

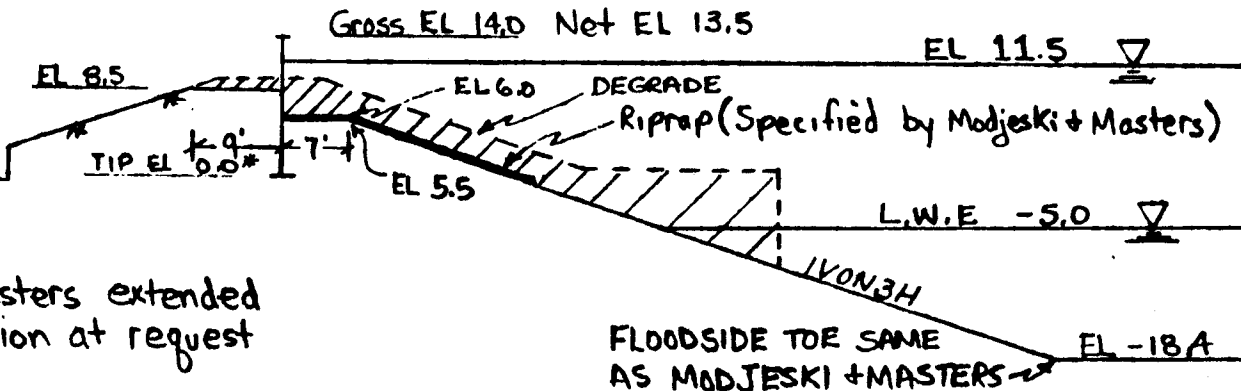
ORLEANS SIDE

STA 545+80

TO

STA 552+70

L. Point to Hammond Hwy  
 STA 545+80 TO STA 552+70  
 ORLEANS SIDE



\* Note Modjeski + Masters extended sheetpile tip elevation at request of N.O.S. + W.B.

SCALE 1" = 20'

ELEVATION IN FEET NGVD

Q FILES	F.S.	SWL.	CASE
Q5520A	1.0	11.5	S
* Q5520B	1.5	11.5	S
Q5520D	1.0	13.5	Q

RIPRAP (16")

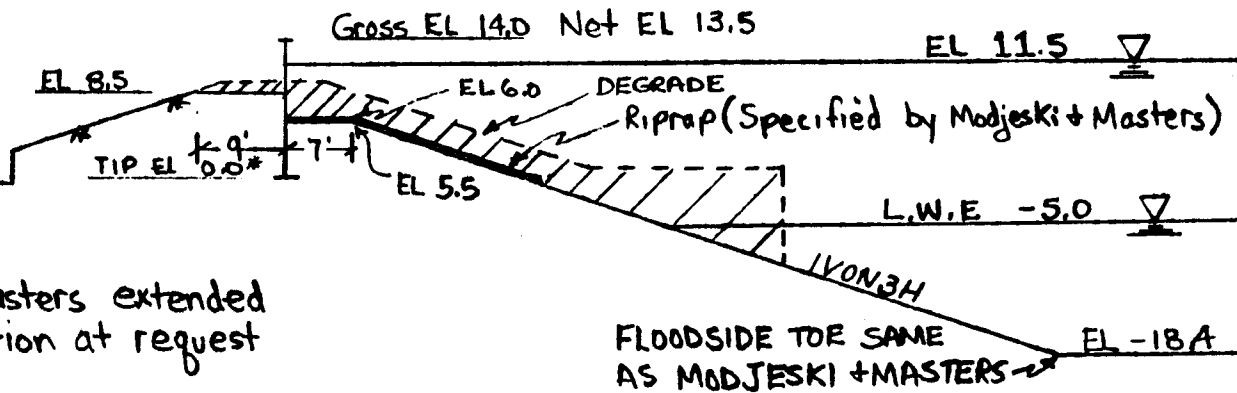
By H & A Branch

% Lighter by weight	Weight lbs
100	200-80
50	80-40
15	40-10

REVISED 4/88

PROJECT	17th St Outfall Canal	PAGE	OF	COMPUTED BY	DATE
SUBJECT	STA 545+80 TO STA 552+70 Orleans	CHECKED BY			6/87

STA 545+80 TO STA 552+70  
ORLEANS SIDE



\* Note Modjeski + Masters extended sheetpile tip elevation at request of N.O.S. + W.B

SCALE 1" = 20'

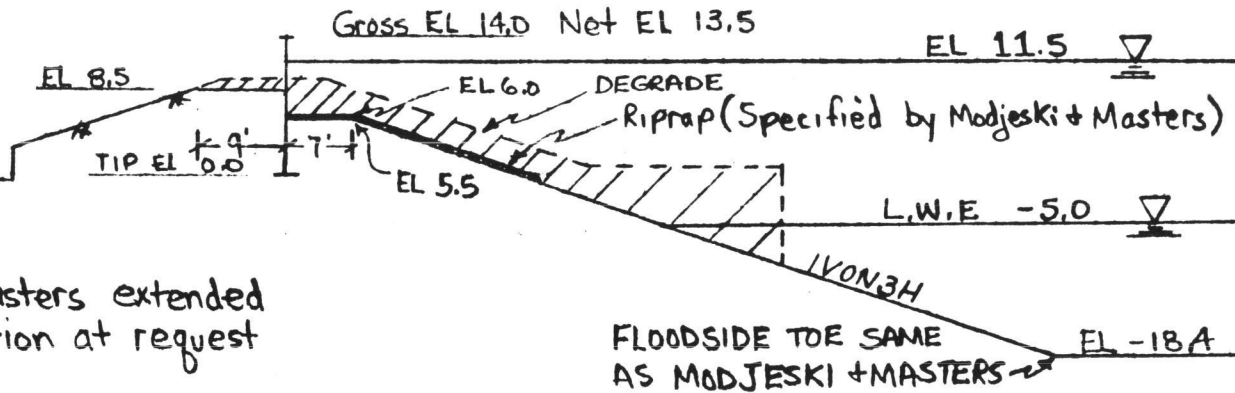
ELEVATION IN FEET NGVD

Q FILES	F.S.	S.W.L.	CASE
Q5520A	1.0	11.5	S
* Q5520B	1.5	11.5	S
Q5520D	1.0	13.5	Q

FLOOD SIDE  
18

REVISED 4/88

STA 545+80 TO STA 552+70  
**ORLEANS SIDE**



\* Note Modjeski + Masters extended sheetpile tip elevation at request of N.O.S.+W.B

SCALE 1" = 20'

ELEVATION IN FEET NGVD				
<u>Q5520</u>	<u>Q FILES</u>	<u>F.S.</u>	<u>SWL.</u>	<u>CASE</u>
<u>Q55201</u>	Q5520A	1.0	11.5	S
<u>Q55202</u>	Q5520B	1.5	11.5	S
<u>Q55203</u>	Q5520D	1.0	13.5	Q

**ADVANCE**  
 SUBJECT TO CORRECTION

REVISED 4/88

PROJECT	17th St Outfall Canal	PAGE	OF	COMPUTED BY	DATE
SUBJECT	STA 545+80 TO STA 552+70	CHECKED BY			2/87

LIST Q55201

BEAMS (SHEAR, MOMENT, DEFLECTION)

17TH STR. -Q5520A-SWL=11.5-S CASE-FS=1.0

THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS AS COUNTERCLOCKWISE.

THE MAXIMUM DEFLECTION IS 0.02 INCHES AND OCCURS AT MEMBER COORDINATE 13.50 FT.

PZ22 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.

THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

CALCULATED EXTERNAL LOADS

DISTANCE FROM REFERENCE(FT)	TYPE OF LOAD	MAGNITUDE OF LOAD
1.67	POINT LD	0.00 LBF
1.67	COUPLE	-23.48 LBF-FT

*FRODINGHAM 113*  
*ACCEPTABLE*  
 $I_F = \frac{1}{3} I_{PZ22}$

$$\Delta_F \approx 3 \times \Delta_{PZ22}$$

INPUTTED LOADS

DISTANCE FROM REFERENCE(FT)	TYPE OF LOAD	MAGNITUDE OF LOAD
11.50	CONTN LD	0.00 LBF/SQ FT
10.50	CONTN LD	31.25 LBF/SQ FT
9.50	CONTN LD	93.75 LBF/SQ FT
8.50	CONTN LD	156.25 LBF/SQ FT
8.50	CONTN LD	156.25 LBF/SQ FT
7.50	CONTN LD	26.43 LBF/SQ FT
7.30	CONTN LD	0.00 LBF/SQ FT
6.50	CONTN LD	-103.39 LBF/SQ FT
6.00	CONTN LD	-168.30 LBF/SQ FT
6.00	CONTN LD	-168.30 LBF/SQ FT
5.50	CONTN LD	-221.25 LBF/SQ FT
5.50	CONTN LD	-213.33 LBF/SQ FT
4.50	CONTN LD	-315.98 LBF/SQ FT
4.29	CONTN LD	-337.71 LBF/SQ FT
3.26	CONTN LD	0.00 LBF/SQ FT
1.67	CONTN LD	523.42 LBF/SQ FT
1.67	CONTN LD	0.00 LBF/SQ FT

$$\Delta_F < 1.5'' \checkmark$$

PZ22 PROPERTIES ARE AS FOLLOWS.

58  
 59 MOMENT OF INERTIA= 84.38 IN. TO THE 4TH PER FOOT OF WALL  
 60 CROSS SECTIONAL AREA= 1.84 SQ IN.  
 61 ELASTIC MODULUS= 29000000. LBF/SQ IN.  
 62 DEFLECTION REFERENCE IS AT 0.000

63  
 64  
 65 THE MAXIMUM BENDING MOMENT IS 929.17 LBF-FT AND OCCURS AT 5.13  
 66 WHICH HAS THE SHEAR FORCE OF 5.44 LBF.  
 67

70	DEFLECTION				
	FROM TANG.				
	THRU DEFLE				
71 DISTANCE	SHEAR FOR	SHEAR STR	BENDING MOM	REFERENCE	
72 (FEET)	(LBF)	(LBF/SQIN)	(LBF-FT)	(INCHES	)
73 13.500	0.0	0.0	0.0	0.0223	
74 13.499	0.0	0.0	0.0	0.0223	
75 13.000	0.0	0.0	0.0	0.0209	
76 12.000	0.0	0.0	0.0	0.0181	
77 11.000	3.9	2.1	0.7	0.0153	
78 10.000	39.1	21.2	18.2	0.0126	
79 9.000	132.8	72.2	99.0	0.0098	
80 8.000	265.0	144.0	300.7	0.0072	
81 7.296	297.2	161.5	502.2	0.0054	
82 7.000	291.5	158.4	589.7	0.0047	
83 6.000	188.1	102.2	840.3	0.0027	
84 5.133	5.4	3.0	929.2	0.0014	
85 5.000	-28.8	-15.7	927.6	0.0012	
86 4.000	-326.9	-177.6	751.1	0.0004	
E 3.262	-416.6	-226.4	465.9	0.0001	
88 3.260	-416.6	-226.4	465.1	0.0001	
89 3.000	-405.3	-220.3	357.6	0.0001	
90 2.000	-155.0	-84.2	50.1	0.0000	
91 1.671	-0.5	-0.3	23.5	0.0000	
92 1.669	0.0	0.0	0.0	0.0000	
93 1.000	0.0	0.0	0.0	0.0000	
94 0.001	0.0	0.0	0.0	0.0000	
95 0.000	0.0	0.0	0.0	0.0000	

96  
 97  
 98  
 99 \*RUN COMPLETED\*

100  
 EOT..  
 LIST DRW22D  
 1 1010 1 13.500 0.000 1.000 0.000 0 -1  
 2 1020 PZ22  
 3 1030 29000000.00 1.840 84.380

EOT..  
 LIST Q55203  
 1  
 2 BEAMS (SHEAR, MOMENT, DEFLECTION)  
 3  
 4  
 5 17TH STR. -Q5520D-SWL=13.5-Q CASE-FS=1.0  
 6  
 7  
 8 THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT

9 INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS  
10 AS COUNTERCLOCKWISE.

11  
12

13 THE MAXIMUM DEFLECTION IS 0.02 INCHES AND OCCURS AT MEMBER COORDINATE  
14 13.50 FT.

15  
16  
17

18 PZ22 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.

19  
20

21 THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

22  
23

### CALCULATED EXTERNAL LOADS

24

25	DISTANCE FROM	TYPE OF	MAGNITUDE OF
26	REFERENCE (FT)	LOAD	LOAD
27			
28	4.61	POINT LD	0.00 LBF
29	4.61	COUPLE	-29.14 LBF-FT

30  
31

### INPUTTED LOADS

34	DISTANCE FROM	TYPE OF	MAGNITUDE OF
35	REFERENCE (FT)	LOAD	LOAD
36			
37	13.50	CONTN LD	0.00 LBF/SQ FT
38	12.50	CONTN LD	62.50 LBF/SQ FT
39	11.50	CONTN LD	125.00 LBF/SQ FT
40	10.50	CONTN LD	187.50 LBF/SQ FT
41	9.50	CONTN LD	250.00 LBF/SQ FT
42	8.50	CONTN LD	312.50 LBF/SQ FT
43	8.50	CONTN LD	0.00 LBF/SQ FT
44	8.50	CONTN LD	-687.50 LBF/SQ FT
45	7.50	CONTN LD	-735.00 LBF/SQ FT
46	6.50	CONTN LD	-782.50 LBF/SQ FT
47	6.41	CONTN LD	-786.77 LBF/SQ FT
48	5.83	CONTN LD	0.00 LBF/SQ FT
49	4.61	CONTN LD	1632.20 LBF/SQ FT
50	4.61	CONTN LD	0.00 LBF/SQ FT

51  
52

53 PZ22 PROPERTIES ARE AS FOLLOWS.

54  
55

56 MOMENT OF INERTIA= 84.38 IN. TO THE 4TH PER FOOT OF WALL

57 CROSS SECTIONAL AREA= 1.84 SQ IN.

58 ELASTIC MODULUS= 29000000. LBF/SQ IN.

59 DEFLECTION REFERENCE IS AT 0.000

60  
61

62 THE MAXIMUM BENDING MOMENT IS 1734.97 LBF-FT AND OCCURS AT 7.41  
63 WHICH HAS THE SHEAR FORCE OF 5.76 LBF.

64  
65

DEFLECTION  
FROM TANG.

66

67					THRU DEFLE
68	DISTANCE	SHEAR FOR	SHEAR STR	BENDING MOM	REFERENCE
69	(FEET)	(LBF)	(LBF/SQIN)	(LBF-FT)	(INCHES )
70	13.500	0.0	0.0	0.0	0.0244
71	13.499	0.0	0.0	0.0	0.0244
72	13.000	7.8	4.2	1.3	0.0223
73	12.000	70.3	38.2	35.2	0.0180
74	11.000	195.3	106.1	162.8	0.0138
75	10.000	382.8	208.1	446.6	0.0098
76	9.000	632.8	343.9	949.2	0.0060
77	8.500	781.2	424.6	1302.1	0.0044
78	8.000	431.6	234.5	1605.8	0.0030
79	7.413	5.8	3.1	1735.0	0.0017
80	7.000	-303.4	-164.9	1673.8	0.0010
81	6.000	-968.6	-526.4	999.1	0.0002
82	5.827	-989.0	-537.5	829.2	0.0001
83	5.825	-989.0	-537.5	827.2	0.0001
84	5.000	-529.6	-287.8	137.8	0.0000
85	4.615	-1.6	-0.9	29.1	0.0000
86	4.613	0.0	0.0	0.0	0.0000
87	4.000	0.0	0.0	0.0	0.0000
88	3.000	0.0	0.0	0.0	0.0000
89	2.000	0.0	0.0	0.0	0.0000
90	1.000	0.0	0.0	0.0	0.0000
91	0.001	0.0	0.0	0.0	0.0000
92	0.000	0.0	0.0	0.0	0.0000

93

94

96 \*RUN COMPLETED\*

97

EOT..

LIST Q55202

1

2

BEAMS (SHEAR, MOMENT, DEFLECTION)

3

4

5

17TH STR. -Q5520B-SWL=11.5-S CASE-FS=1.5

6

7

8 THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT  
 9 INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS  
 10 AS COUNTERCLOCKWISE.

11

12

13 THE MAXIMUM DEFLECTION IS 0.05 INCHES AND OCCURS AT MEMBER COORDINATE  
 14 13.50 FT.

15

16

17

18 PZ22 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.

19

20 THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

21

22

23 CALCULATED EXTERNAL LOADS

24



25	DISTANCE FROM	TYPE OF	MAGNITUDE OF
26	REFERENCE (FT)	LOAD	LOAD
28	0.26	POINT LD	0.00 LBF
29	0.26	COUPLE	-6.61 LBF-FT

32 INPUTTED LOADS

34	DISTANCE FROM	TYPE OF	MAGNITUDE OF
35	REFERENCE (FT)	LOAD	LOAD
37	11.50	CONTN LD	0.00 LBF/SQ FT
38	10.50	CONTN LD	62.50 LBF/SQ FT
39	9.50	CONTN LD	125.00 LBF/SQ FT
40	8.50	CONTN LD	187.50 LBF/SQ FT
41	8.50	CONTN LD	187.50 LBF/SQ FT
42	7.50	CONTN LD	57.68 LBF/SQ FT
43	7.06	CONTN LD	0.00 LBF/SQ FT
44	6.50	CONTN LD	-72.14 LBF/SQ FT
45	6.00	CONTN LD	-137.05 LBF/SQ FT
46	6.00	CONTN LD	-137.05 LBF/SQ FT
47	5.50	CONTN LD	-190.00 LBF/SQ FT
48	5.50	CONTN LD	-182.08 LBF/SQ FT
49	4.50	CONTN LD	-284.73 LBF/SQ FT
50	3.50	CONTN LD	-387.38 LBF/SQ FT
51	3.41	CONTN LD	-396.46 LBF/SQ FT
52	2.17	CONTN LD	0.00 LBF/SQ FT
53	0.26	CONTN LD	613.23 LBF/SQ FT
54	0.26	CONTN LD	0.00 LBF/SQ FT

57 PZ22 PROPERTIES ARE AS FOLLOWS.

60 MOMENT OF INERTIA= 84.38 IN. TO THE 4TH PER FOOT OF WALL  
 61 CROSS SECTIONAL AREA= 1.84 SQ IN.  
 62 ELASTIC MODULUS= 29000000. LBF/SQ IN.  
 63 DEFLECTION REFERENCE IS AT 0.000

66 THE MAXIMUM BENDING MOMENT IS 1540.67 LBF-FT AND OCCURS AT 4.44  
 67 WHICH HAS THE SHEAR FORCE OF 12.66 LBF.

DEFLECTION

72	DISTANCE	SHEAR FOR	SHEAR STR	BENDING MOM	DEFLECTION
73	(FEET)	(LBF)	(LBF/SQIN)	(LBF-FT)	(INCHES )
74	13.500	0.0	0.0	0.0	0.0474
75	13.499	0.0	0.0	0.0	0.0474
76	13.000	0.0	0.0	0.0	0.0447
77	12.000	0.0	0.0	0.0	0.0392
78	11.000	7.8	4.2	1.3	0.0338
79	10.000	70.3	38.2	35.2	0.0283
80	9.000	195.3	106.1	162.8	0.0229
81	8.000	358.8	195.0	442.6	0.0176
82	7.056	416.7	226.4	817.8	0.0129

83	7.000	416.5	226.3	841.0	0.0126
84	6.000	344.3	187.1	1232.2	0.0082
85	5.000	158.7	86.2	1491.4	0.0047
86	4.443	12.7	6.9	1540.7	0.0032
	4.000	-126.0	-68.5	1516.3	0.0022
86	3.000	-477.6	-259.6	1210.0	0.0008
89	2.175	-586.9	-318.9	756.0	0.0002
90	2.173	-586.9	-318.9	754.9	0.0002
91	2.000	-582.0	-316.3	653.5	0.0002
92	1.000	-366.0	-198.9	152.8	0.0000

93	0.261	-0.6	-0.3	6.6	0.0000
94	0.259	0.0	0.0	0.0	0.0000
95	0.001	0.0	0.0	0.0	0.0000
96	0.000	0.0	0.0	0.0	0.0000

97  
98  
99

100 \*RUN COMPLETED\*

101  
EOT..  
LIST DRW22D  
1 1010 1 13.500 0.000 1.000 0.000 0 -1  
2 1020 PZ22  
3 1030 29000000.00 1.840 84.380  
EOT..