1	L.S.	70,000	70,000
3	8-inch Waterline @ Sta 147+50	1	L.S.	77,000	77,000
4	Conflicting Power Lines	1	L.S.	35,000	35,000
5	Conflicting Natural Gas Lines	1	L.S.	65,000	65,000
6	SUBTOTAL				334,000
7	CONTINGINCIES 20%+/-				66,000
8	TOTAL RELOCATIONS COST				\$400,000

Feature 08 Bridges

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	West Metairie Ave. Bridge Replacement	10,820	Sq.Ft.	100	1,082,000
2	CONTINGINCIES 20% +/-				218,000
3	TOTAL BRIDGE COST				\$1,300,000

Feature 30 Engineering and Design \$1,700,000

Feature 31 Construction Management \$1,100,000

TOTAL COSTS SONIAT CANAL-N. DILTON TO W. NAPOLEON 18,000,000

COST ESTIMATE

PROJECT : SONIAT CANAL, REACH 29, WEST NAPOLEON TO CANAL NO.3

Preliminary Estimate Recommended Plan

Feature 09 Channels and Canals

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	L.S.	872,890	872,890
2	Clearing	1	L.S.	20,000	20,000
3	Drainage	1	L.S.	50,000	50,000
4	Canal Excavation	80,000	Cu.Yd	6	480,000
5	Structure Excavation	17,000	Cu.Yd	8	136,000
6	U-Frame Flume Concrete	31,237	Cu.Yd	250	7,809,250
7	Bedding Material	36,140	Cu.Yd	20	722,800
8	Cofferdam	328,000	Sq.Ft.	12	3,936,000
9	Dewatering	1	L.S.	4,000,000	4,000,000
10	Granular Backfill	16,000	Cu.Yd	15	240,000
11	Geotextile	51,000	Sq.Ft.	1	63,750
12	SUBTOTAL				\$18,330,690
13	CONTINGENCIES 20%+/-				3,669,310
14	TOTAL CONSTRUCTION COST, CANAL				\$22,000,000

COST ESTIMATE

PROJECT : SONIAT CANAL, REACH 29, WEST NAPOLEON TO CANAL NO.3

Feature 02 Relocations

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	8-inch & 18-inch Force Mains @ Sta. 149+50	1	L.S.	158,000	158,000
2	Protection of 8-inch force Main @ Sta. 156+00	1	L.S.	29,000	29,000
3	24-inch Waterline @ Sta 182+50	1	L.S.	152,000	152,000
4	Conflicting Power Lines	1	L.S.	35,100	35,100
5	Conflicting Natural Gas Lines	1	L.S.	65,000	65,000
6	6-inch & 10-inch Force Mains @ Sta. 183+00	1	L.S.	34,000	34,000
7	12-inch Waterline @ Sta. 184+50	1	L.S.	78,000	78,000
8	Conflicting Telephone Cables	1	L.S.	416,000	416,000
9	SUBTOTAL				967,100
10	CONTINGENCIES 20%+/-				232,900
11	TOTAL RELOCATIONS COST				\$1,200,000

COST ESTIMATE

PROJECT : SONIAT CANAL, REACH 29, WEST NAPOLEON TO CANAL NO.3

Feature 08 Bridges

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	Veterans Memorial Blvd. Bridge Replacement	13,250	Sq.Ft.	100	1,325,000
2	CONTINGINCIES 20% +/-				275,000
3	TOTAL BRIDGE COST				\$1,600,000

Feature 30 Engineering and Design \$2,700,000

Feature 31 Construction Management \$1,500,000

TOTAL COSTS SONIAT CANAL-N. DILTON TO W. NAPOLEON \$29,000,000

COST ESTIMATE

PROJECT : SONIAT CANAL, REACH 29, WEST NAPOLEON TO CANAL NO.3

Preliminary Estimate Parallel Canal

Feature 09 Channels and Canals

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	L.S.	872,890	872,890
2	Clearing	1	L.S.	35,000	35,000
3	Drainage	1	L.S.	50,000	50,000
4	Canal Excavation	268,000	Cu.Yd	6	1,608,000
5	Structure Excavation	17,000	Cu.Yd	8	136,000
6	U-Frame Flume Concrete	29,600	Cu.Yd	250	7,400,000
7	Bedding Material	21,000	Cu.Yd	20	420,000
8	Cofferdam	328,000	Sq.Ft.	12	3,936,000
9	Dewatering	1	L.S.	3,000,000	3,000,000
10	Granular Backfill	16,000	Cu.Yd	15	240,000
11	Geotextile	45,000	Sq.Ft.	1	56,250
12	Concrete Paving	4,920	Cu.Yd	200	984,000
13	Aggregate Paving	14,350	Cu.Yd	20	287,000
14	SUBTOTAL				19,025,140
15	CONTINGENCIES 20%+/-				3,774,860
16	TOTAL CONSTRUCTION COST, CANAL				\$22,800,000

Feature 01 Lands and Damages

1	Rights-of-Way	10	Ac.	50,000	\$500,000
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COST ESTIMATE

PROJECT : SONIAT CANAL, REACH 29, WEST NAPOLEON TO CANAL NO.3

Feature 02 Relocations

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	8-inch & 18-inch Force Mains @ Sta. 149+50	2.0	L.S.	158,000	316,000
2	Protection of 8-inch force Main @ Sta. 156+00	2.0	L.S.	29,000	58,000
3	24-inch Waterline @ Sta 182+50	2.0	L.S.	152,000	304,000
4	Conflicting Power Lines	1.5	L.S.	35,100	52,650
5	Conflicting Natural Gas Lines	1.5	L.S.	65,000	97,500
6	6-inch & 10-inch Force Mains @ Sta. 183+00	2.0	L.S.	34,000	68,000
7	12-inch Waterline @ Sta. 184+50	2.0	L.S.	78,000	156,000
8	Conflicting Telephone Cables	1.5	L.S.	416,000	624,000
9	SUBTOTAL				1,676,150
10	CONTINGINCIES 20%+/-				323,850
11	TOTAL RELOCATIONS COST				\$2,000,000

COST ESTIMATE

PROJECT : SONIAT CANAL, REACH 29, WEST NAPOLEON TO CANAL NO.3

Feature 08 Bridges

Item No.	Item	Quantity	Unit	Unit Price	Total Price
1	Veterans Memorial Bridges	24,800	Sq.Ft.	100	2,480,000
2	CONTINGINCIES 20% +/-				520,000
3	TOTAL BRIDGE COST				\$3,000,000

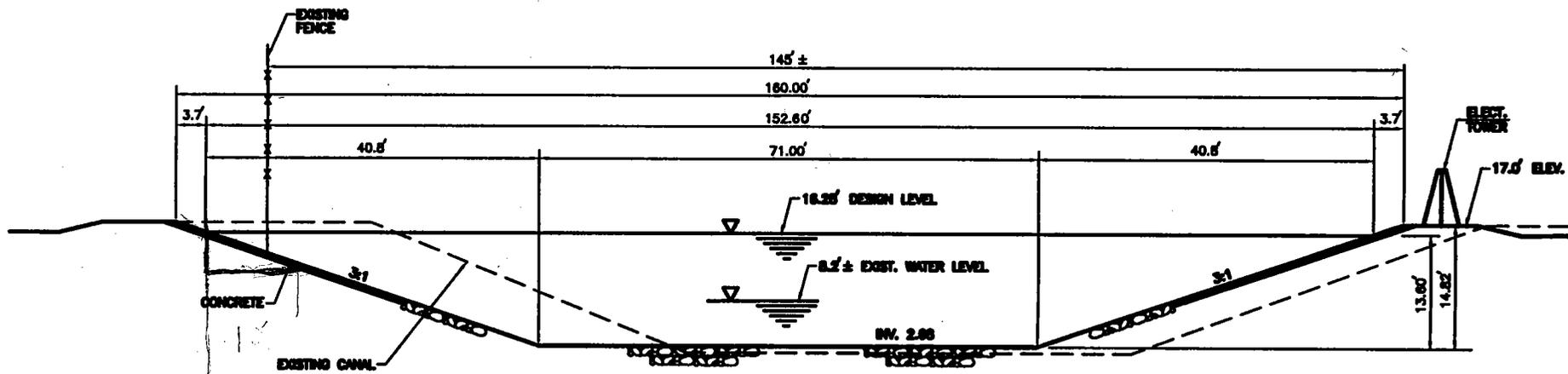
Feature 30 Engineering and Design \$3,400,000

Feature 31 Construction Management \$2,300,000

TOTAL COSTS SONIAT CANAL-N. DILTON TO W. NAPOLEON \$34,000,000

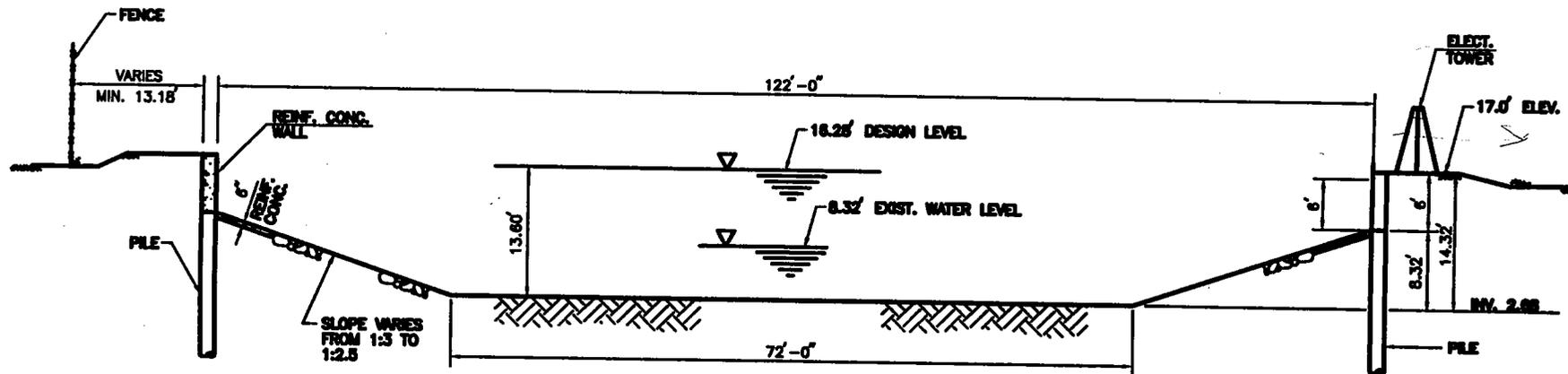
SONIAT CANAL
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PLATES



NORTH DILTON TO WEST NAPOLEON
SECTION AT STA. 123+00
TRAPEZOIDAL SECTION

$A = [(152.60 + 71) / 2] \times 13.6$	= 1520.48 ft ²
$P = 43 \times 2 + 71$	= 157 ft.
$R = 1520.48 / 157$	= 9.68
$R^{2/3} =$	= 4.58
$S =$	= 0.00011 ' / ,
$S^{1/2} =$	= 0.0105
$n =$	= 0.023 $1.49 / 0.023 = 64.78$
$Q = 1520.48 \times 64.78 \times 4.58 \times 0.0105$	= 4737 cfs ≈ 4700 cfs

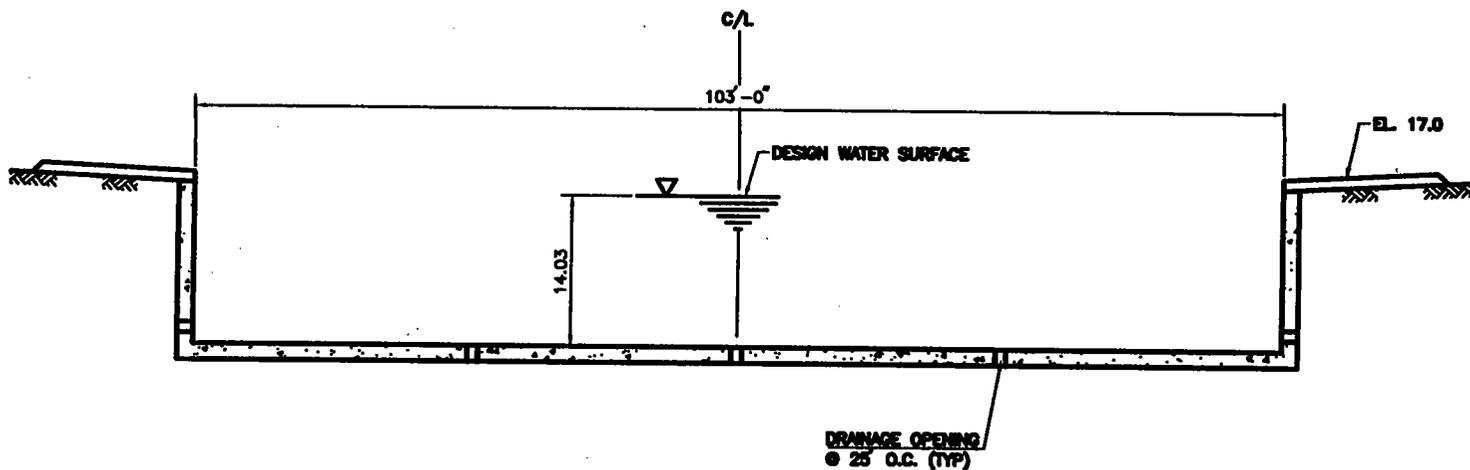


NORTH DILTON TO WEST NAPOLEON
SECTION AT STA. 123+00
RECOMMENDED PLAN

$Q_{\text{Design}} = 4700 \text{ cfs}$
 $A = 122 + 5.28 + \left(\frac{122 + 72}{2} \right) 8.32 = 1457 \text{ ft}^2$
 $P = (26.31 + 6)^2 + 72 = 136.62 \text{ ft.}$
 $R = 1457 / 136.62 = 10.66$
 $R^{2/3} = 4.88$
 $S = 0.00011 \text{ ' / '}$
 $S^{1/2} = 0.0105$
 $n = 0.023$
 $Q = 1457 \times \frac{1.49}{0.023} \times 4.88 \times 0.0105 = 4836 \text{ cfs} > 4700 \text{ cfs} \approx 4800 \text{ cfs O.K.}$

3400

$1970 \frac{1.49}{0.015} \times 4.5596 \times 0.0105$
 6990



**SECTION AT 149+00
WEST NAPOLEON TO CANAL #3
RECOMMENDED PLAN**

Q design=5000 cfs	
A_{req}=14.03x103	= 1445.09 ft²
P=103+14.03x2	= 131.06 ft.
R=1445.09/131.06	= 11.03
R^{2/3}	= 4.99
S	= 0.00005 ' / ,
S^{1/2}	= 0.0071
n	= 0.015 1.49/0.015=99.33
Q=1445.09x99.33x4.99x0.0071	= 5086 cfs ≈ 5000 cfs Q design

Cottone, Elizabeth MVN

From: Cottone, Elizabeth MVN
Sent: Tuesday, February 02, 1999 3:58 PM
To: Burkhard, Ron W MVD
Cc: Vicidomina, Francis MVN; Broussard, Terral J MVN; Buisson, Bob MVN; Earl, Carolyn H MVN; Anderson, Carl E MVN; Shadie, Charles E MVD
Subject: SELA - Soniat Canal - VE Proposals

Ron,

As I indicated to you, I am in the process of gathering all the data on all the alternative plans for this canal, including the VE alternatives, and I intend to address each one. Here's my interim response to you on the VE study for the subject canal:

With regard to proposals C-1 through C-12 presented in the report, here are my initial responses:

All alternatives were compared to a base plan costing as much as \$77.5 million. I am not sure where this came from or how we are got to call that the base plan, but whatever.....

The Parish is supporting a plan that calls for a concrete U-frame from Canal #3 to W. Napoleon, and a fully-lined concrete trap or modified U-frame from W. Napoleon to W. Metairie. OUR cost estimate for this plan is \$23 to \$26 million depending on whether we end up with the lined trap or the modified U-frame.

VE proposals C-1 and C-2 call for an earthen parallel channel on the other side of the power line towers, and no improvement to the existing channel. Both our H&H engineer and the Parish's H&H consultant agree that BOTH the second channel and the existing channel would have to be concrete-lined to get the authorized stage lowerings. That means that, if you enlarge and concrete-line the existing channel from W. Nap to W. Met (as called for in the Parish's plan), you don't need the parallel channel, but concrete-lining both channels in lieu of the U-Frame from W. Nap to Canal # 3 WILL NOT be cheaper than the U-Frame. In addition, our geotech folks agree with the Parish's geotech consultant that a second channel 25 feet from the property lines of the homes and businesses WOULD impact the ground water table (even if it is concrete-lined), and could induce damages. Add the cost of a sheet pile cutoff to address that concern and you're at an even higher cost.

C-3 and C-4 call for an earthen overflow channel built under the power line towers. In response to the concern about accessing the towers for maintenance, the VE suggests concrete-lining the overflow channel. Again, the H&H experts say the existing channel would have to be concrete-lined and they still don't think you could get the total flows to deliver the authorized benefits. They also have concerns about turbulence in the shallow overflow channel. Add to that Entergy's expressed objections (in a phone conversation with them today) to not being able to access the towers during "any" rain event (since the bottom of the overflow channel would be just above the normal water level in the canal and the overflow channel would have water during any significant rain event). Add to that the Parish's concern about the liability of having the towers IN their canal and the liability of a "dry" concrete channel that would attract skate-boarders and cyclists. Finally, add the cost of concrete-lining the overflow and the existing channel, and I don't think you have ANY savings over the Parish's preferred plan.

C-5 has a cost (in the report) of \$14,984,500 which is greater than the Parish's U-Frame plan estimated by NOD to cost about \$13 million. No savings.

C-6 concerns Canal #3.

C-7 involves using articulated mats for the side slopes and an earthen bottom. The H&H experts say the only trap that will work (deliver the authorized benefits) is a fully concrete-lined channel. Anything with a higher "n" value will not deliver the authorized benefits, and the impacts of the higher "n" value will not be minor.

C-8 involves an earthen trap with crushed stone bottom. Again, the only trap that will work is a fully concrete-lined one. When the H&H folks sized a trap with concrete side slopes to just below the water line, and riprap the rest of the way down and on the bottom, they came up with a trap with a 100' bottom width. An earthen trap with stone bottom as shown in the report would not deliver the authorized benefits.

C-9, like C-8 will not deliver the authorized benefits for essentially the same reasons. The increased "n" value has a major impact, not a minor one.

C-10 and C-11 both cost more than the Parish's preferred plan.

C-12 also costs more than the Parish's preferred plan. Further, it involves foregoing an authorized project in lieu of a feasibility study plan that has not been identified as the NED plan, and certainly not authorized. Further, benefits for the entire east bank basin rely on improvements to Soniat Canal from W. Metairie to Canal #3. Not doing those improvements impacts the entire basin. This would be reformulation of a total plan that is at least half-implemented.

I will continue putting together the information, as I have not addressed all the concerns with the VE proposals, and I agree with you on a meeting down here before we send the official memo to MVD.

Beth Cottone

U. Frame & Core Line Trap

28 9,870,000
29 15,750,000
25,620,000

Reloc Power Lines

6,690,000
6,510,000
13,200,000
6,000,000
19,200,000

Cottone, Elizabeth MVN

From: Cottone, Elizabeth MVN
Sent: Wednesday, February 03, 1999 11:13 AM
To: Burkhard, Ron W MVD
Cc: Vicidomina, Francis MVN; Earl, Carolyn H MVN; Anderson, Carl E MVN; Buisson, Bob MVN; Broussard, Terral J MVN; Shadie, Charles E MVD; Northey, Robert MVN
Subject: SELA - Soniat Canal - VE Proposals

Ron, I've received some additional comments from the Parish. The comments were forwarded (via e-mail) as a supplement to a letter they sent that addressed the parallel channel proposals but neglected to address the overflow proposal and the prospect of providing less than the authorized benefits, or waiting on Feasibility to implement a solution. Some of the issues I've already presented, but I'd like you to get a preview of all of their comments:

"The overflow channel proposal makes no mention whatsoever of potential groundwater drawdown, nor does it address passing flow at Lynette or Veterans. Both of these issues are fairly significant shortcomings. Based upon the info received from NOD's geotech, a 4' deep channel is below the top of the existing water table; therefore, groundwater drawdown will occur unless some sort of fix is provided. Having said that, I go back to discussions with your and our geotech who both indicate that there is no permanent fix to prevent groundwater drawdown over the long term.

Next, the "overflow" channel is totally worthless unless there is some provision to pass flow at Lynette and Veterans. In both cases, we have vertical curves over the canal, and intersections in very close proximity to the canal. We're already having problems coordinating all aspects of new/modified bridges over the canal with those intersections; e.g. sight distances, etc. By significantly widening the channel, we're going to make those problems worse.

Concerning maintenance of the "overflow" channel and the power lines/towers, the VE proposal contained within the report does not talk about paving the channel. Rather, it calls for grass for erosion protection with the possibility of stone armoring around the tower foundations. If we're talking an earthen "overflow" channel, we have substantial maintenance concerns. If we're saying the "overflow" channel will be paved, the Parish's maintenance concerns are somewhat lessened; however, we're still not happy about having additional maintenance responsibilities at Lynette and Veterans due to the need to have additional boxes/bridges, assuming such structures can be built without adversely affecting traffic flow, etc. With regard to Entergy, based upon an informal conversation with Claude Maraldo, Entergy is willing to consider this proposal provided someone bears all costs and assumes all liability of protecting the tower foundations and providing adequate access (including during storm events that they now have access during) to the towers and power lines.

Has Hydraulics figured out how to model this proposal? If not, what is the basis for further consideration?

We do not consider either of the new VE proposals acceptable. As you point out, the proposal to reduce the size of the proposed improvements involves a reduction in benefits. How would we justify adoption of such an idea? Who is going to explain to those individuals who flood during a 10 year storm that we only improved the canal to an 7 year / 8 year / ? year storm, when Congress directed us to provide 10-year protection? Better still, who is going to be responsible for settling the lawsuits? We concur with your question about delaying Soniat until we know what is going to happen with the feasibility study. We don't believe we should stake improvements authorized by Congress for the Soniat project on a project which may or may not be authorized/funded at some time in the future."

Another followup, just to keep you posted. I just spoke to Claude Maraldo with Entergy. I wanted to get some historical perspective on the power line (when it went in vs. when the houses were built, etc.). He asked about the overflow alternative and told me (in apparently stronger terms than he used with Jack McDonald of the Parish) that Entergy would have VERY STRENUOUS objections to the overflow channel. He said it is absolutely critical that they be able to access all of the towers, ESPECIALLY during a storm event.

Also, I thought I'd send you some of the photos I took day-before-yesterday when I went out. All of them are at the West Metairie Blvd. intersection. The first one is a view looking down the row of old foundations for the old lines that were first installed in the 1930's. The current towers were built in the 1950's. It is obvious that when the line got to the north side of West Metairie Blvd (tracking from the south) they shifted from an alignment that would have put it within 50 feet of their east ROW, to an alignment that put it about 150 feet from that ROW line. Thus, moving them to within 50 feet of the property lines would mean moving them about two-thirds of the way closer to the properties. While the line is within 50 feet of homes north of the I-10 (north of our work), those homes were all built there by choice of the owners with the powerline in place. It's kind of like choosing to build next to an airport runway vs. building some distance from the runway and then having the airport expand the runway closer to you. Also, FYI, the towers carry two circuits of 230KV each and one circuit of 115KV.

The other four shots are all looking north along the area of the SELA improvement. "2" is along the private property lines on the east side of the canal & powerline, "3" is along the western edge of the towers, "4" is down the center of the existing

canal, and "5" is down the west bank of the canal.

That's it for now...bc



Soniat1.jpg



Soniat2.jpg



Soniat3.jpg



Soniat4.jpg



Soniat5.jpg