

US Army Corps
of Engineers®
New Orleans District

MISSISSIPPI RIVER - GULF OUTLET NEW LOCK AND CONNECTION CHANNELS INDUSTRIAL CANAL LOCK REPLACEMENT ORLEANS PARISH, LOUISIANA

FEASIBILITY STUDY

MAY 2016

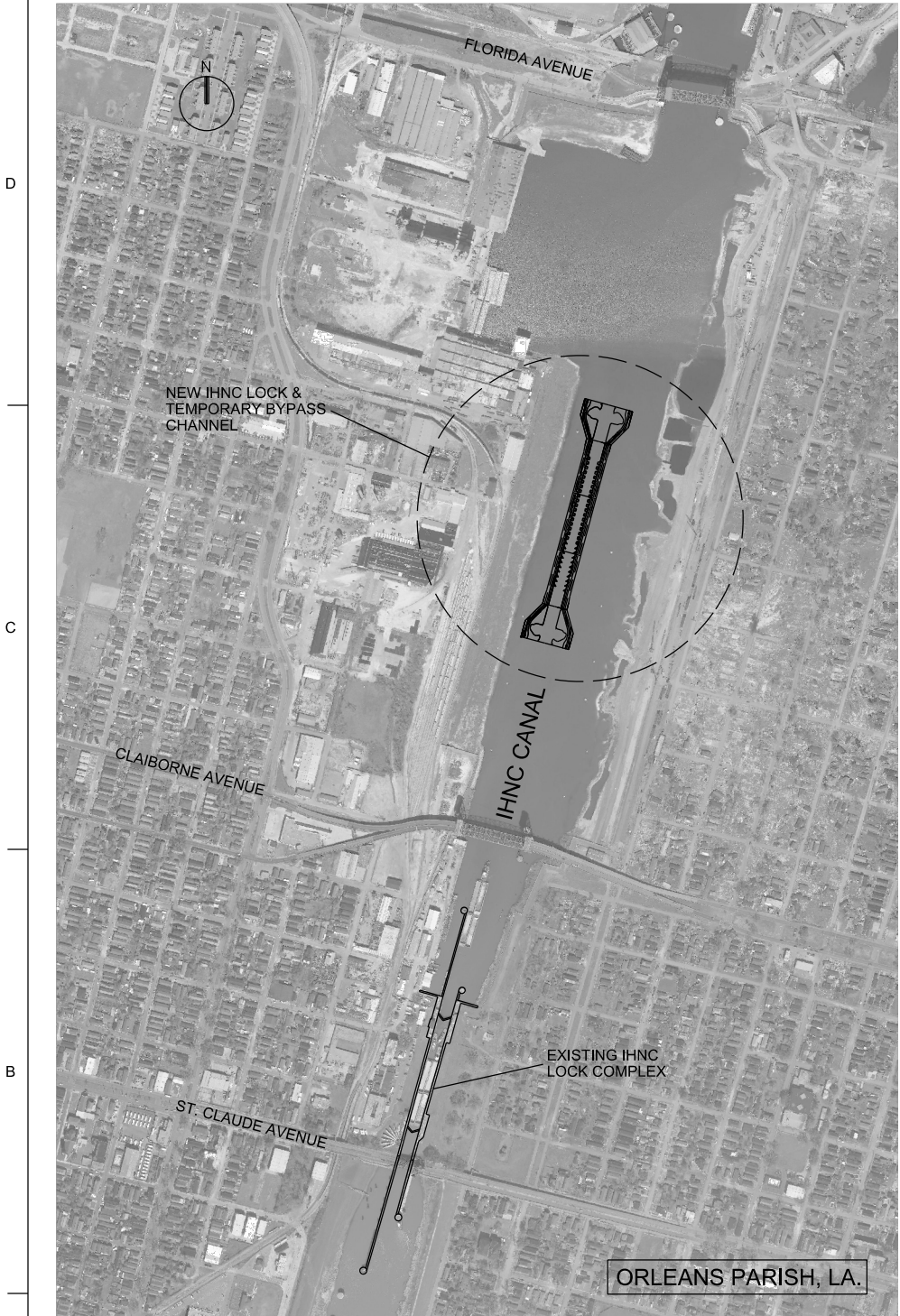


MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: JEREMY D. LASERS DATE: MAY 2016	SUBMITTED BY: DAVID P. LOVETT, JR. P.E. DATE: MAY 2016	DESIGNED BY: JERRY D. LASERS DATE: MAY 2016	SUBMITTED BY: DAVID P. LOVETT, JR. P.E. DATE: MAY 2016	DESIGNED BY: JERRY D. LASERS DATE: MAY 2016	SUBMITTED BY: DAVID P. LOVETT, JR. P.E. DATE: MAY 2016
U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT NEW ORLEANS, LOUISIANA		SOLICITATION NO.:		CONTRACT NO.:	
FILE NAME: H44XXXX_G-001.dgn		PLOT SCALE:		FILE NUMBER:	
ANSI D		PLOT DATE:		FILE NUMBER:	

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
COVER SHEET

SHEET
IDENTIFICATION
G-001

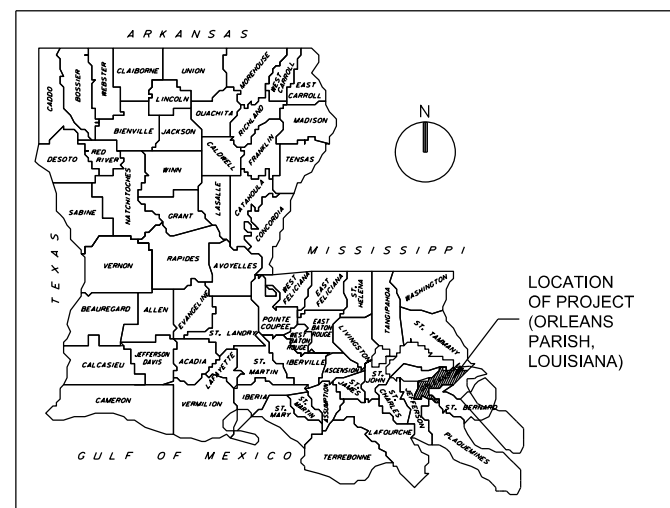


LOCATION MAP

SCALE: 1" = 500'

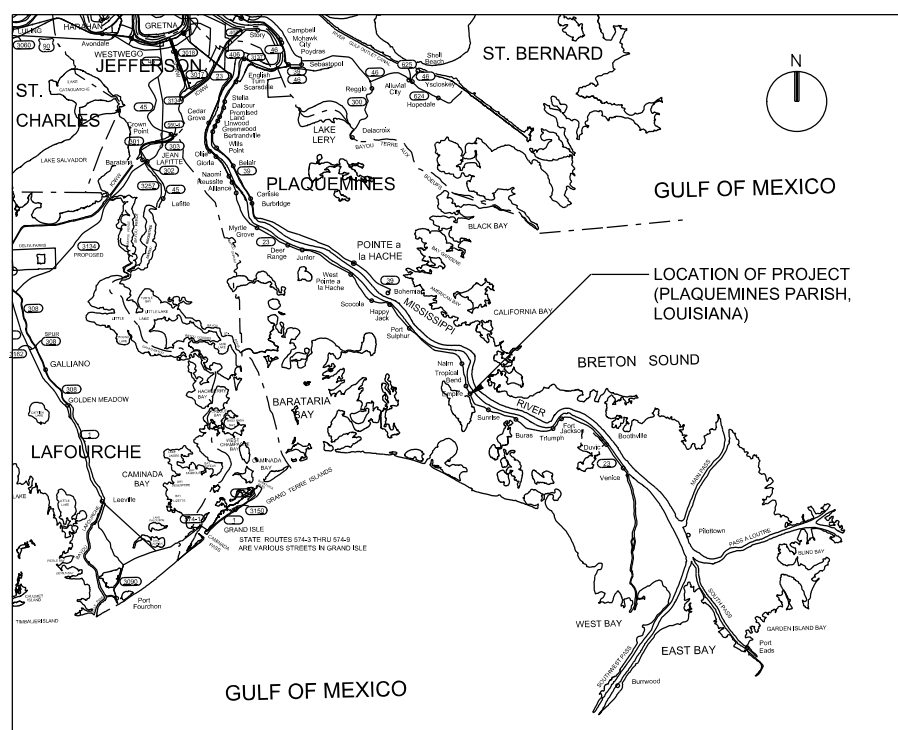
SCALE: 1" = 500'

- NOTES:**
1. THE DESCRIPTIONS OF HORIZONTAL AND VERTICAL CONTROL POINTS ARE AVAILABLE FROM THE NEW ORLEANS DISTRICT SURVEY SECTION (504)862-2995.
 2. ORIGINAL DATA COMPILED NAD 83 US SURVEY FOOT UNLESS OTHERWISE NOTED.
 3. ELEVATIONS REFER TO NAVD88 (2009.55) UNLESS OTHERWISE NOTED.
 4. INSIDE PLAN AREAS, POLYCONIC PROJECTION 1983 NORTH AMERICAN DATUM IS REPRESENTED BY SOLID TICKS AND LAMBERT CONFORMAL CONIC PROJECTION IS REPRESENTED BY DASHED TICKS.
 5. AERIAL PHOTOGRAPHY FLOWN IS INDICATED ON SPECIFIC IMAGE SHEETS.



VICINITY MAP - STATE OF LOUISIANA

SCALE: N.T.S.



VICINITY MAP

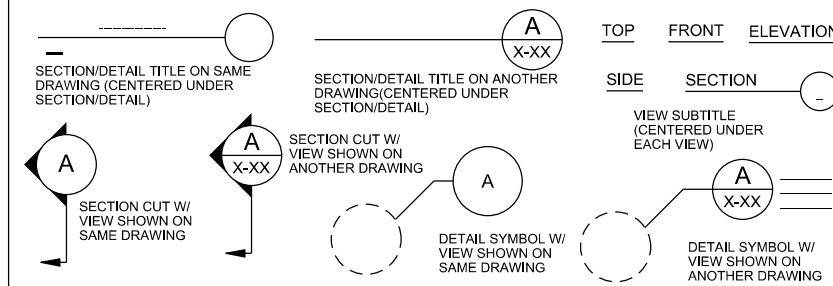
SCALE: N.T.S.

BENCHMARKS			
DESIGNATION:	HORIZ. CONTROL:	VERT. CONTROL:	
1193 B (PRIMARY BM) (PID DH3213)	LAT. = 29°23'20.47644" N LONG. = -89°35'47.21023" E	N = 327,501.19 E = 3,833,959.75	ELEV. = 12.162' (NAVD 88, EPOCH 2009.55)
DESCRIPTION:			
DESCRIBED BY 3001, INC (MH) THE STATION IS LOCATED IN PLAQUEMINES PARISH AT EMPIRE, LA AT THE EMPIRE LOCKS (COE) ABOUT 5.0 MILES NORTHWEST OF BURAS, LA AND 8.7 MILES SOUTHEAST OF PORT SULPHUR, LA OWNERSHIP-COE TO REACH THE STATION FROM THE INTERSECTION OF LA 11 AND LOCKS RD IN EMPIRE, LA JUST SOUTHWEST OF LOCKS, TO NORTHEAST ABOUT 500' TO EMPIRE LOCKS GATE AND ENTER THROUGH GATE TO THE NORTHEAST CORNER END OF LOCKS AND MARK. THE STATION IS NATIONAL OCEAN SERVICE DISK. STAMPED 1193B 1996 SET ON THE NORTH SIDE OF LOCKS ON TOP OF THE NORTHEAST END OF CONCRETE LOCK WALL NEAR LOCK GATES AND LEVEE SHEET-PILING CROSSING SET FLUSH IN TOP OF CONCRETE 3' SOUTHEAST OF A SOLAR PANEL BOX POLE.			

GENERAL LEGEND

	BENCHMARK		WATER VALVE		LIGHT POLE		EXISTING CULVERT PIPE
	BORING LOCATION AND NUMBER		CATCH BASIN		WATER METER		EXISTING RIGHT OF WAY
	FILL		FIRE HYDRANT		STAGING AREA		LIMITS OF CONSTRUCTION
	CUT		P.I. POINT		SHEET PILE		CONSTRUCTION EASEMENT
	LEVEE		MANHOLE		RIP-RAP		EXISTING OVERHEAD POWER
	DEMOLITION		POWER POLE		CONCRETE		SILT FENCE
			EXCAVATION & COMPACTED FILL		WATER MAIN		SECURITY FENCE

GENERAL CROSS-REFERENCING SYMBOLS



ABBREVIATIONS

* UNLESS OTHERWISE NOTED ON EACH SHEET

ALT	ALTERNATE	L/W	LANDWARD
ALUM	ALUMINUM	MAX	MAXIMUM
ANCH	ANCHOR	MFG	MANUFACTURER
APPROX	APPROXIMATE	MIN	MINIMUM
BF	BOTTOM FACE	MIRR	MIRRORED
BITUM	BITUMINOUS	MISC	MISCELLANEOUS
BKT	BRACKET	NF	NEAR FACE
BOT	BOTTOM	NO	NUMBER
C/L OR CL	CENTER LINE	NS	NEAR SIDE
C&G	CURB & GUTTER	NWL	NORMAL WATER LEVEL
C.G.	CENTER OF GRAVITY	OF	OUTSIDE FACE
CLR	CLEAR	O.C.	ON CENTER
C/J	CONSTRUCTION JOINT	PL	PLATE
CJP	COMPLETE JOINT PENETRATION	PROT	PROTECTION
CMP	CORRUGATED METAL PIPE	R	RADIUS
CONC	CONCRETE	REINF	REINFORCING
CPT	CONE PENETRATION TEST	REQ'D	REQUIRED
C.R.S.	CORROSION RESISTANT STEEL	R/W	RIGHT-OF-WAY
DIA	DIAMETER	SAN	SANITARY
DWG	DRAWING	SPS	SPACES
EA	EACH	SPEC	SPECIFICATIONS
EF	EACH FACE	SST	STAINLESS STEEL
EJ	EXPANSION JOINT	STD	STANDARD
EL	ELEVATION	SYM	SYMMETRICAL
EW	EACH WAY	T&B	TOP AND BOTTOM
EXIST	EXISTING	TF	TOP FACE
FB	FRONT FACE	TRS	TEMPORARY RETAINING STRUCTURE
FCM	FRACTURE CRITICAL MEMBER	TYP	TYPICAL
FF	FRONT FACE	UNO	UNLESS NOTED OTHERWISE
FES	FLARED END SECTION	UGND	UNDERGROUND
F.H.M.S.	FLAT HEAD MACHINE SURFACE	W	WIDTH
FS	FAR SIDE	W	WITH
GALV	GALVANIZED	WL	WALL LINE
HRZ	HORIZONTAL	WT	WALL THICKNESS
HR	HAND RAIL	WWR	WELDED WIRE REINFORCEMENT
HT	HEIGHT	XS	EXTRA STRONG
IF	INSIDE FACE		
LG	LONG		

BENCHMARKS

DESIGNATION:	HORIZ. CONTROL:	VERT. CONTROL:	
BLD 152 (VERIFICATION BM)	LAT. = 29°23'28.00891" N LONG. = -89°35'52.64883" E	N = 328,254.694 E = 3,833,467.162	ELEV. = 16.24' (NAVD 88, EPOCH 2009.55)
DESCRIPTION:			
BRASS CAP FOUND 0.5 FEET BELOW THE SURFACE OF THE TOP LEVEE, STAMPED "BLD-152 08-126C 2008"			

BENCHMARKS

DESIGNATION:	HORIZ. CONTROL:	VERT. CONTROL:	
EMPIRE AZ MK 2 (VERIFICATION BM)	LAT. = 29°23'38.14510" N LONG. = -89°36'11.36711" E	N = 329,253.43 E = 3,831,796.03	ELEV. = -.67' (NAVD 88, EPOCH 2009.55)
DESCRIPTION:			
DESCRIBED BY NATIONAL GEODETIC SURVEY 1971 0.5 MI NW FROM EMPIRE. ABOUT 0.5 MILES NORTHWEST ALONG STATE HIGHWAY 23 FROM THE DRAW BRIDGE OVER THE DOULLUT CANAL AT EMPIRE, AT THE JUNCTION OF THE HIGHWAY AND A SHELL DRIVEWAY WHICH LEADS TO A TWO-STORY BRICK BUILDING, 35 1/2 FEET NORTHEAST OF THE CENTER LINE OF THE HIGHWAY, 33 FEET NORTHWEST OF THE CENTER LINE OF THE DRIVEWAY, 16.4 FEET SOUTHWEST OF THE SOUTHWEST RAIL OF THE MISSOURI PACIFIC RAILROAD, 2 1/2 FEET SOUTHWEST OF TELEPHONE POLE NUMBER 1327 1/2, 0.7 FEET NORTHEAST OF A METAL WITNESS POST, ABOUT 1 FOOT BELOW THE LEVEL OF THE HIGHWAY, AND SET IN THE TOP OF A CONCRETE POST WHICH IS 0.5 FEET BELOW THE SURFACE OF THE GROUND.			



DATE	DESCRIPTION

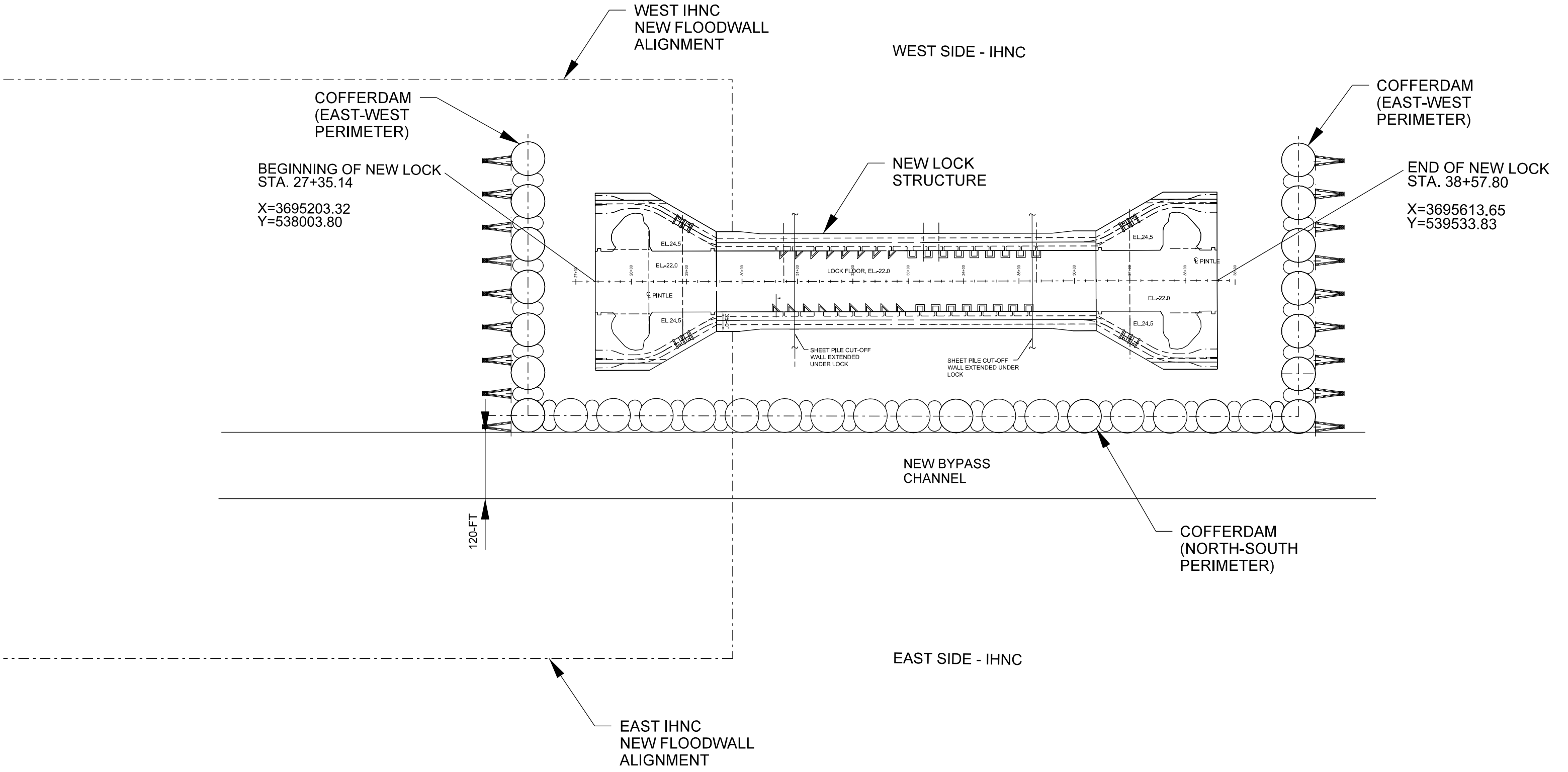
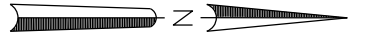
DESIGNED BY:	DATE:	SUBMITTED BY:	DATE:
JEREMY CLASERS	MAY 2016	DAVID P. LOVETT, JR., P.E.	MAY 2016
CHECKED BY:	FILE NO.:	FILE NAME:	FILE NAME:
DAVID P. LOVETT, JR., P.E.	14440000_G-002-GDN	14440000_G-002-GDN	14440000_G-002-GDN

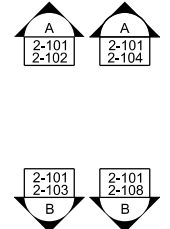
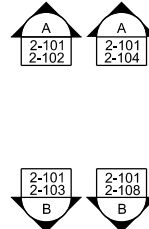
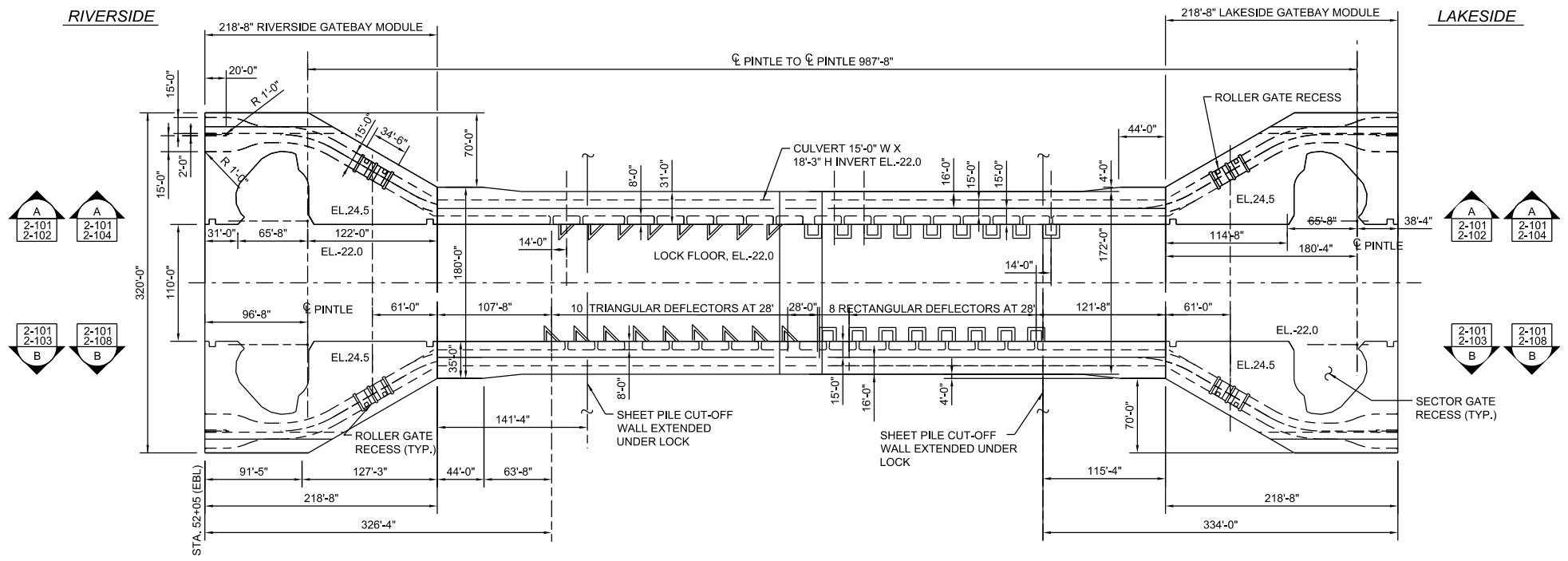
DESIGNED BY:	DATE:	SUBMITTED BY:	DATE:
JEREMY CLASERS	MAY 2016	DAVID P. LOVETT, JR., P.E.	MAY 2016
CHECKED BY:	FILE NO.:	FILE NAME:	FILE NAME:
DAVID P. LOVETT, JR., P.E.	14440000_G-002-GDN	14440000_G-002-GDN	14440000_G-002-GDN

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
NEW ORLEANS DISTRICT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY

LOCATION AND VICINITY
MAP

SHEET IDENTIFICATION
G-002



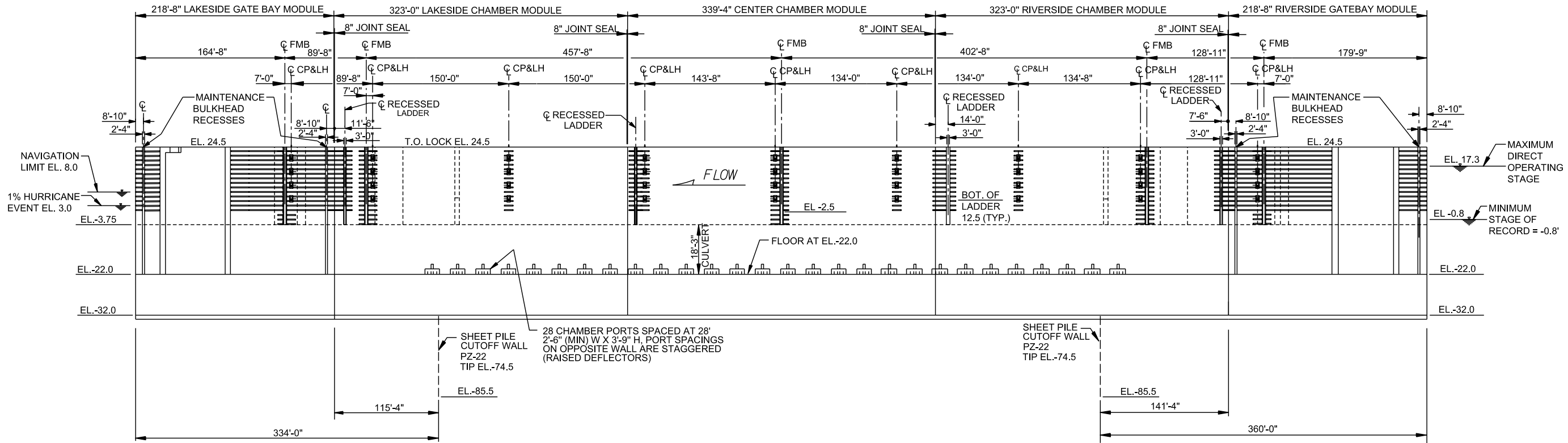


PLAN 2 (TSP)
110' X 900'
SILL EL. -22.0

LOCK MODULES PLAN
SCALE: 1" = 60'

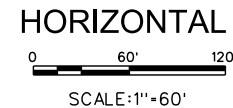
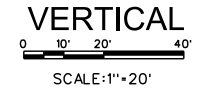
LAKESIDE

RIVERSIDE



EAST INTERIOR FACE ELEVATION

B
2-101
2-103
ELEVATION



DATE	DESCRIPTION	APPR.

DESIGNED BY: JEREMY D. LASKER	DATE: MAY 2016
DRAWN BY: D.M.	SUBMITTED BY: DAVID P. LOVETT, JR. P.E.
CONTRACT NO.:	FILE NUMBER:
PROJECT NO.:	
PLOT SCALE:	
SIZE:	ANSI D

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

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY

LOCK ELEVATION & DETAILS

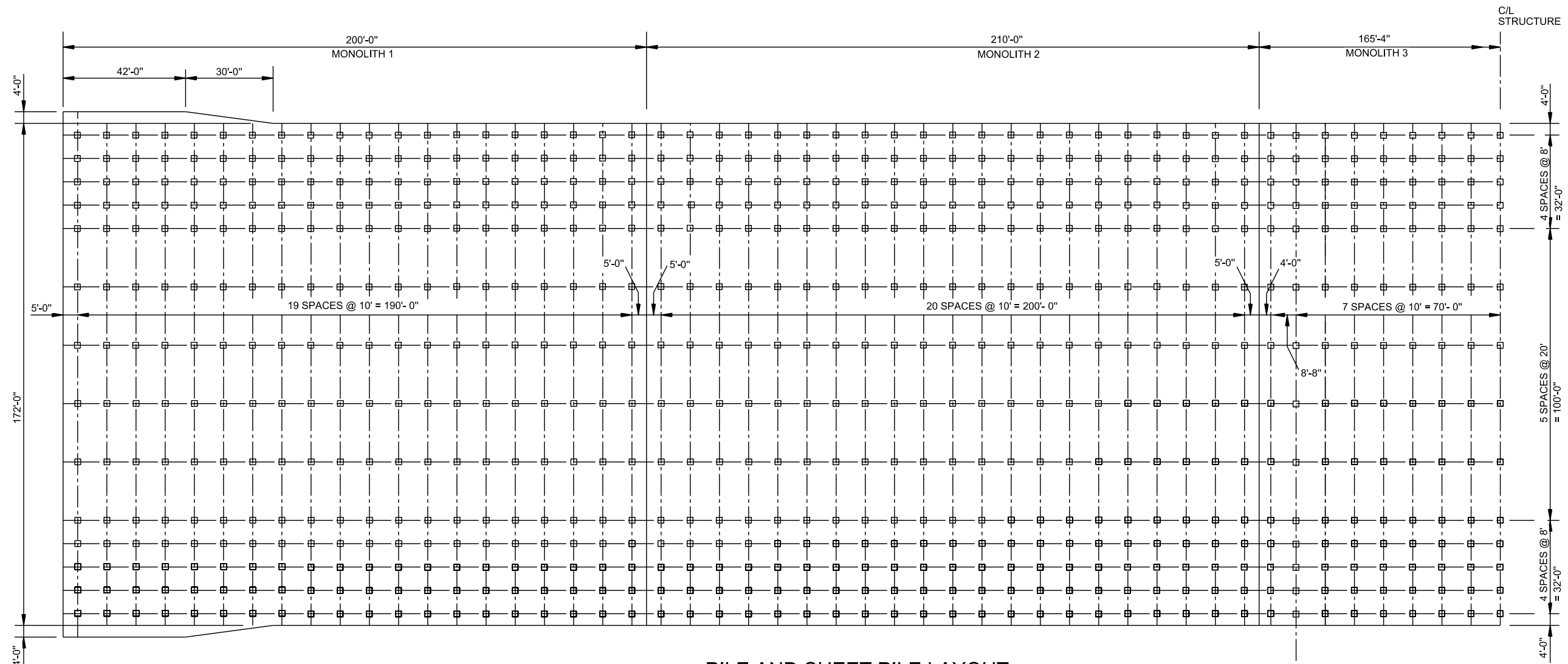
SHEET IDENTIFICATION
S-201



US Army Corps of Engineers
New Orleans District

RIVER SIDE

LAKE SIDE



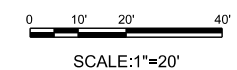
PILE AND SHEET PILE LAYOUT

SCALE: 1" = 20'

MONOLITH	TOTAL NUMBER OF PILES	PILE TIP ELEVATION	PAYMENT LENGTH WITH 12" EMBED	SERVICE LOAD	
				COMP (K)	TENSION (K)
1	280	-185	133 FT	520	200
2	294	-185	133 FT	520	200
3	238	-185	133 FT	520	200
4	294	-185	133 FT	520	200
5	280	-185	133 FT	520	200

NOTE:

1. PILE LAYOUT FOR CHAMBER IS SYMMETRIC ABOUT C/L
2. PILE C/L DIMENSIONS TAKEN AT EL. - 22.0.
3. ALL PILES ARE 24" SQUARE PPC PILES W/18, 1/2" 0, 7 WIRE, LOW-RELAXATION STRAND, GR 270.



DATE	DESCRIPTION	APPR. MARK

DESIGNED BY: JEFFREY D. LASKER	DATE: MAY 2016
CHECKED BY: [blank]	SUBMITTED BY: [blank]
DRAWN BY: [blank]	DESIGNED BY: [blank]
DATE: [blank]	DATE: [blank]
FILE NUMBER: [blank]	FILE NUMBER: [blank]
SCALE: [blank]	SCALE: [blank]
SHEET: [blank]	SHEET: [blank]
ANSI D [blank]	ANSI D [blank]

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

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
CHAMBER MONOLITHS - LOCK
PILE LAYOUT

SHEET IDENTIFICATION
S-202

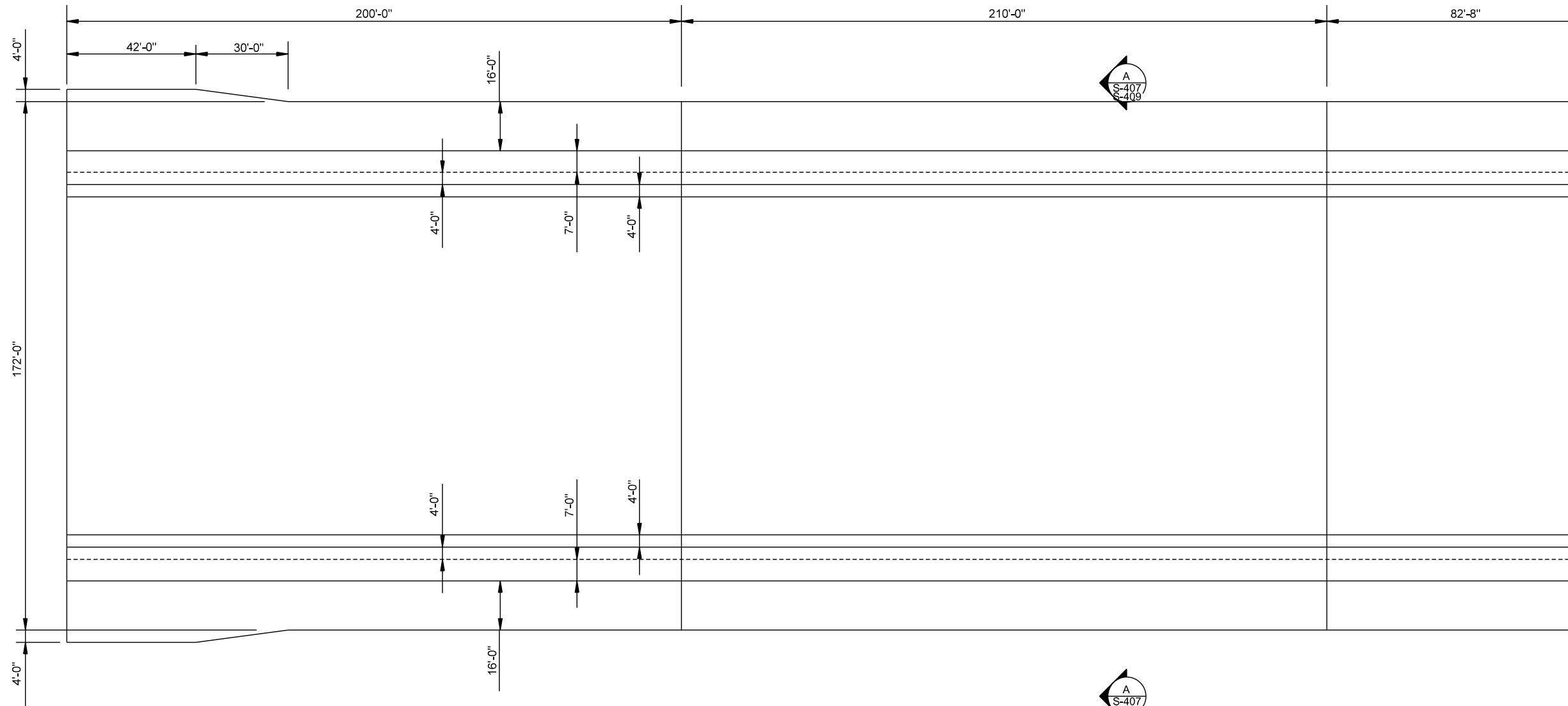
1 2 3 4 5

D

RIVER SIDE

LAKE SIDE

C/L
STRUCTURE



CHAMBER MASONRY PLAN AT EL. 24.5

SCALE: 1" = 20'

NOTE:

1. MASONRY PLAN FOR CHAMBER IS SYMMETRIC ABOUT C/L



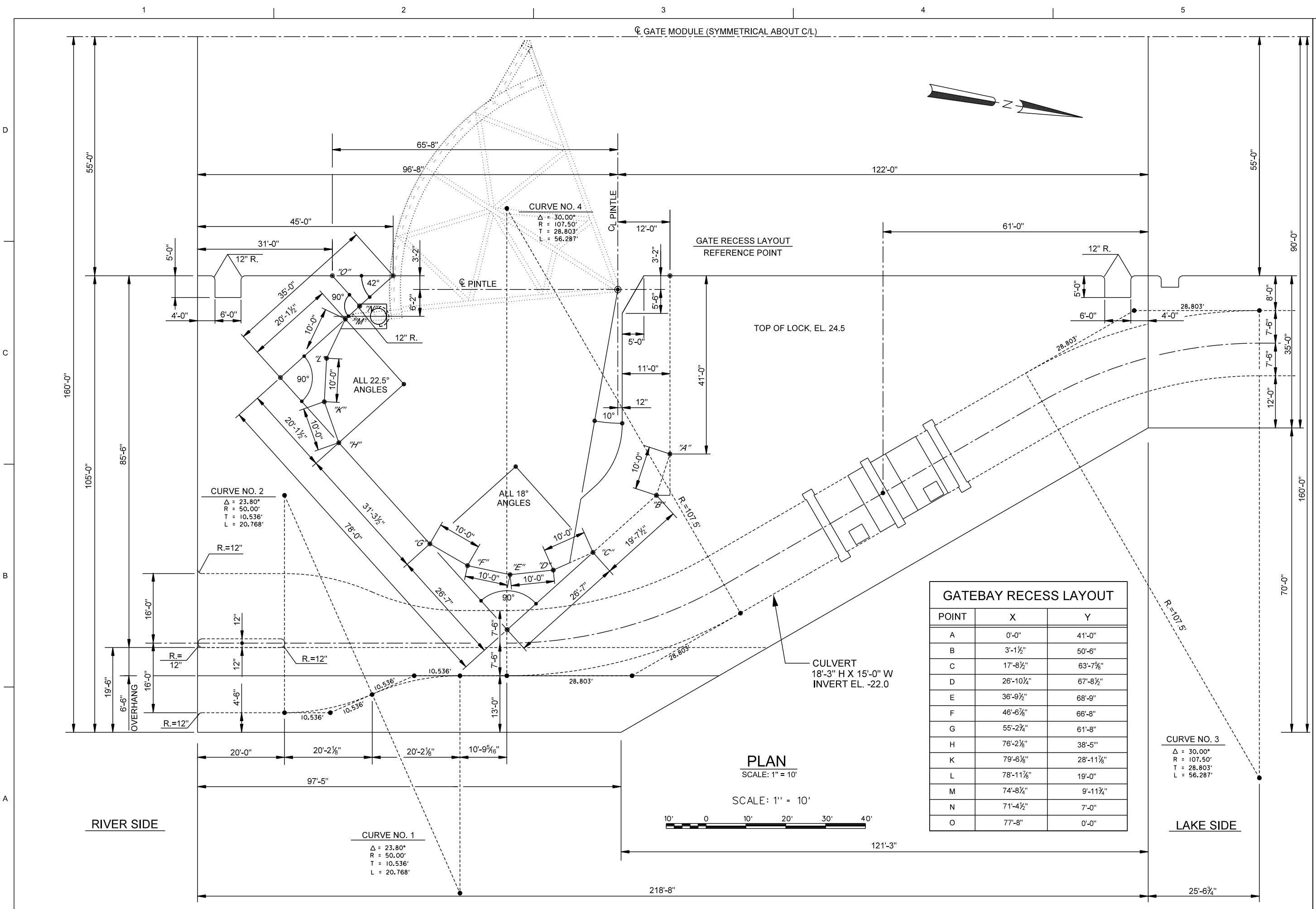
US Army Corps
of Engineers
New Orleans District

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.B.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
PLOT SCALE:	PLOT DATE:
SIZE: ANSI D	FILE NAME: sheet_wed.dgn

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
CHAMBER MASONRY PLAN
LOCK
AT EL. 24.5

SHEET
IDENTIFICATION
S-203



CURVE NO. 2
 $\Delta = 23.80^\circ$
 $R = 50.00'$
 $T = 10.536'$
 $L = 20.768'$

CURVE NO. 4
 $\Delta = 30.00^\circ$
 $R = 107.50'$
 $T = 28.803'$
 $L = 56.287'$

CURVE NO. 1
 $\Delta = 23.80^\circ$
 $R = 50.00'$
 $T = 10.536'$
 $L = 20.768'$

CURVE NO. 3
 $\Delta = 30.00^\circ$
 $R = 107.50'$
 $T = 28.803'$
 $L = 56.287'$

GATEBAY RECESS LAYOUT		
POINT	X	Y
A	0'-0"	41'-0"
B	3'-1½"	50'-6"
C	17'-8½"	63'-7½"
D	26'-10¼"	67'-8½"
E	36'-9½"	68'-9"
F	46'-6⅞"	66'-8"
G	55'-2¾"	61'-8"
H	76'-2½"	38'-5"
K	79'-6⅞"	28'-11⅞"
L	78'-11⅞"	19'-0"
M	74'-8¼"	9'-11¾"
N	71'-4½"	7'-0"
O	77'-8"	0'-0"



DATE	DESCRIPTION	APPR.	MARK

DESIGNED BY: JEREMY D. LASERS	DATE: MAY 2016
DRAWN BY: D.M.M.	SHEET NO. (OF 3): 001 (OF 003)
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.: W912P9-02-C-XXXX
FILE NAME: sheet_msd.dgn	FILE NUMBER: H44XXXX

MISSISSIPPI RIVER - GULF OUTLET
 NEW LOCK AND CONNECTION CHANNEL
 INDUSTRIAL CANAL LOCK REPLACEMENT
 ORLEANS PARISH, LOUISIANA
 FEASIBILITY STUDY
 CAST-IN PLACE
R/S GATEBAY
 MASONRY PLAN EL. 23.0

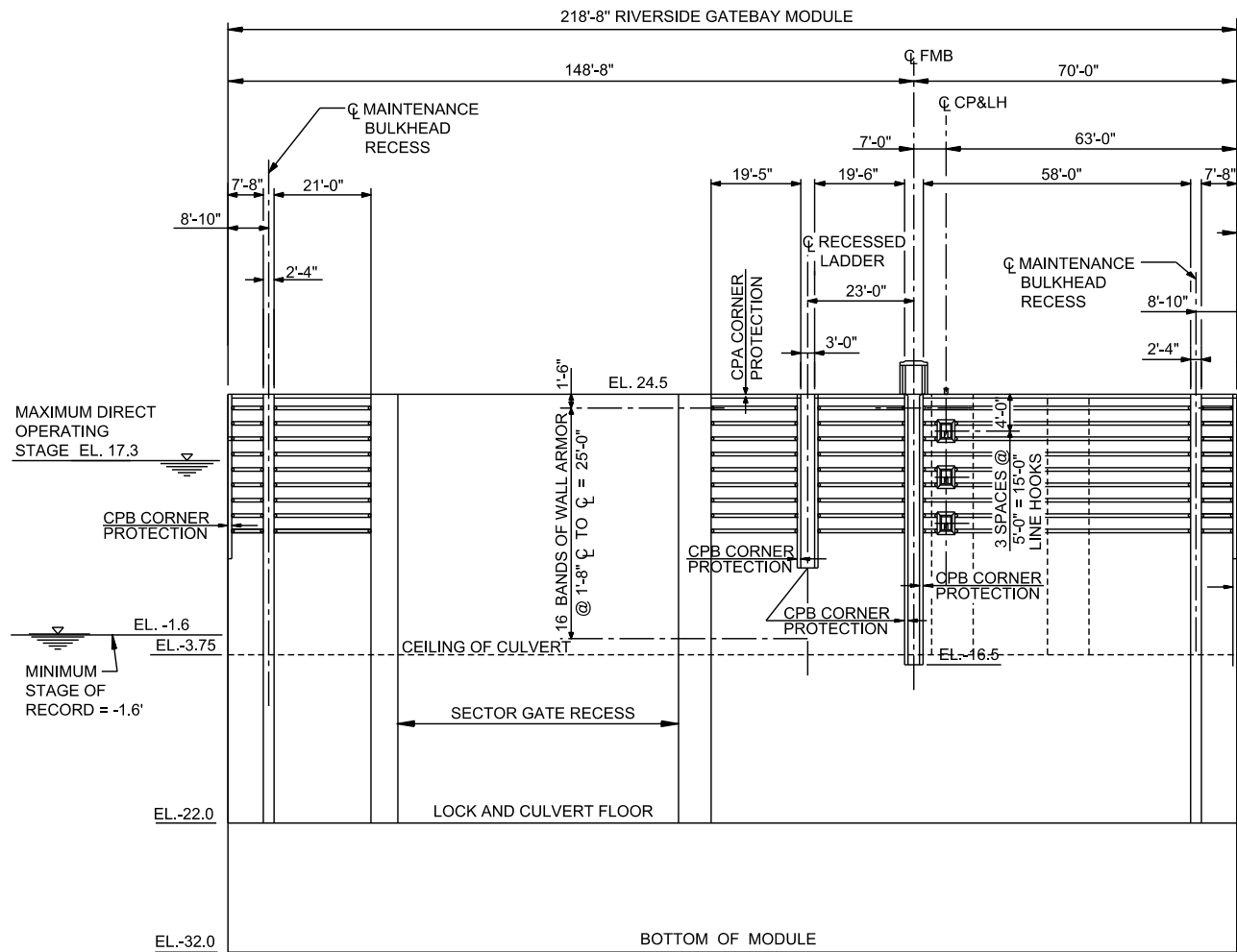
SHEET IDENTIFICATION
S-300

D

C

B

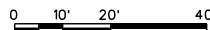
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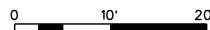
ELEVATION A
 2-101
 2-104

SCALE: HORIZ. 1"=20'
 VERT. 1"=10'

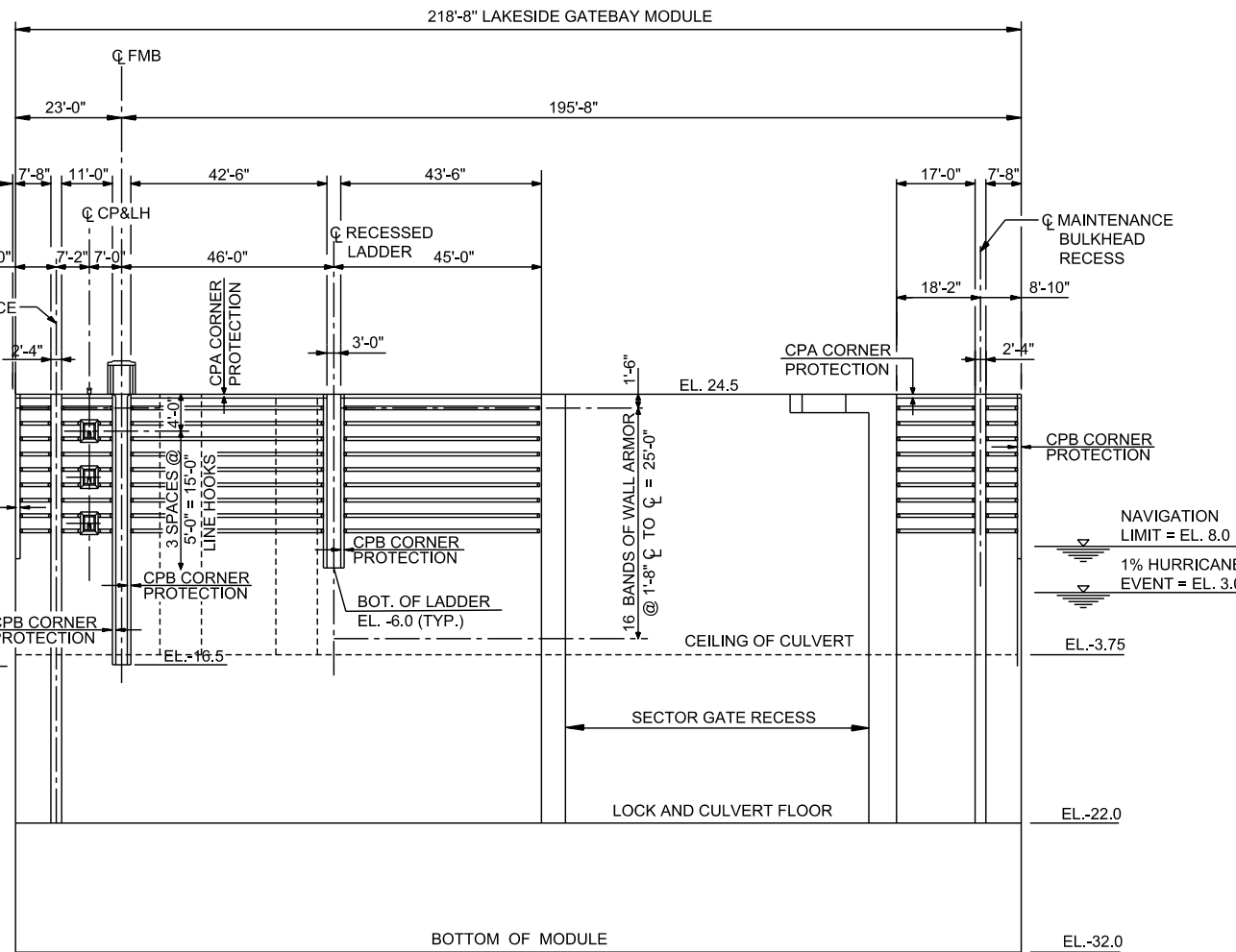
RIVERSIDE GATEBAY MODULE
WEST INTERIOR WALL FACE



SCALE: 1"=20'
 HORIZONTAL



SCALE: 1"=10'
 VERTICAL



ELEVATION A
 2-101
 2-104

SCALE: HORIZ. 1"=20'
 VERT. 1"=10'

LAKESIDE GATEBAY MODULE
WEST INTERIOR WALL FACE



US Army Corps of Engineers
 New Orleans District

APPR.	DATE

DESCRIPTION	MARK

APPR.	DATE

DESCRIPTION	MARK

APPR.	DATE

DESCRIPTION	MARK

APPR.	DATE

DATE:	MAY 2016
SOLICITATION NO.:	
CONTRACT NO.:	

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DATE:	

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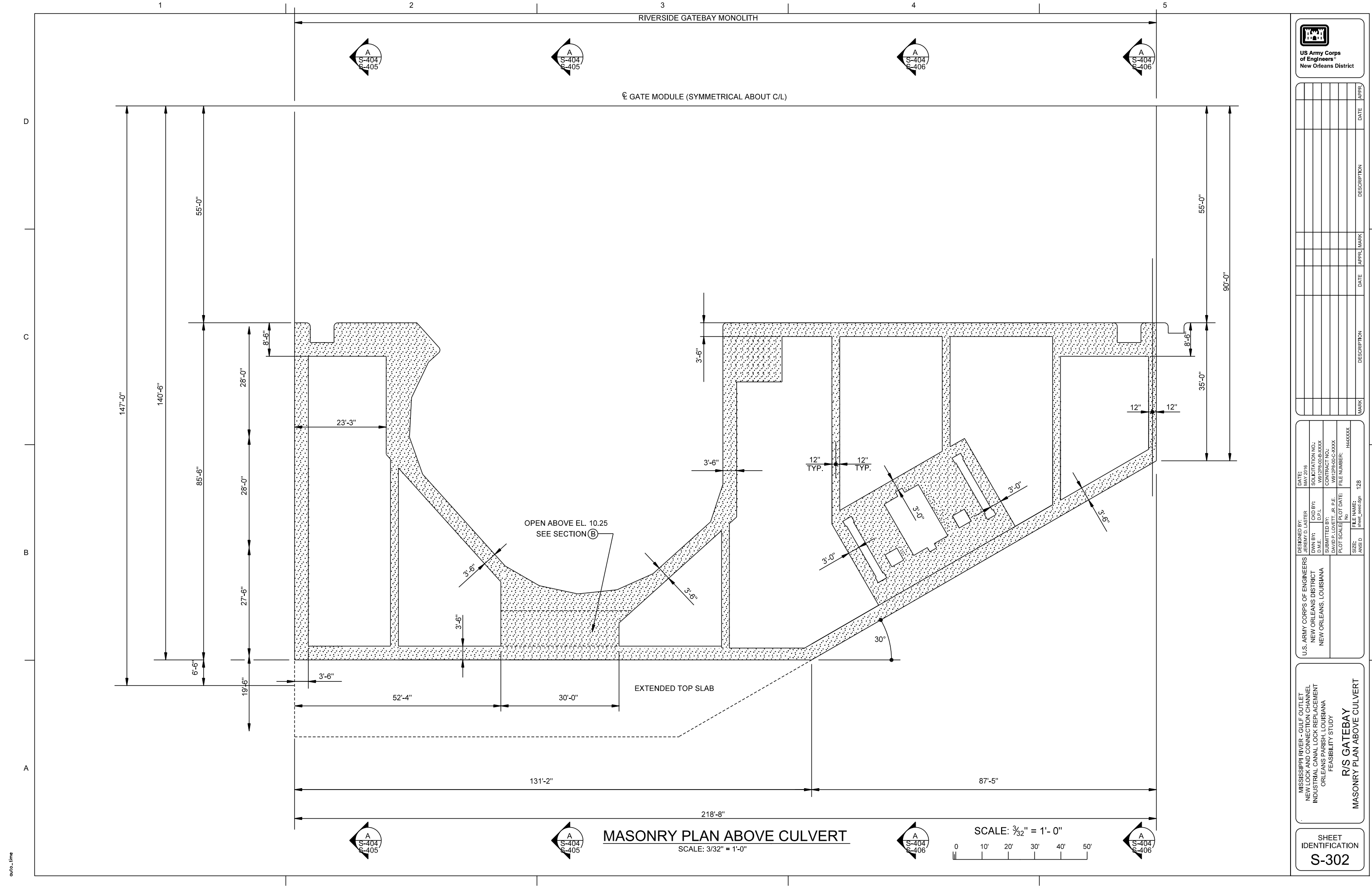
DESIGNED BY:	JEREMY D. LASLER
CHECKED BY:	
DATE:	

DESIGNED BY:	JEREMY D. LASLER
CHECKED BY:	
DATE:	

DESIGNED BY:	JEREMY D. LASLER
CHECKED BY:	
DATE:	

MISSISSIPPI RIVER - GULF OUTLET
 NEW LOCK AND CONNECTION CHANNEL
 INDUSTRIAL CANAL LOCK REPLACEMENT
 ORLEANS PARISH, LOUISIANA
 FEASIBILITY STUDY
GATEWAY MODULE
 ELEVATION

SHEET IDENTIFICATION
S-301



RIVERSIDE GATEBAY MONOLITH

⊥ GATE MODULE (SYMMETRICAL ABOUT C/L)

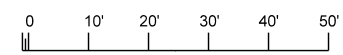
OPEN ABOVE EL. 10.25
SEE SECTION (B)

EXTENDED TOP SLAB

MASONRY PLAN ABOVE CULVERT

SCALE: 3/32" = 1'-0"

SCALE: 3/32" = 1'-0"



DATE	DESCRIPTION	APPR.	MARK

DESIGNED BY: JEREMY D. LASERS DRAWN BY: D.M. BENTLEY SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	DATE: MAY 2016	SOLICITATION NO.: W02296-00-XXXX CONTRACT NO.: W02296-00-XXXX	FILE NUMBER: H44XXXX
U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT NEW ORLEANS, LOUISIANA			SHEET NAME: sheet_wed.dgn 12B

MISSISSIPPI RIVER - GULF OUTLET
 NEW LOCK AND CONNECTION CHANNEL
 INDUSTRIAL CANAL LOCK REPLACEMENT
 ORLEANS PARISH, LOUISIANA
 FEASIBILITY STUDY
R/S GATEBAY
 MASONRY PLAN ABOVE CULVERT

SHEET IDENTIFICATION
S-302

1

2

3

4

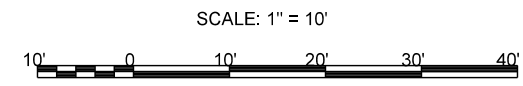
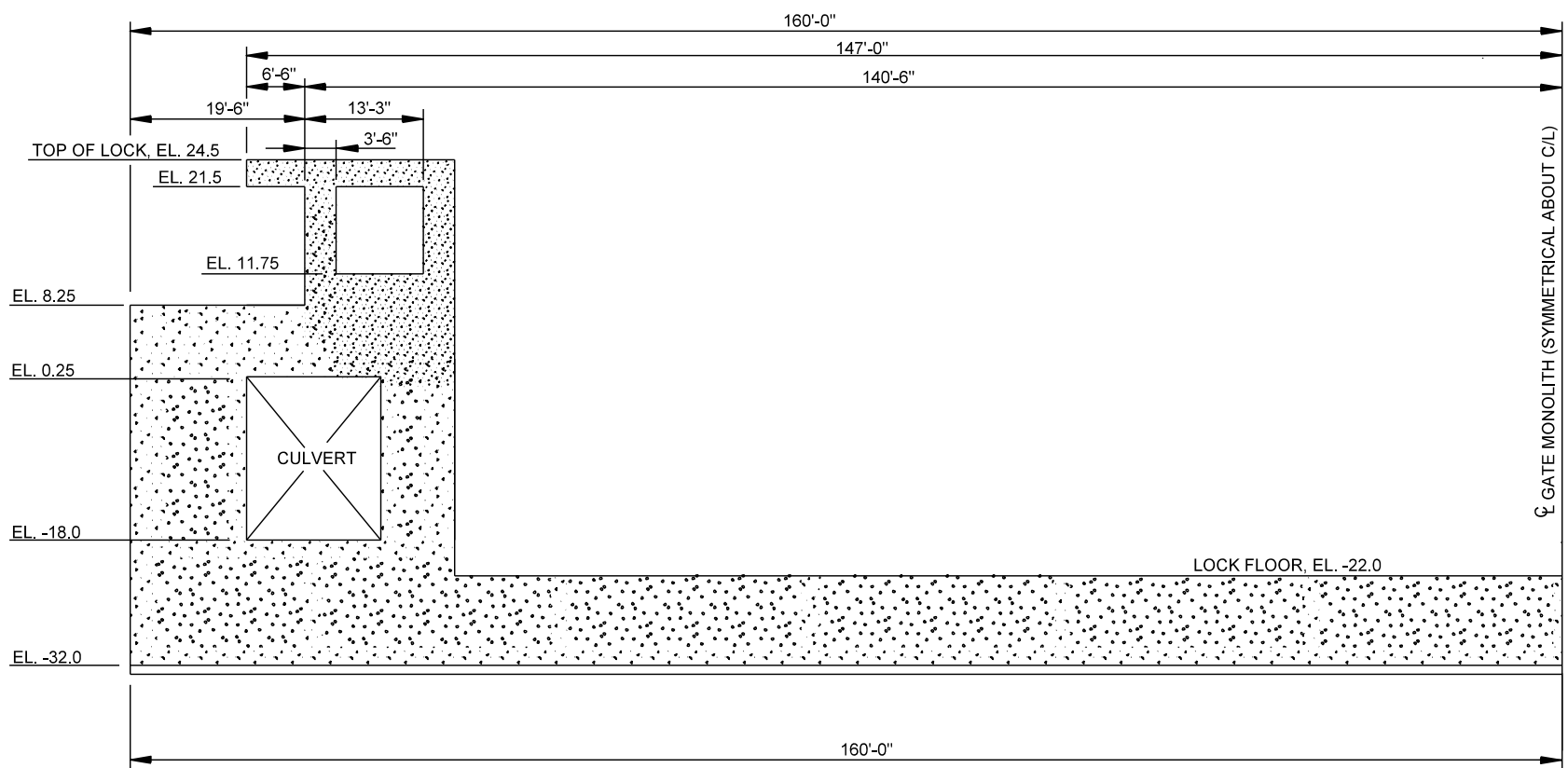
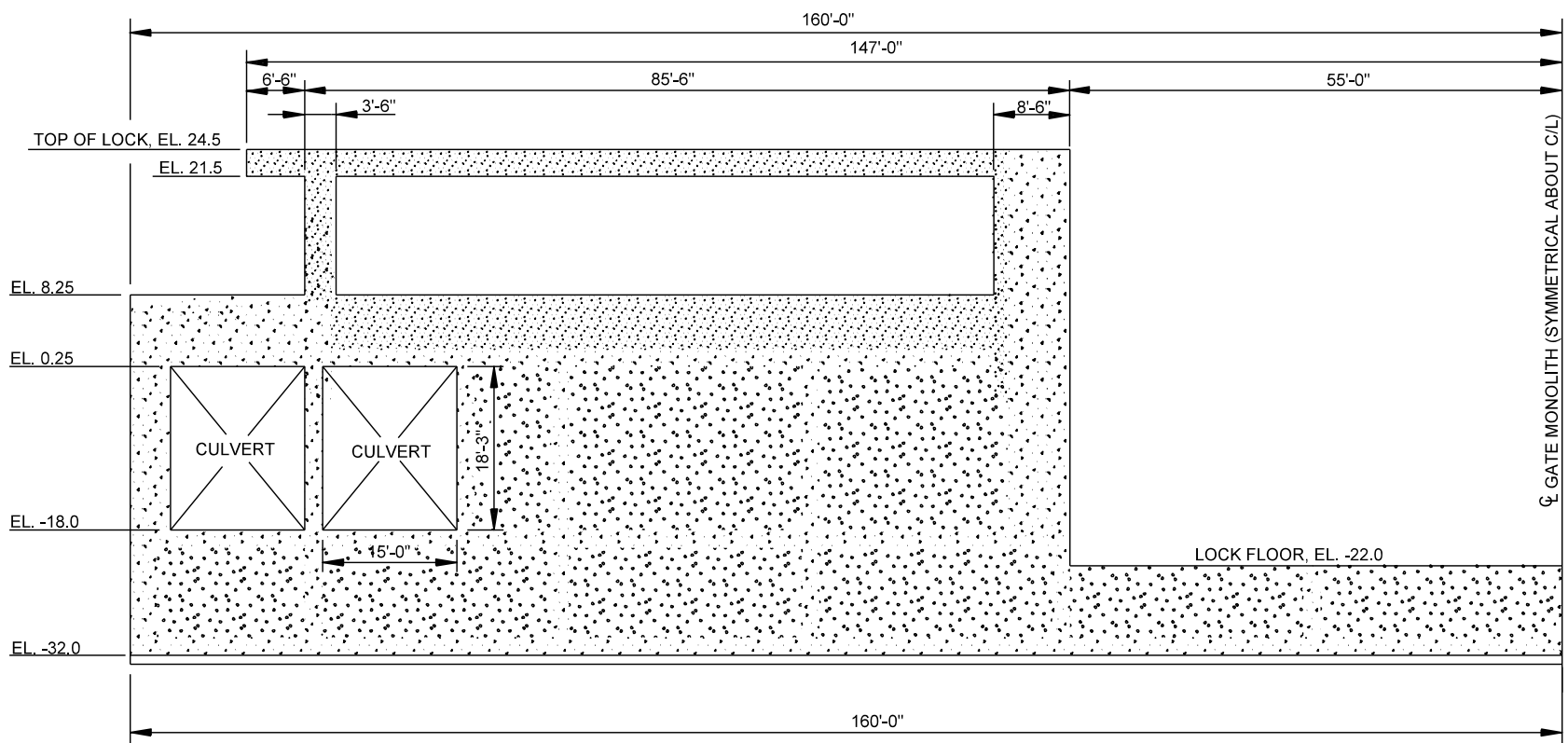
5

D

C

B

A



MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.B.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
PLOT SCALE: XX	FILE NUMBER: H44XXXX
SIZE: ANSI D	FILE NAME: sheet_002.dgn

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
GATEWAY MASONRY SECTION
AT END & GATE RECESS

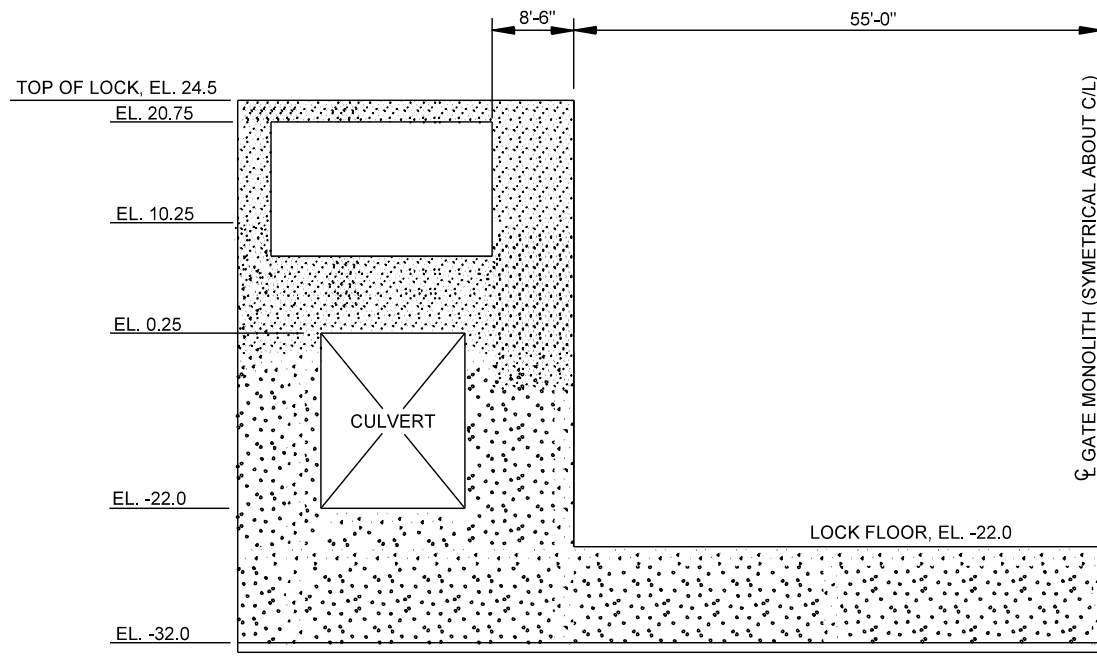
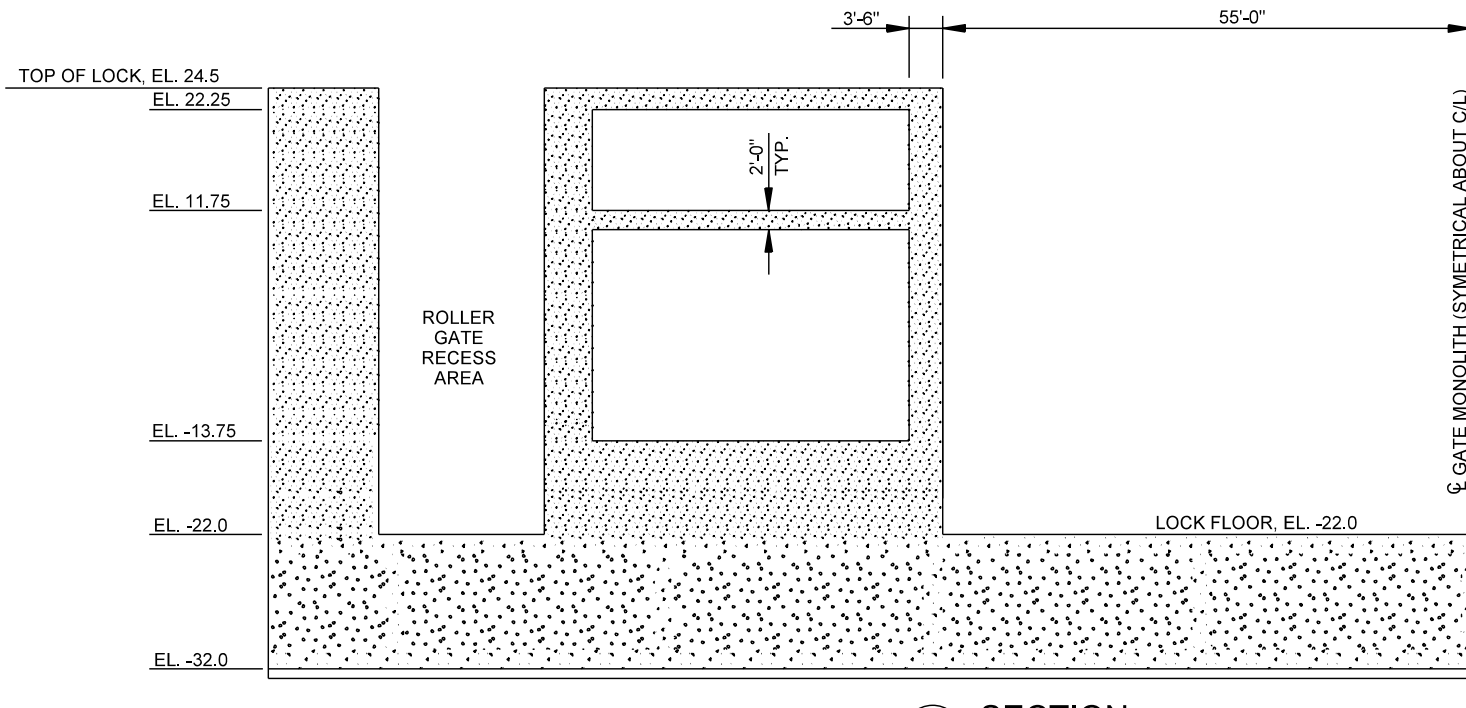
SHEET IDENTIFICATION
S-303

D

C

B

A



MARK	DESCRIPTION	DATE	APPR.	MARK	DATE	APPR.

DESIGNED BY: JEREMY D. LASER	DATE: MAY 2016
DRAWN BY: D.M.B.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
PLOT SCALE: XX	FILE NUMBER: H44XXXX
SIZE: ANSI D	FILE NAME: sheet_wed.dgn

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
GATEWAY MASONRY SECTION
AT ROLLER GATE RECESS & CHAMBER

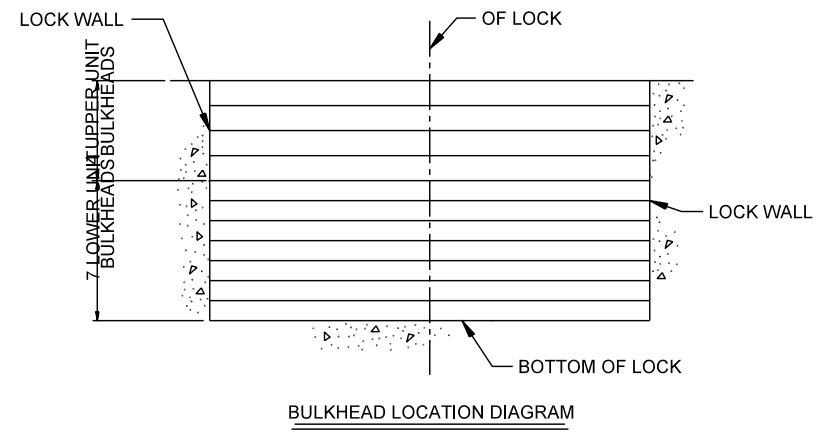
SHEET IDENTIFICATION
S-304

DATE	DESCRIPTION	APPR.	DATE	DESCRIPTION	APPR.

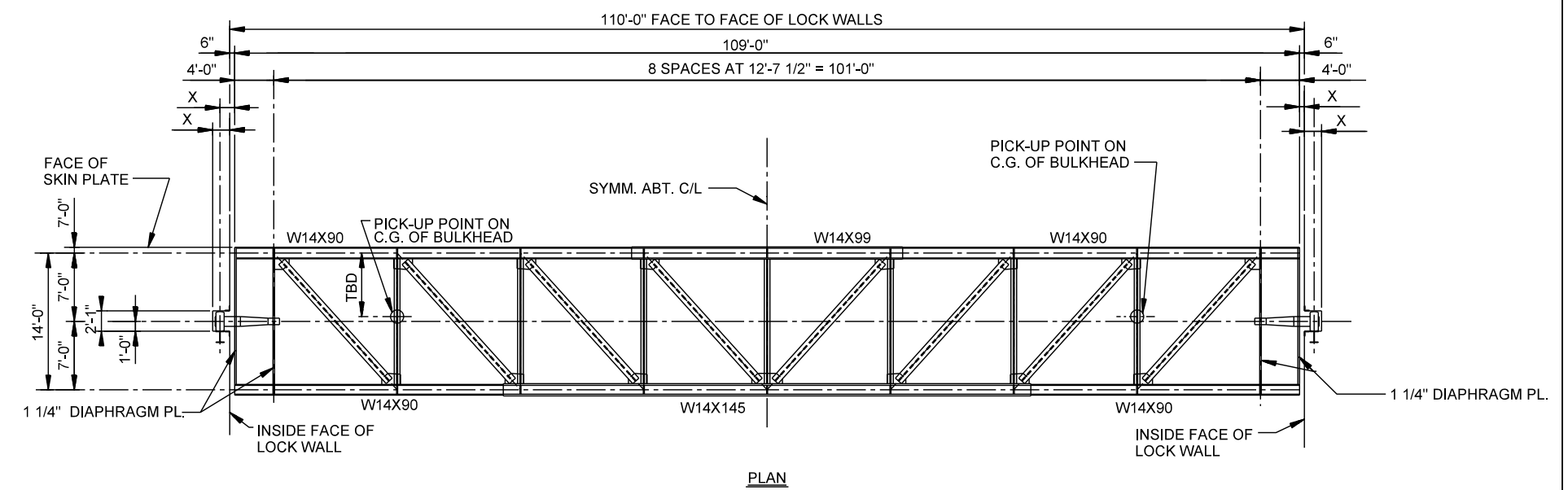
DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
PLOT SCALE: XX	FILE NUMBER: H44XXXX
SIZE: ANSI D	PLOT DATE:
FILE NAME: sheet_upper.dgn	

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
UPPER MAINT. BULKHEAD
PLAN AND ELEVATIONS

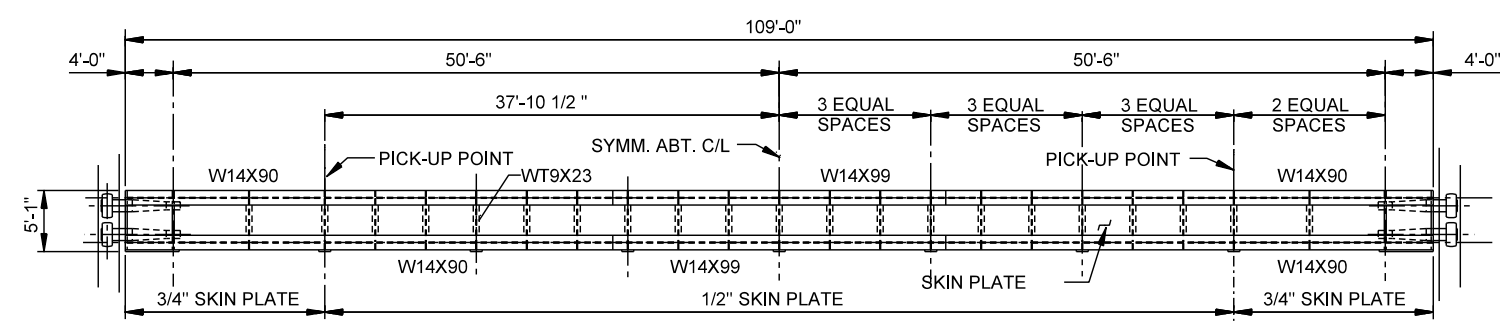
SHEET IDENTIFICATION
S-400



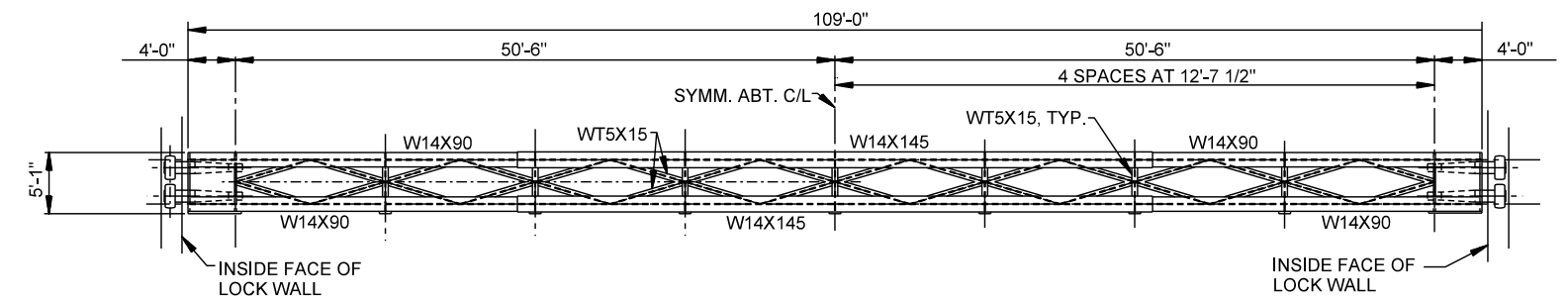
NOTE:
LOWER UNIT BULKHEAD MAX. DESIGN HEAD = 58'-0"
UPPER UNIT BULKHEAD MAX. DESIGN HEAD = 25'-0"



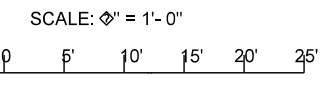
PLAN



BULKHEAD WET SIDE (SKIN PLATE) ELEVATION
(LOWER UNIT)
SCALE: 1/8" = 1' - 0"



BULKHEAD CHAMBER SIDE ELEVATION
(LOWER UNIT)
SCALE: 1/8" = 1' - 0"



DESIGN DATA

CLASS C HYDRAULIC STEEL STRUCTURE (EM 1110-2-2105, CHANGE 1, 31 MAY 94)

LOWER UNIT
DEAD LOAD SELFWEIGHT (150 KIPS)
HYDROSTATIC LOAD 58' HEAD
IMPACT: NONE
COMBINED LOAD: 1.0XDL + 1.0XHYDRO
ALLOWABLE STRESS: 1.1 X NORMAL AISC ALLOWABLES

UPPER UNIT
DEAD LOAD SELFWEIGHT (140 KIPS)
HYDROSTATIC LOAD: 25' HEAD
IMPACT: 100 KIPS AT CENTERLINE
COMBINED LOAD: 0.75 X HYDROSTATIC + 1.0 X IMPACT
ALLOWABLE STRESS: 1.1 X NORMAL AISC ALLOWABLES

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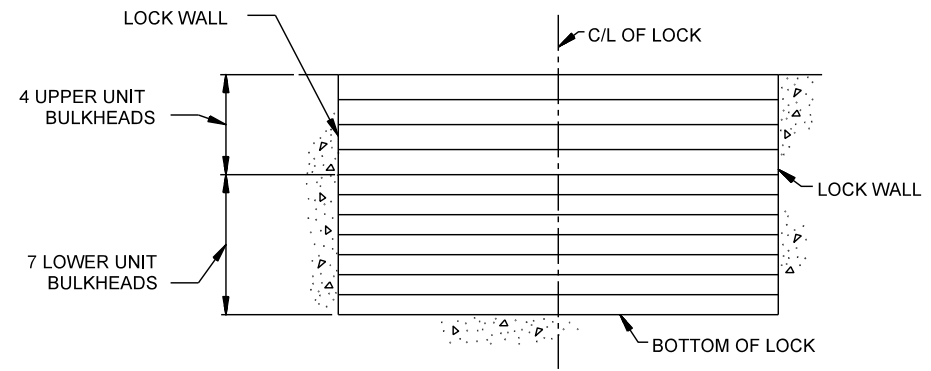
DATE	DESCRIPTION	APPR. MARK

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.	SUBMITTED BY: D.M.
FILE NUMBER: H44XXXX	CONTRACT NO.:
FILE NAME: sheet_wet.dgn	ANSI D

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

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
LOWER MAINT. BULKHEAD
PLAN AND ELEVATIONS

SHEET IDENTIFICATION
S-401



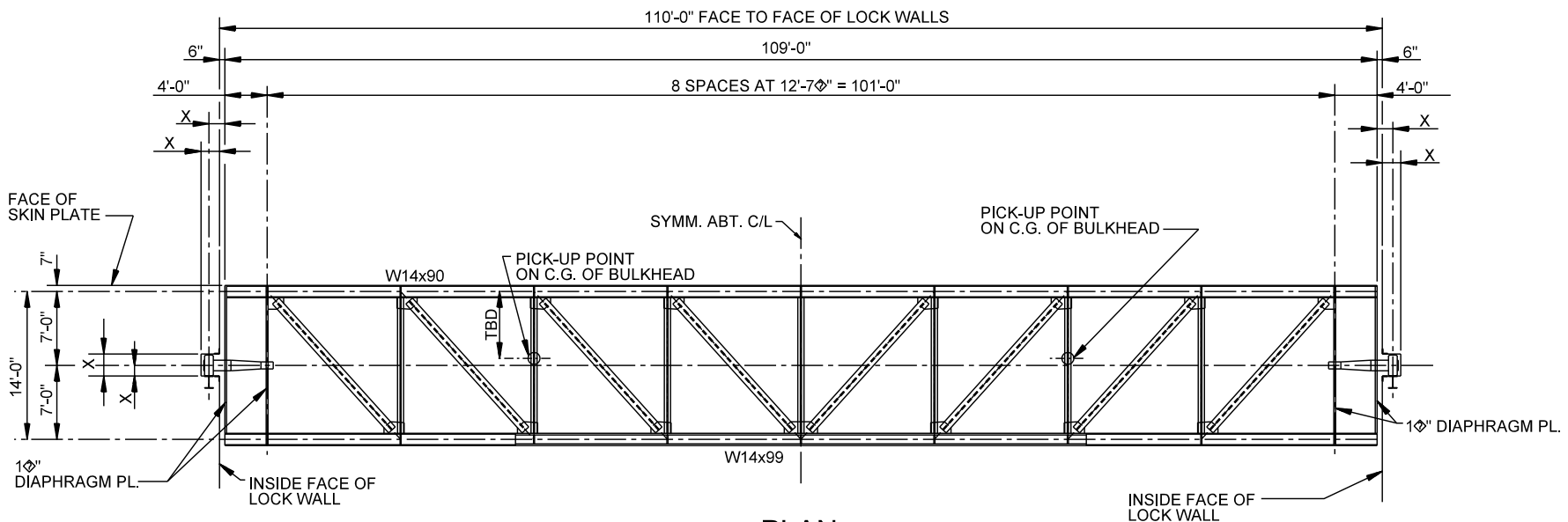
BULKHEAD LOCATION DIAGRAM

NOTE:
LOWER UNIT BULKHEAD MAX. DESIGN HEAD = 58'-0"
UPPER UNIT BULKHEAD MAX. DESIGN HEAD = 25'-0"

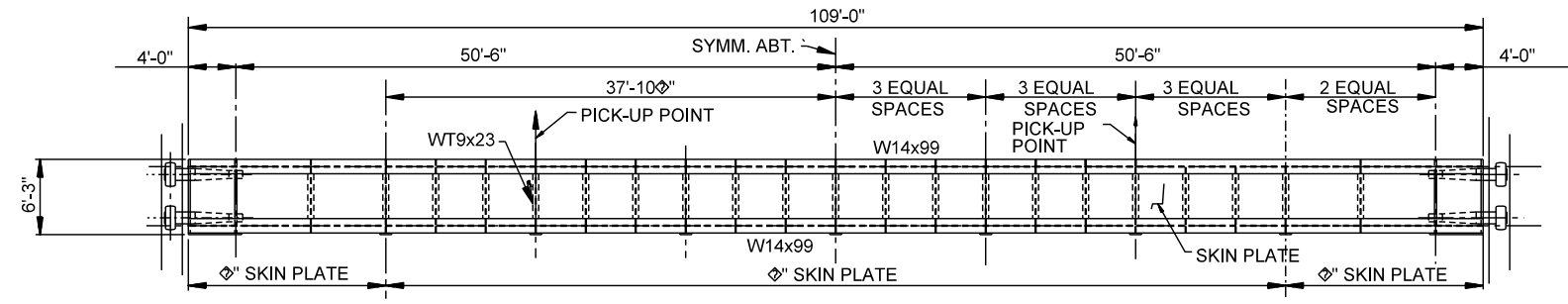
DESIGN DATA
CLASS C HYDRAULIC STEEL STRUCTURE (EM 1110-2-2105, CHANGE 1, 31 MAY 94)

LOWER UNIT
DEAD LOAD SELFWEIGHT (150 KIPS)
HYDROSTATIC LOAD 58' HEAD
IMPACT: NONE
COMBINED LOAD: 1.0XDL + 1.0XHYDRO
ALLOWABLE STRESS: 1.1 X NORMAL AISC ALLOWABLES

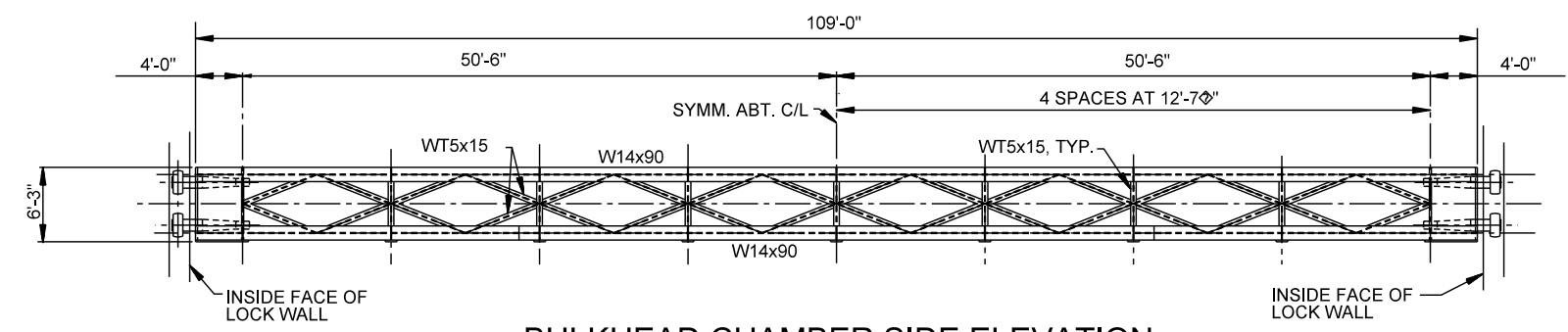
UPPER UNIT
DEAD LOAD SELFWEIGHT (140 KIPS)
HYDROSTATIC LOAD: 25' HEAD
IMPACT: 100 KIPS AT CENTERLINE
COMBINED LOAD: 0.75 X HYDROSTATIC + 1.0 X IMPACT
ALLOWABLE STRESS: 1.1 X NORMAL AISC ALLOWABLES



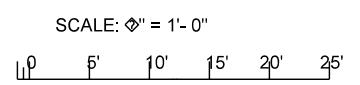
PLAN



BULKHEAD WET SIDE (SKIN PLATE) ELEVATION
(UPPER UNIT)
SCALE: 1/4" = 1' - 0"



BULKHEAD CHAMBER SIDE ELEVATION
(UPPER UNIT)
SCALE: 1/4" = 1' - 0"



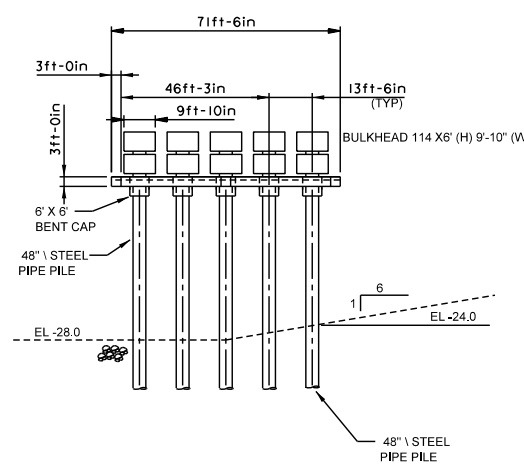
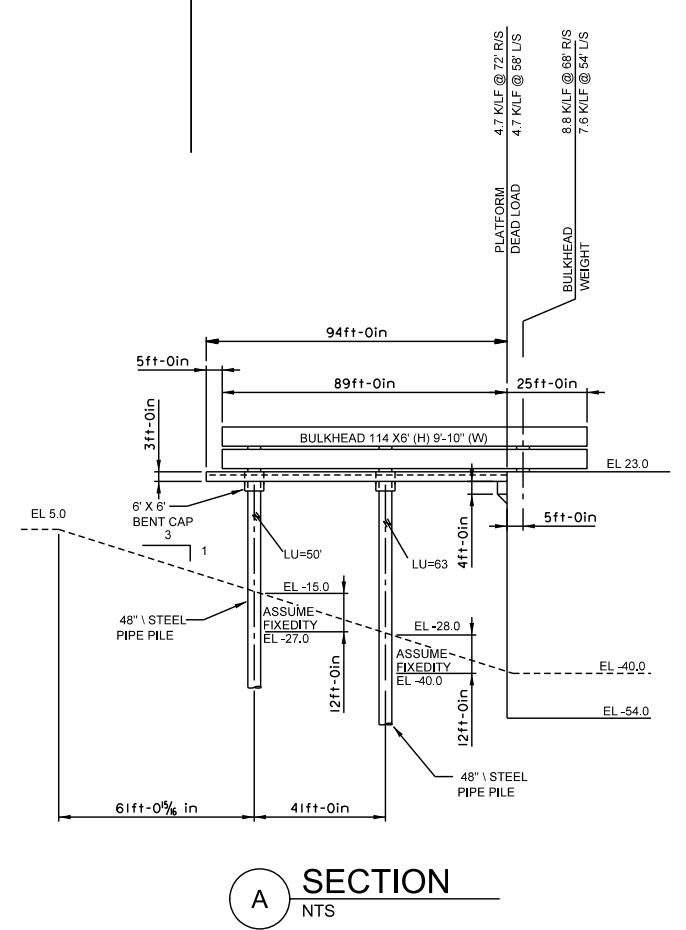
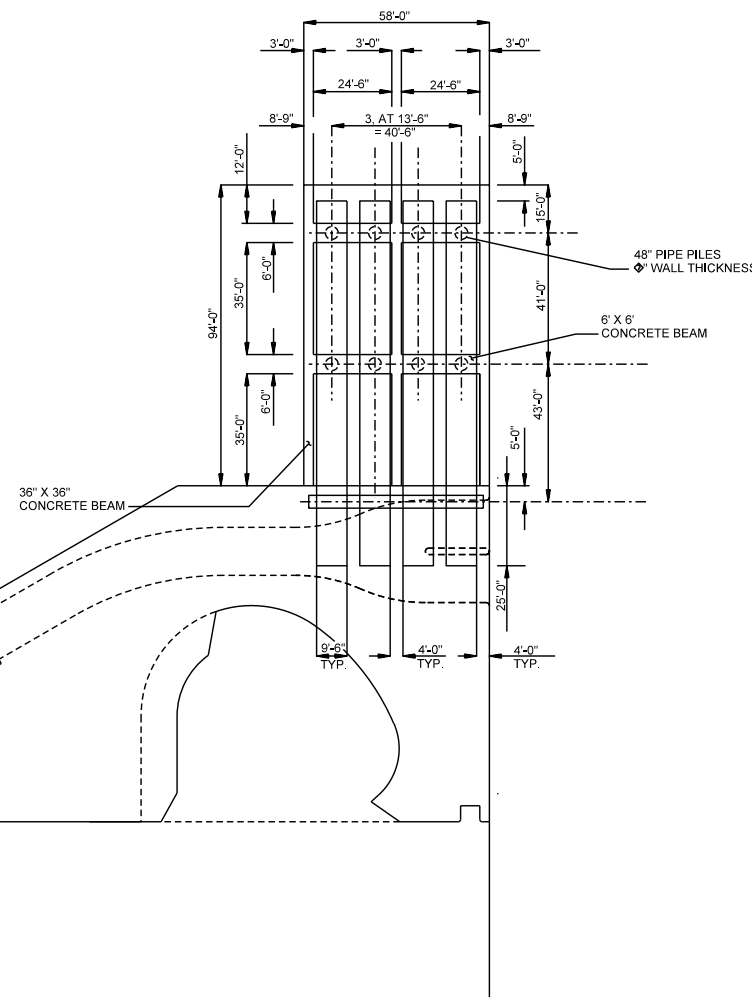
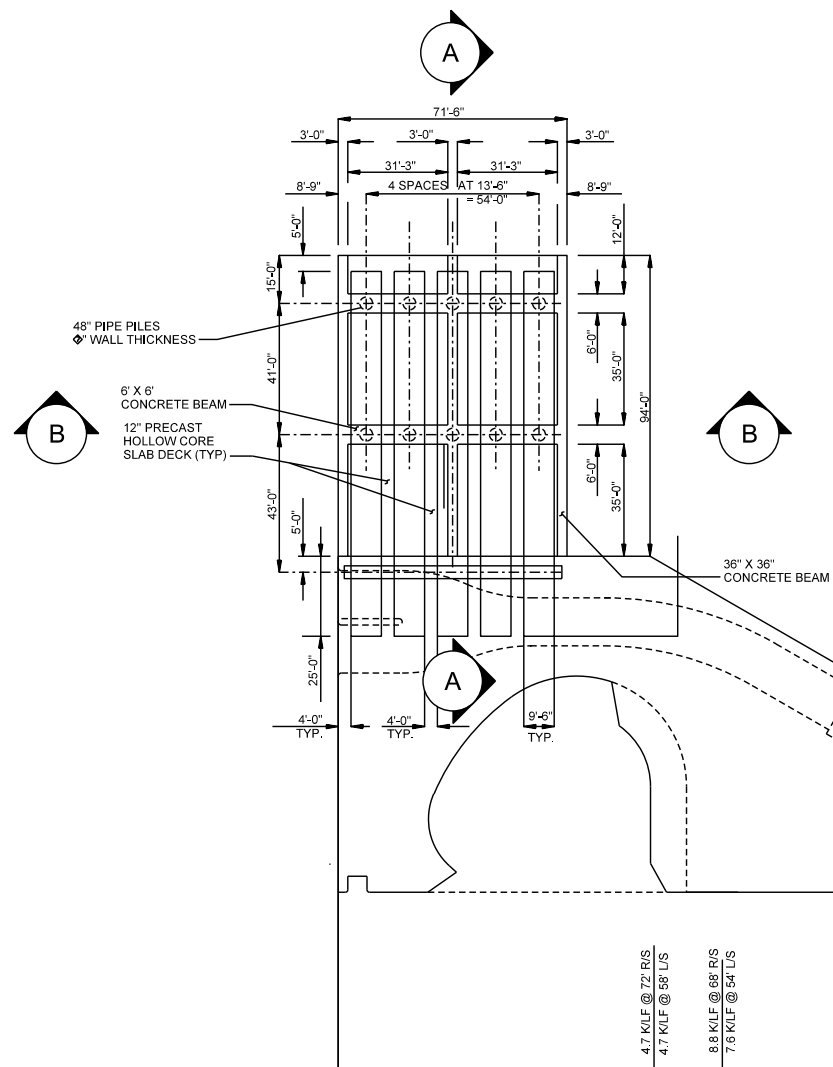
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B SECTION NTS

A SECTION NTS

Increase text size

SCALE: 1" = 30'



MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.	SUBMITTED BY: DAVID P. LOVETT, JR. P.E.
CHECKED BY: D.M.	APPROVED BY: D.M.
PROJECT NO.:	CONTRACT NO.:
FILE NO.:	FILE NUMBER:
ANSI D	sheet_size.dgn

MISSISSIPPI RIVER - GULF OUTLET
 NEW LOCK AND CONNECTION CHANNEL
 INDUSTRIAL CANAL LOCK REPLACEMENT
 ORLEANS PARISH, LOUISIANA
 FEASIBILITY STUDY
MAINT. BULKHEAD SUPPORT
 FRAME PLAN AND ELEVATIONS

SHEET IDENTIFICATION
S-402

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DATE	DESCRIPTION	MARK	APPR.

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
FILE NUMBER: H44XXXX	FILE NAME: sheet_weld.dgn

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

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
CULVERT OLLER GATE
ELEVATIONS AND SECTIONS

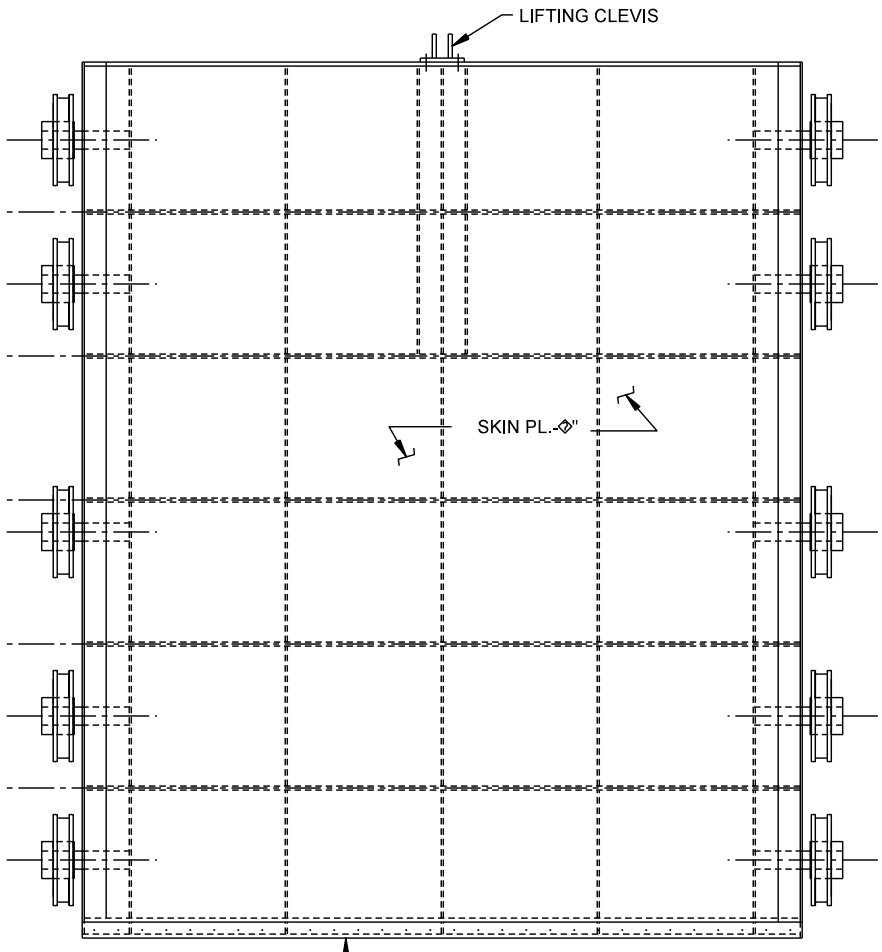
SHEET IDENTIFICATION
S-403

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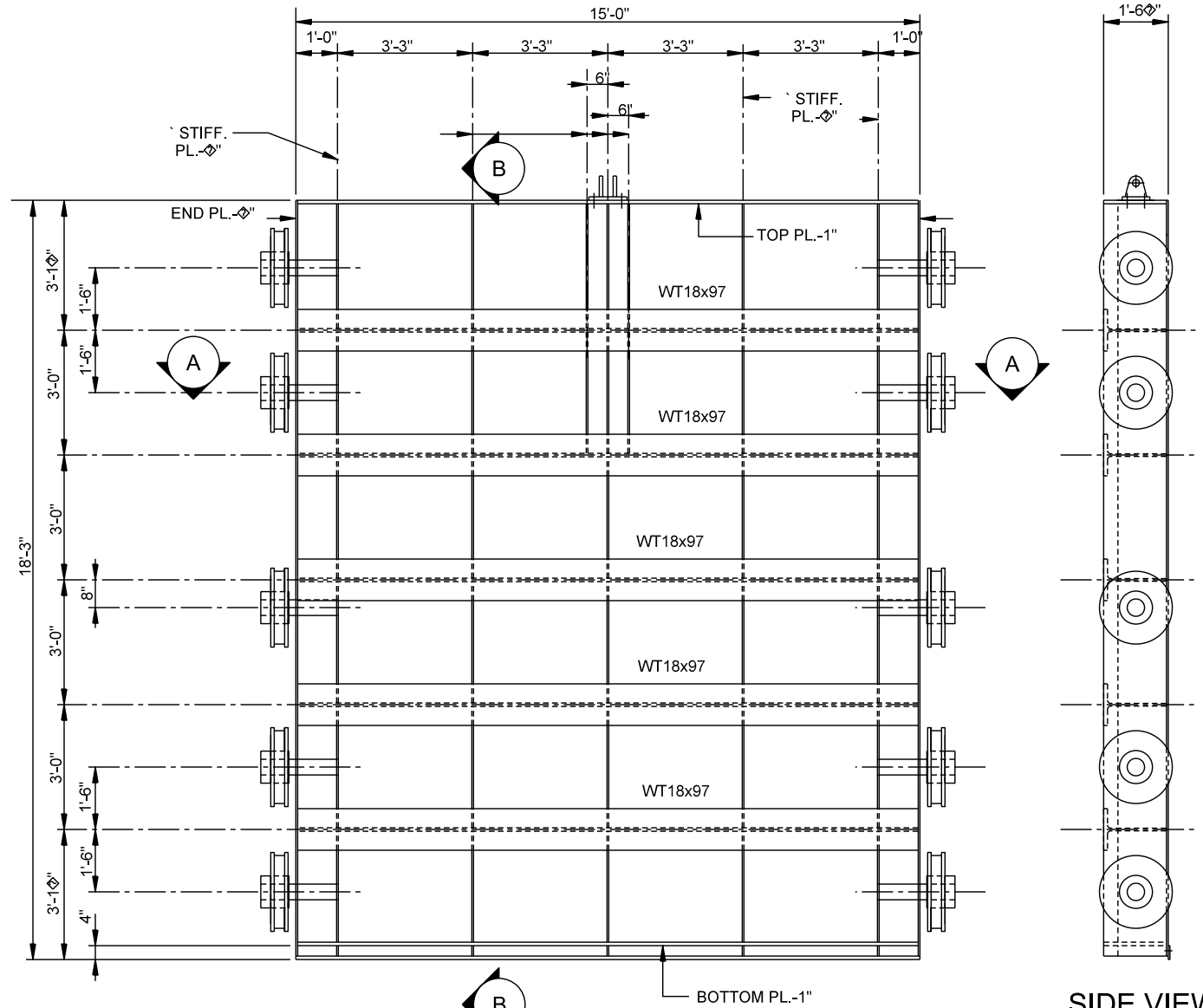
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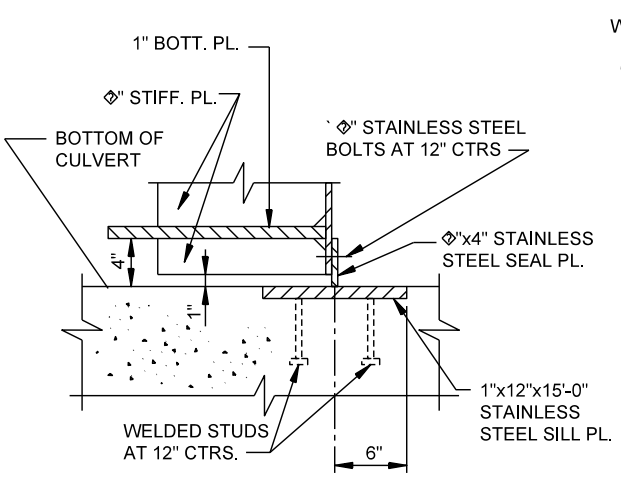


**DOWNSTREAM ELEVATION
CULVERT SLUICE GATE**
SCALE: 1/2" = 1' - 0"

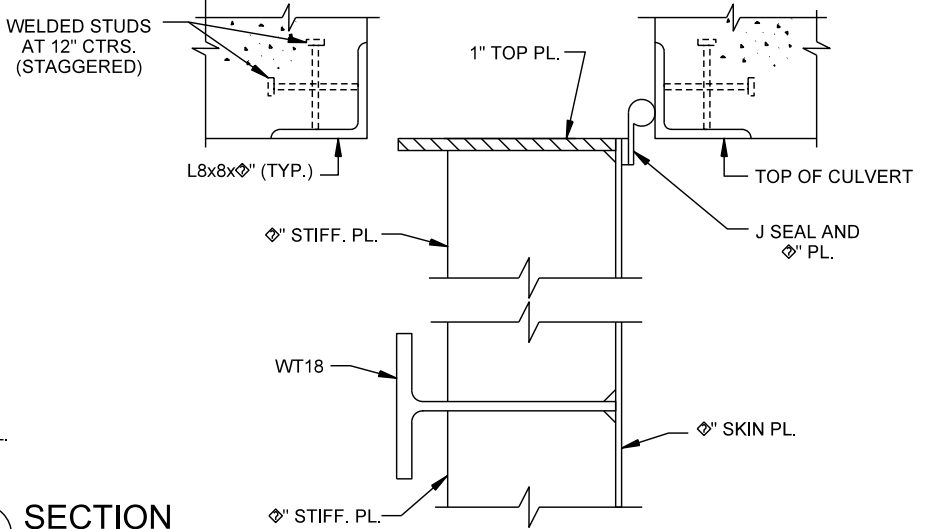


**UPSTREAM ELEVATION
CULVERT SLUICE GATE**
SCALE: 1/2" = 1' - 0"

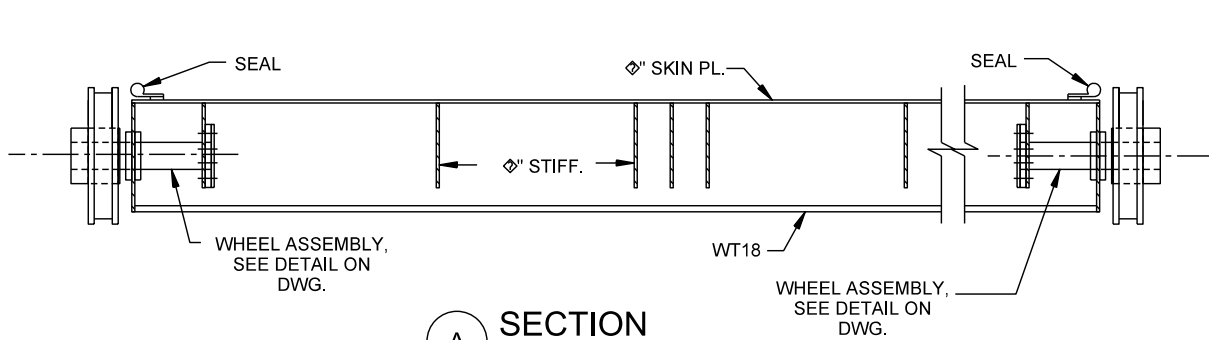
**SIDE VIEW
CULVERT SLUICE GATE**
SCALE: 1/2" = 1' - 0"



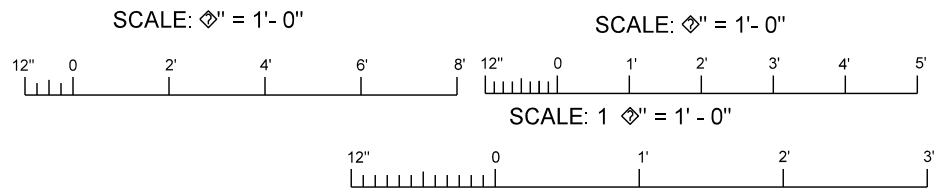
A SECTION
SCALE: 1 1/2" = 1' - 0"

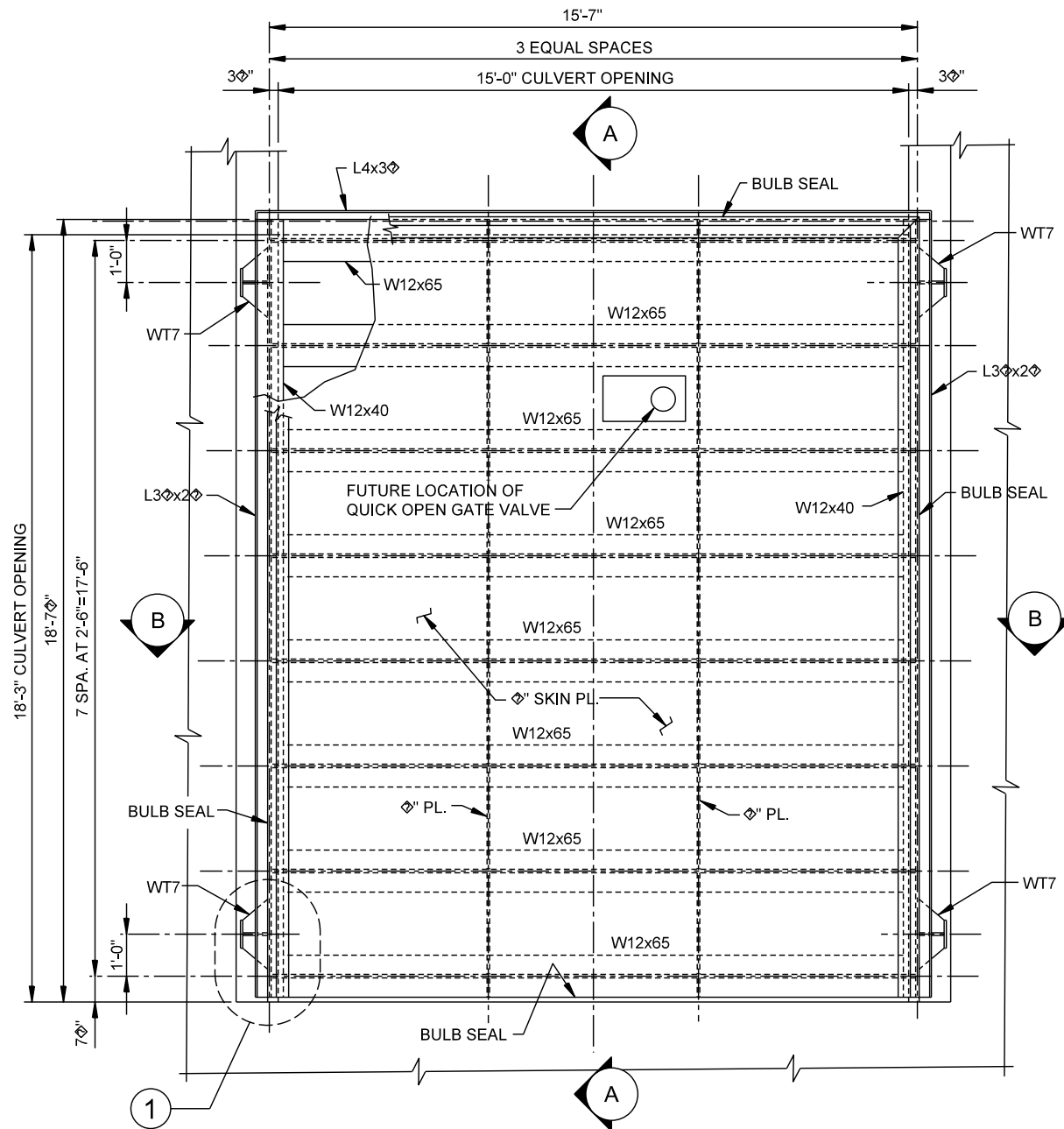


B SECTION
SCALE: 1 1/2" = 1' - 0"

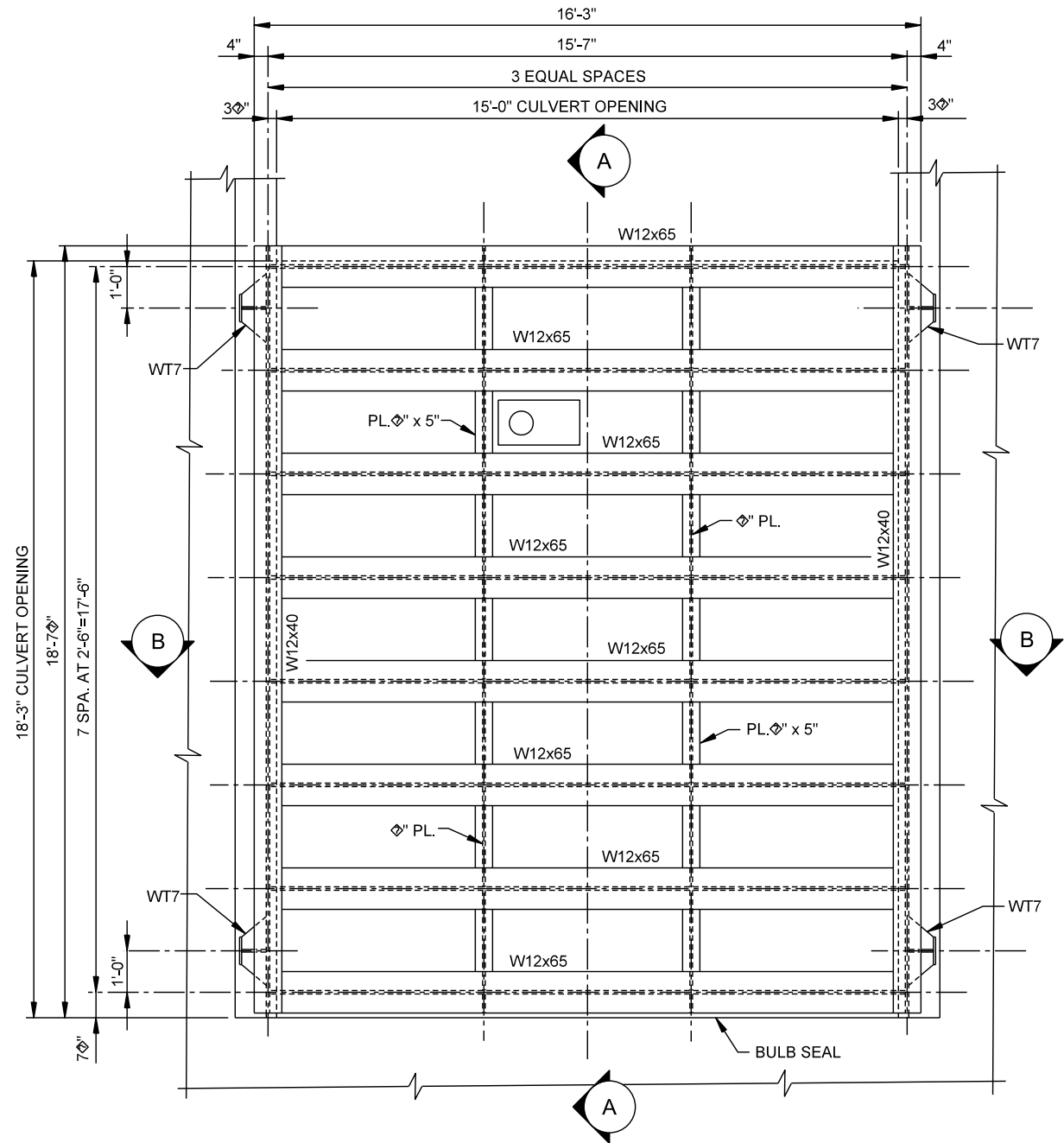


A SECTION
SCALE: 3/4" = 1' - 0"

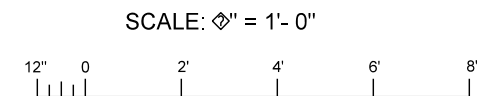




**DOWNSTREAM ELEVATION
CULVERT MAINTENANCE BULKHEAD**
SCALE: 1/2" = 1'-0"



**UPSTREAM ELEVATION
CULVERT MAINTENANCE BULKHEAD**
SCALE: 1/2" = 1'-0"



DATE	DESCRIPTION	APPR.	MARK

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
PLOT SCALE: XX	FILE NUMBER: H44XXX
FILE NAME: sheet_wed.dgn	

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

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
**CULVERT ROLLER GATE
ELEVATIONS AND SECTIONS**

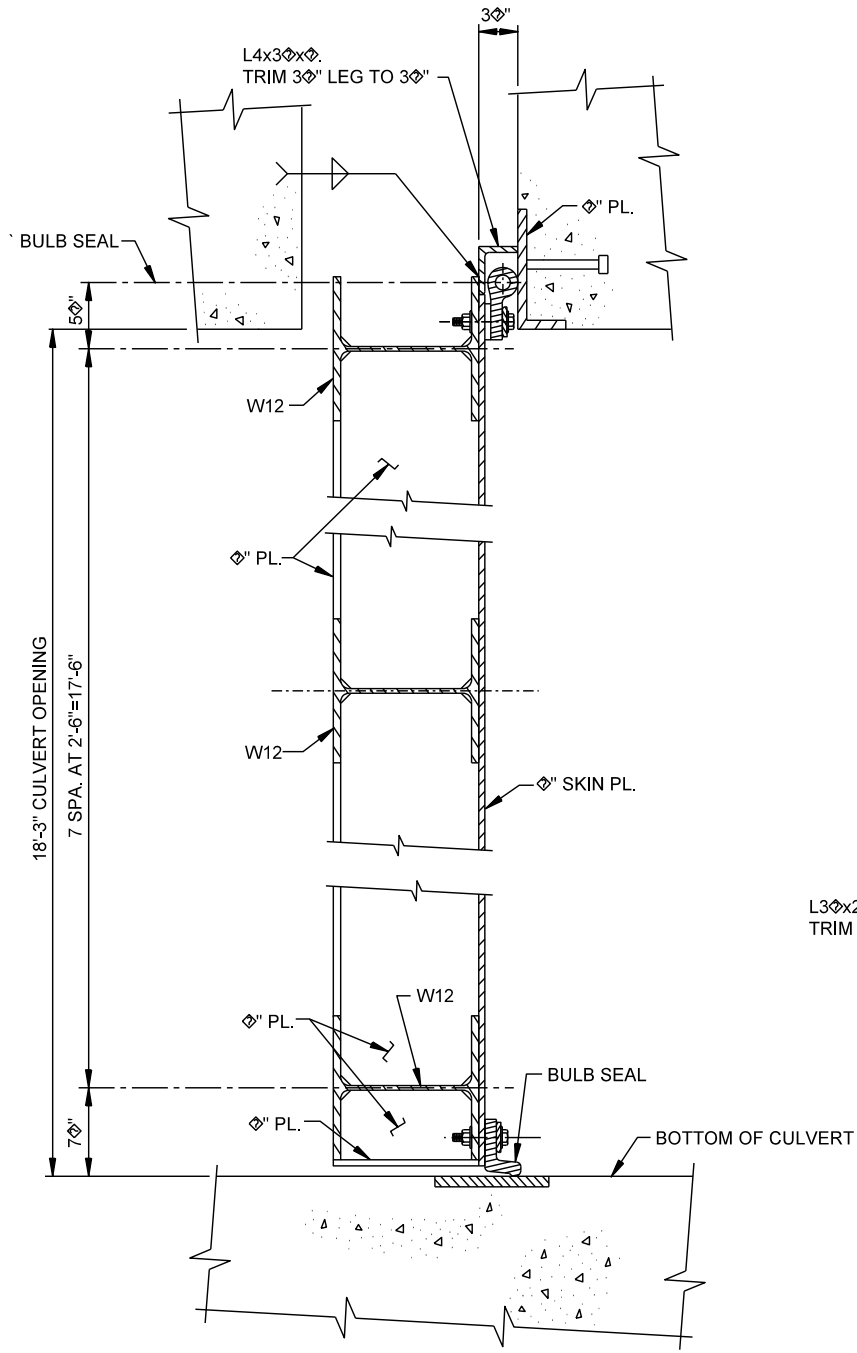
SHEET
IDENTIFICATION
S-404

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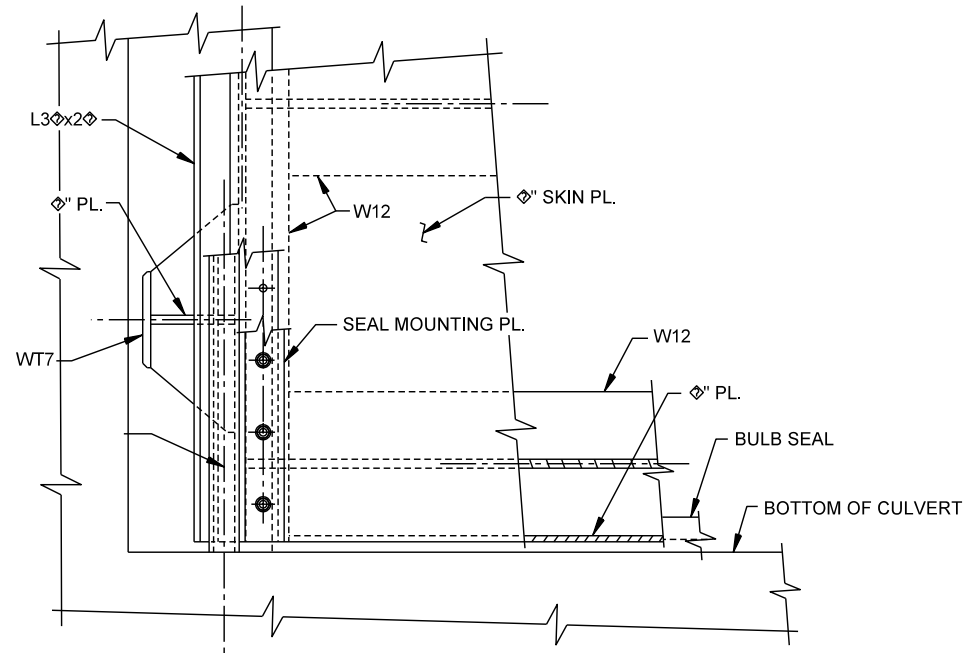
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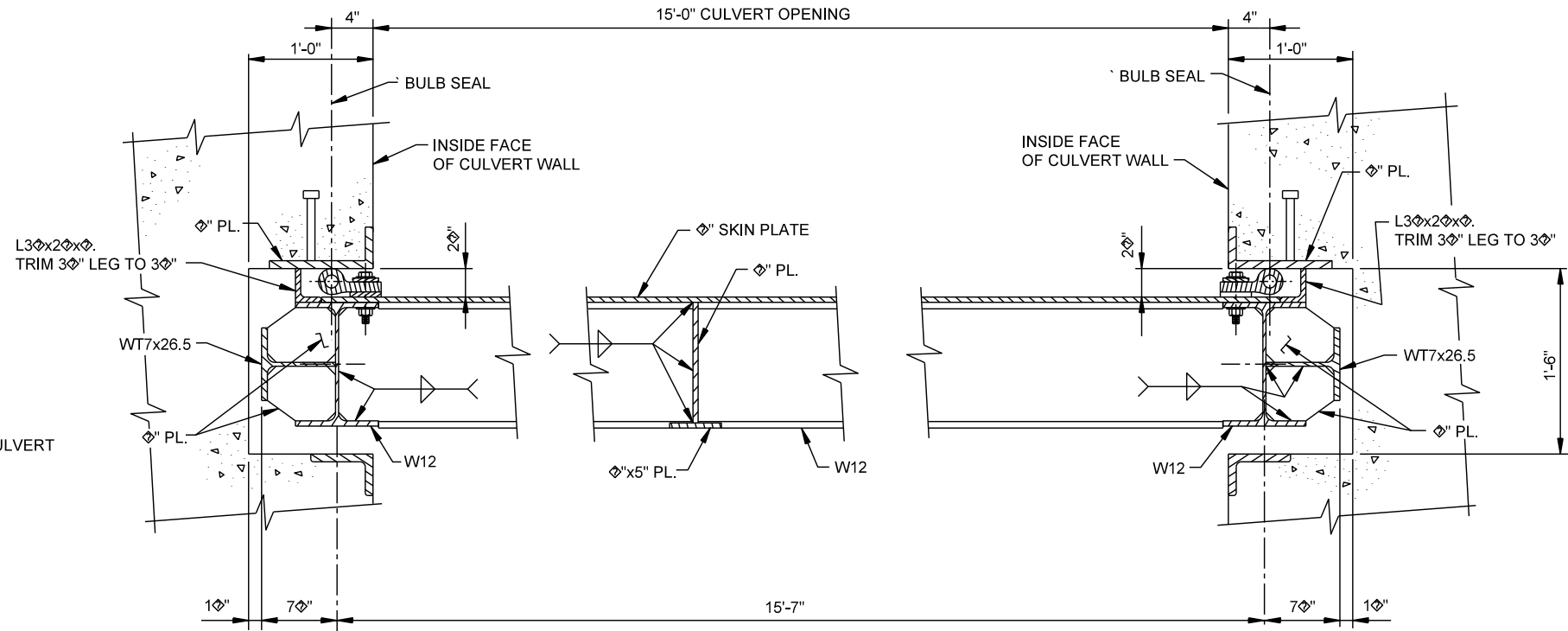
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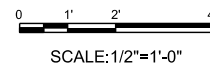
A SECTION
SCALE: 1 1/2" = 1' - 0"



1 DETAIL
SCALE: 1 1/2" = 1' - 0"



B SECTION
SCALE: 1 1/2" = 1' - 0"



DATE	DESCRIPTION	APPR. MARK	DATE	APPR. MARK

DESIGNED BY: JEREMY D. LASTER	DATE: MAY 2016
DRAWN BY: D.M.	SOLICITATION NO.:
SUBMITTED BY: DAVID P. LOVETT, JR. P.E.	CONTRACT NO.:
PLOT SCALE: XX	FILE NUMBER: H44XXXX
FILE NAME: sheet_wed.dgn	

MISSISSIPPI RIVER - GULF OUTLET
NEW LOCK AND CONNECTION CHANNEL
INDUSTRIAL CANAL LOCK REPLACEMENT
ORLEANS PARISH, LOUISIANA
FEASIBILITY STUDY
**CULV. MAINTENANCE
BULKHEAD**
SECTIONS AND DETAILS

SHEET IDENTIFICATION
S-405