Chapter 12
List of Plates

Cofferdam

1. Three-Stage Cofferdam Scheme
2. Emergency Floodway and Spillway
3. Downstream Cellular Tie-in to Concrete at Lock Monolith
4. Upstream Cellular Tie-in to Concrete at Lock Monolith
5. Temporary River Closure

3-D Lock Presentation

6. Elements of a Lock - Gravity (Type)
7. Elements of a Lock - Combination Type
8. Isometric of Red River Lock No. 4

Lock and Dam Plan

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10. Twin 1,200-ft Locks (Smithland)
11. A 1,200-ft Main Lock and 600-ft Auxiliary Lock with Common Wall (L27)
12. Single Locks (Schematic Separated and Adjacent) on Red River
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24. Guide Walls Cast-in-Place on Tremie Filled Sheet Pile Cells
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26. Lock Guide Wall Cast-in-Place Concrete (Dry Condition SX)
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Low-Lift Navigation Lock

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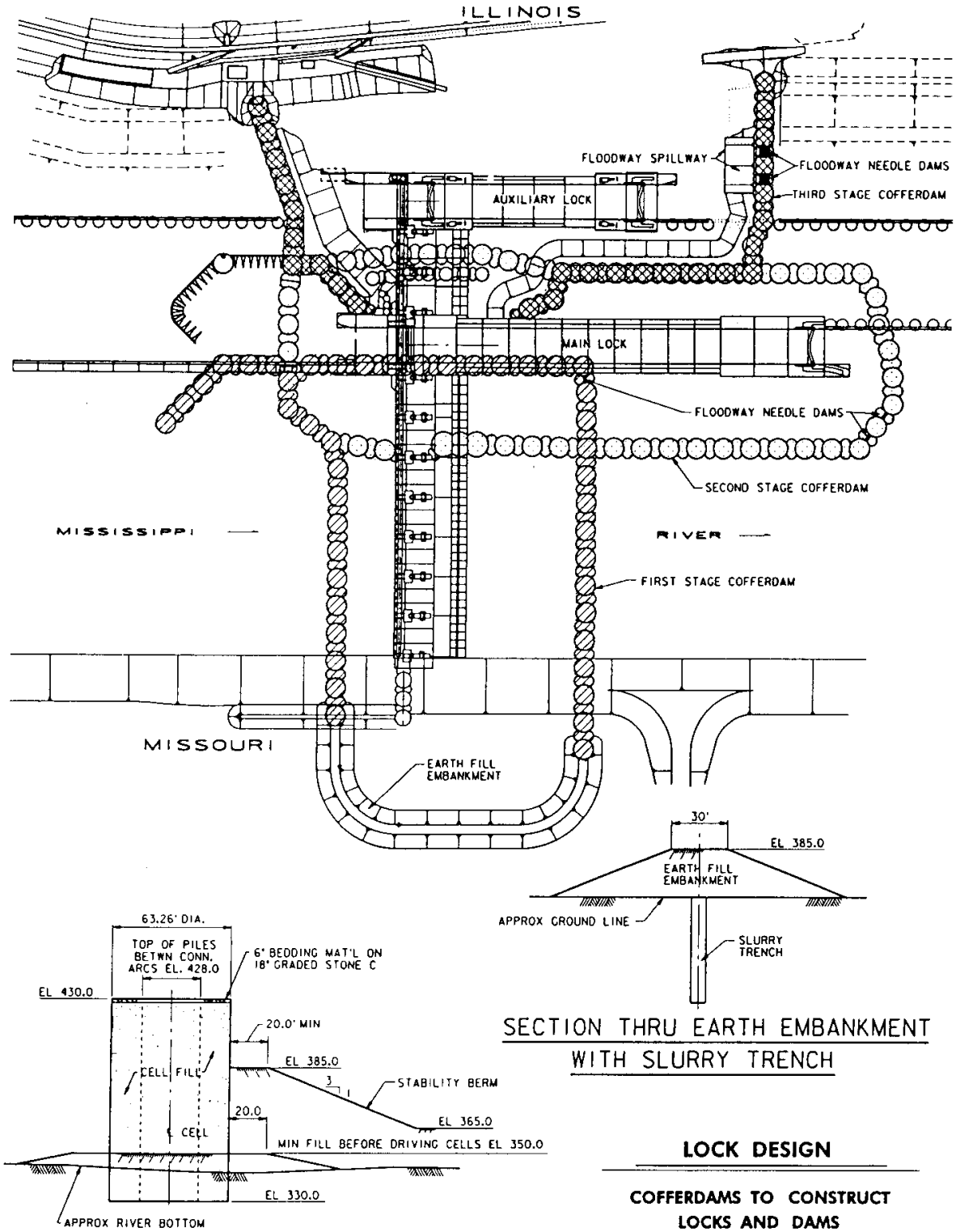
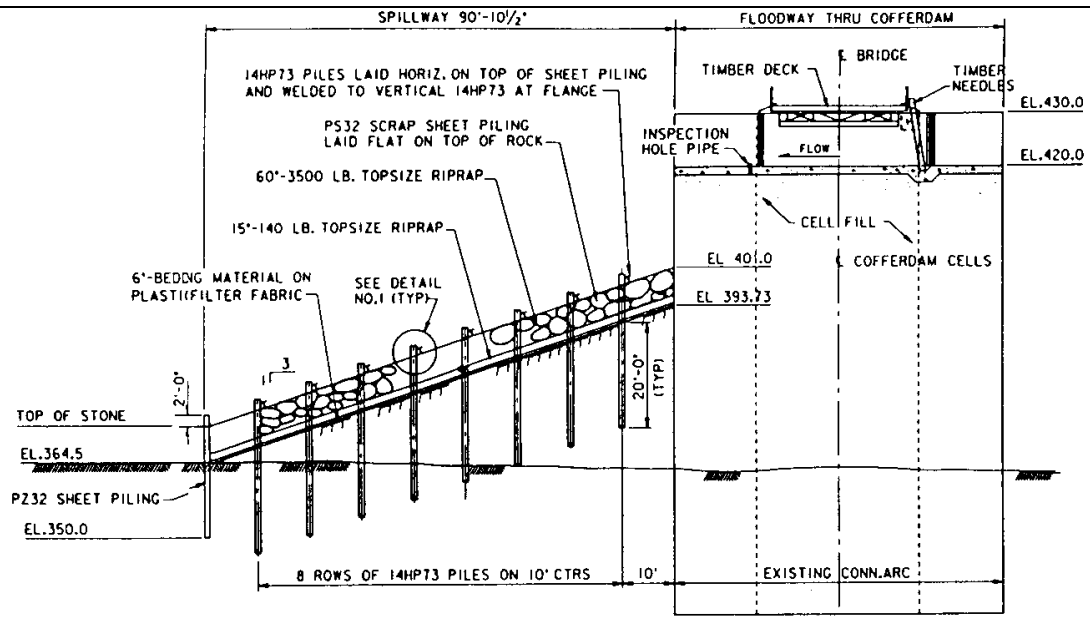
Miscellaneous Accessories

38. Lock Accessories - Monolith Layout and Elevation of Lock Wall
39. Floating Mooring Bits
40. Line Hooks and Check Posts
41. Low-Lift Navigation Lock - Concrete “U” Frame - Sheet Pile Cut-Off Walls
42. Typical Lock Monolith Joint - Joint Details and Waterstop Details
43. Wall Armor and Corners

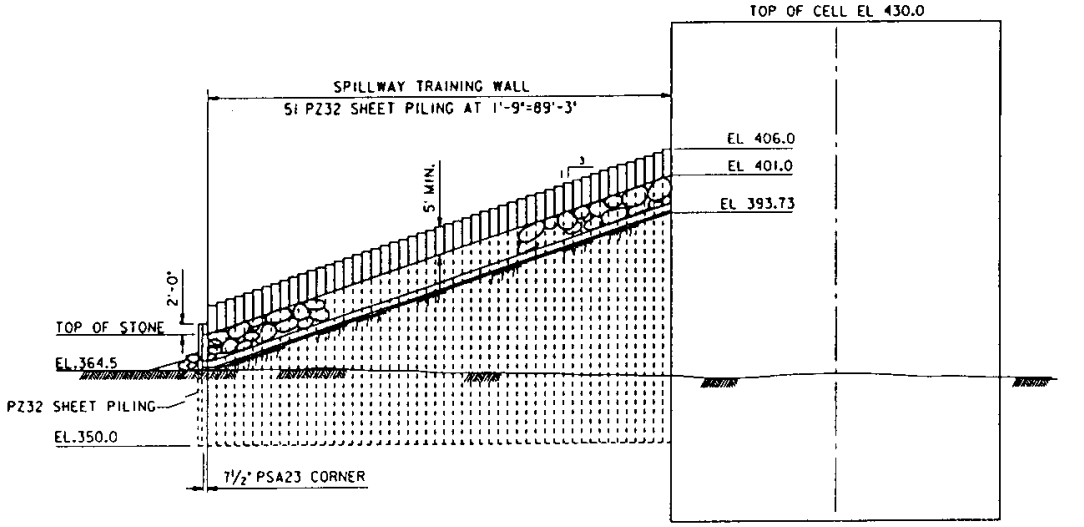


LOCK DESIGN

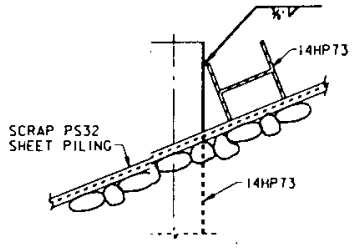
COFFERDAMS TO CONSTRUCT LOCKS AND DAMS
CELLULAR SHEET PILE COFFERDAMS
THREE STAGE SCHEME
PLAN AND SECTIONS



SECTION THRU FLOODWAY & SPILLWAY



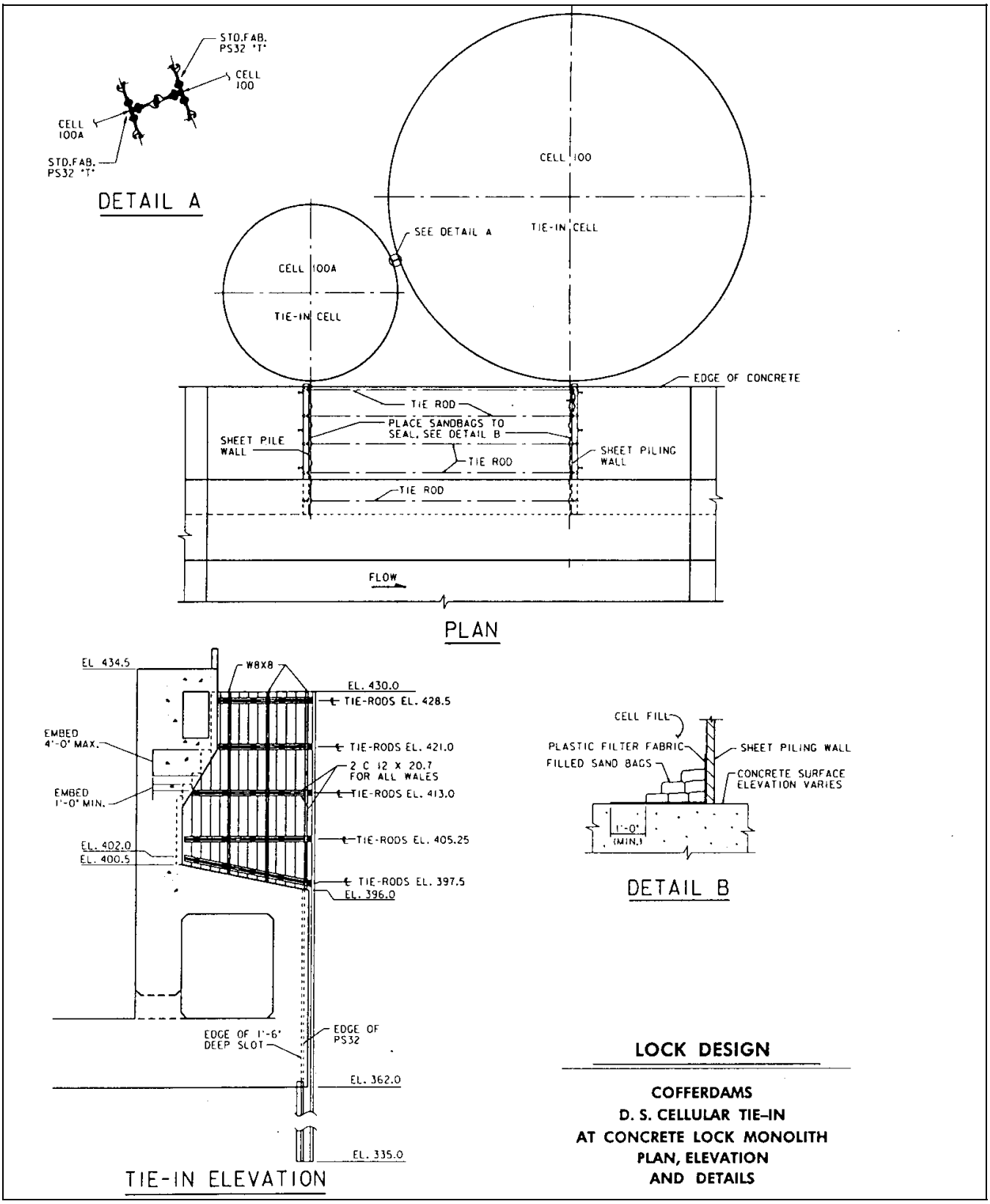
SECTION AT SHEET PILE TRAINING WALL

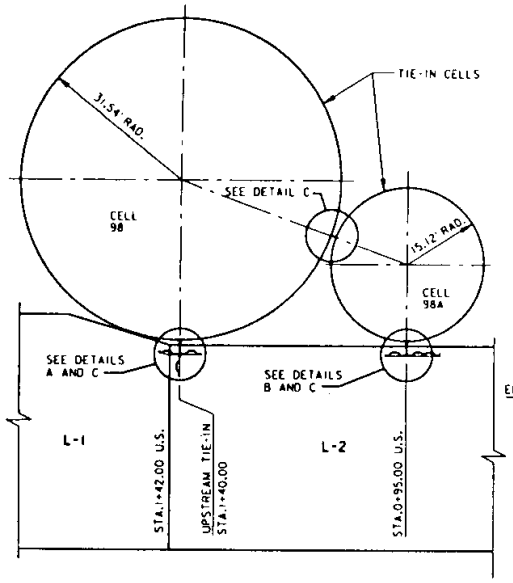


DETAIL 1

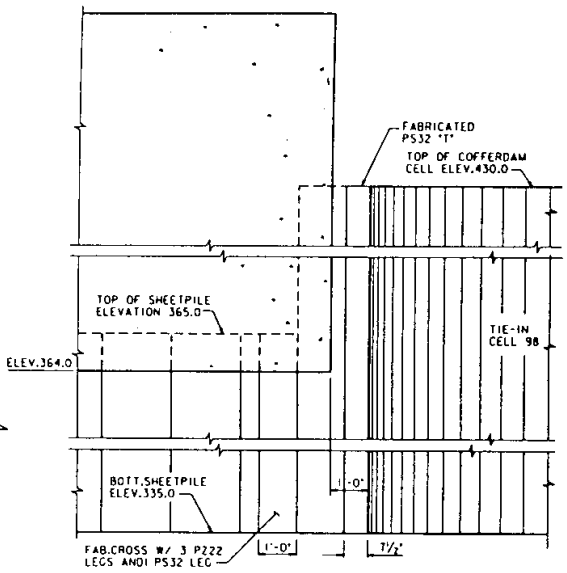
LOCK DESIGN

COFFERDAMS
EMERGENCY FLOODWAY
AND SPILLWAY
SECTIONS AND DETAIL


STD.FAB. PS32 "T"
CELL 100
CELL 100A
STD.FAB. PS32 "T"
DETAIL A
CELL 100
TIE-IN CELL
SEE DETAIL A
CELL 100A
TIE-IN CELL
EDGE OF CONCRETE
TIE ROD
PLACE SANDBAGS TO SEAL, SEE DETAIL B
SHEET PILE WALL
TIE ROD
SHEET PILING WALL
TIE ROD
FLOW
PLAN
EL 434.5
W8X8
EL. 430.0
TIE-RODS EL. 428.5
EMBED 4'-0" MAX.
TIE-RODS EL. 421.0
2 C 12 X 20.7 FOR ALL WALES
EMBED 1'-0" MIN.
TIE-RODS EL. 413.0
TIE-RODS EL. 405.25
EL. 402.0
EL. 400.5
TIE-RODS EL. 397.5
EL. 396.0
EDGE OF 1'-6" DEEP SLOT
EDGE OF PS32
EL. 362.0
EL. 335.0
TIE-IN ELEVATION
CELL FILL
PLASTIC FILTER FABRIC
FILLED SAND BAGS
SHEET PILING WALL
CONCRETE SURFACE ELEVATION VARIES
1'-0" (MIN.)
DETAIL B
LOCK DESIGN
COFFERDAMS
D. S. CELLULAR TIE-IN
AT CONCRETE LOCK MONOLITH
PLAN, ELEVATION
AND DETAILS

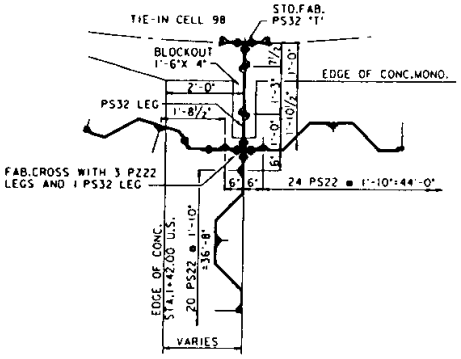


PLAN

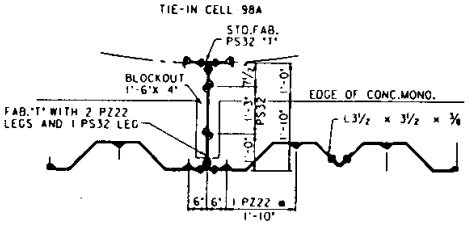


ELEVATION

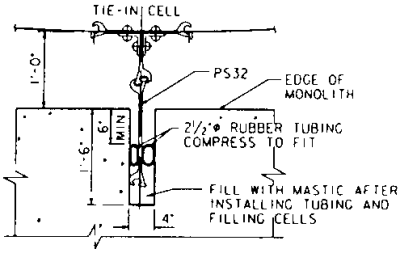
U.S.COFFERDAM TIE-IN AT LOCKWALL



TIE-IN AT
FOUNDATION SHEET PILING
DETAIL A



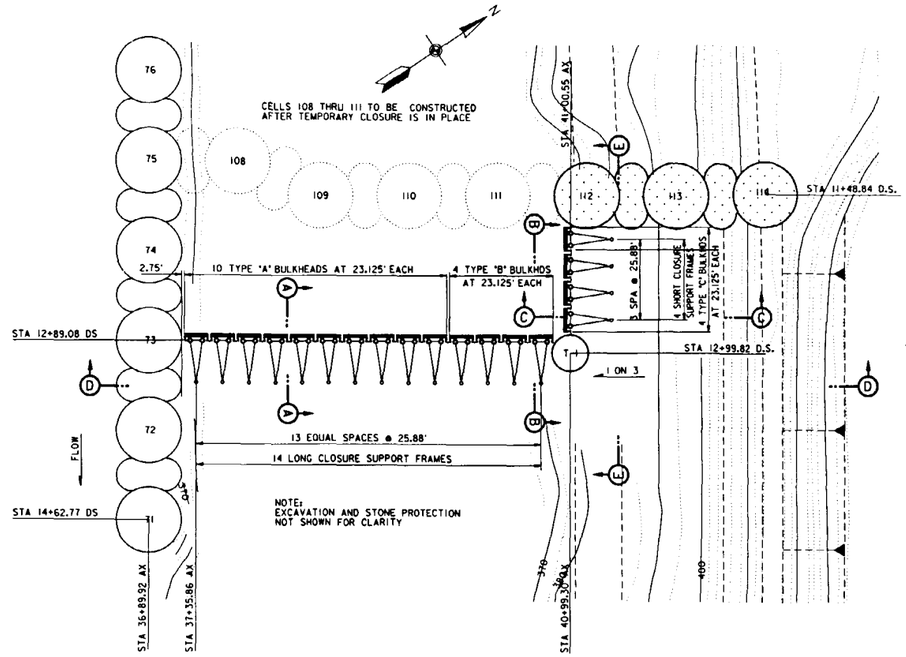
TIE-IN AT
FOUNDATION SHEET PILING
DETAIL B



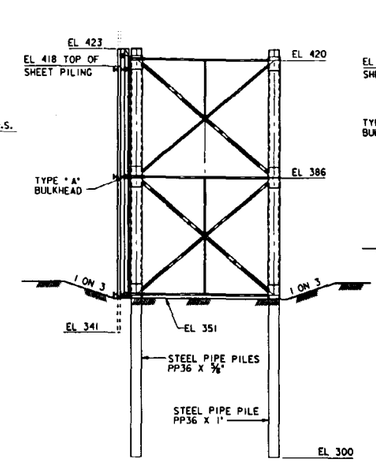
DETAIL C

LOCK DESIGN

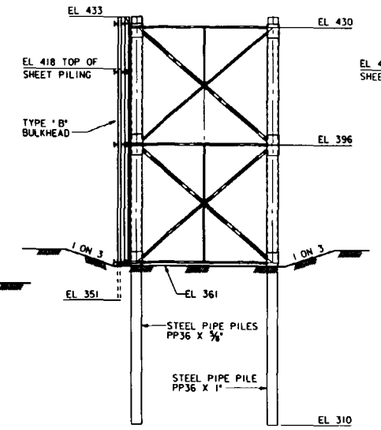
COFFERDAMS
U. S. CELLULAR TIE-IN
AT CONCRETE LOCK MONOLITH
PLAN, ELEVATION
AND DETAILS

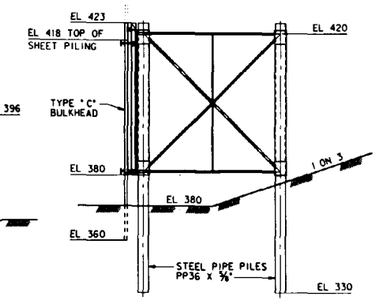


PLAN

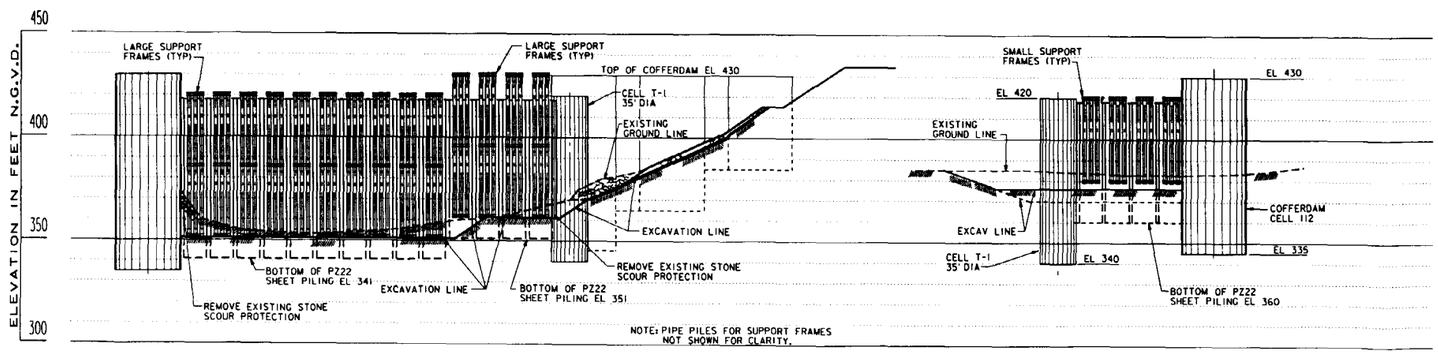


SECTION A-A





SECTION C-C



SECTIONAL ELEVATION D-D

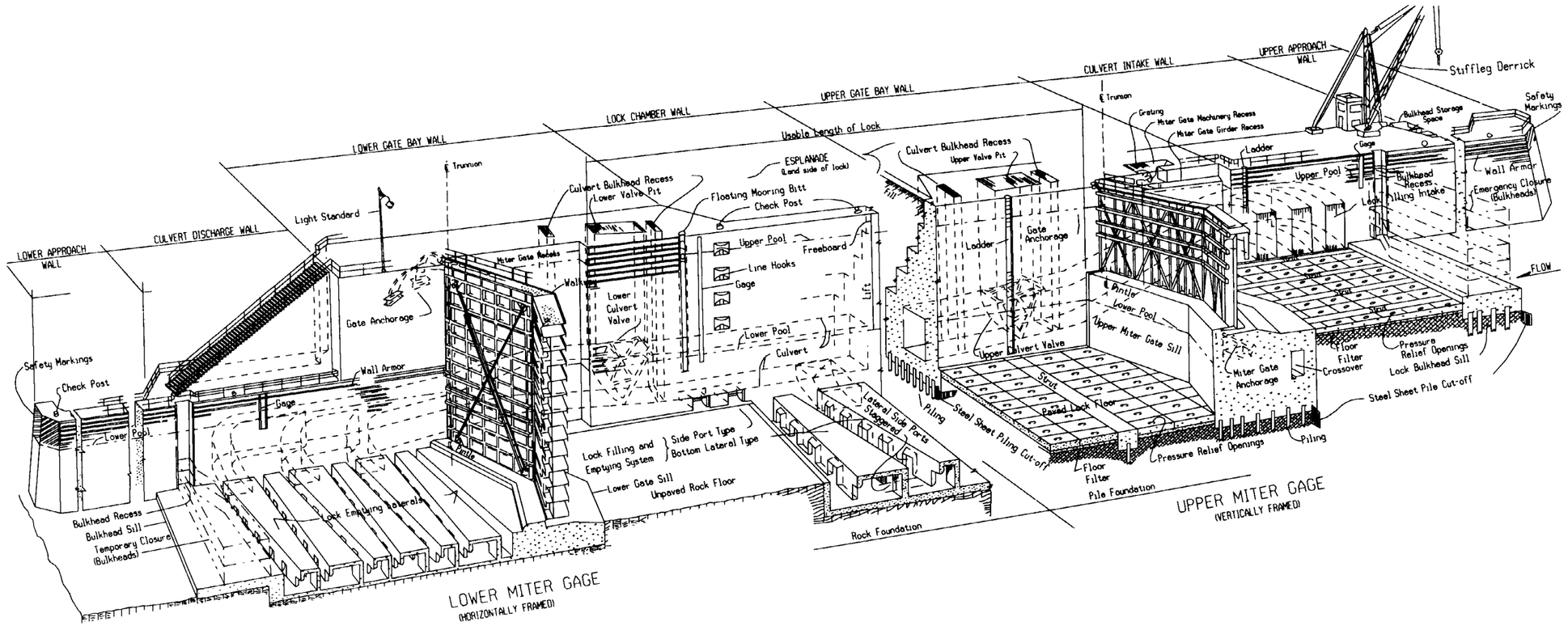
SECTIONAL ELEVATION E-E

DOWNSTREAM SECTIONAL ELEVATIONS

VERTICAL SCALE: 1" = 25'
HORIZONTAL SCALE: 1" = 50'
50' 0 50'

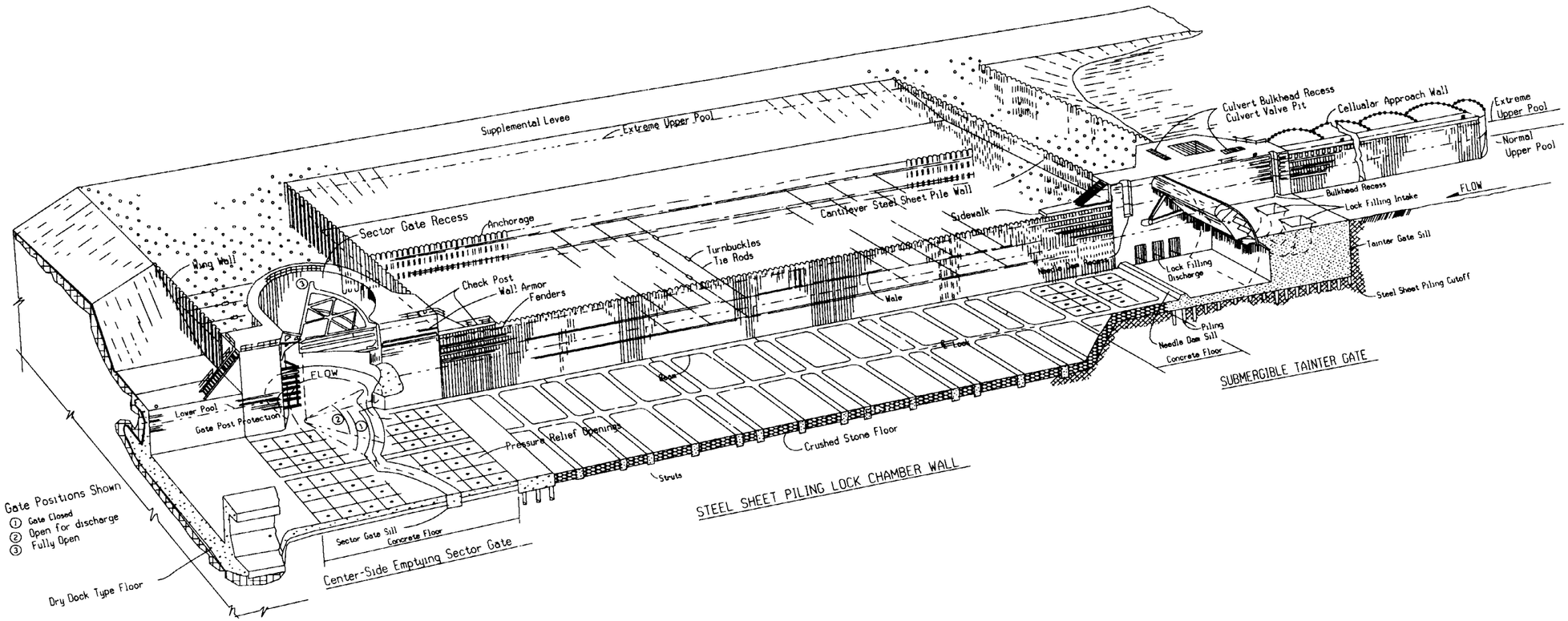
LOCK DESIGN

COFFERDAMS
TEMPORARY RIVER CLOSURE
GENERAL ARRANGEMENT
PLAN AND SECTIONS



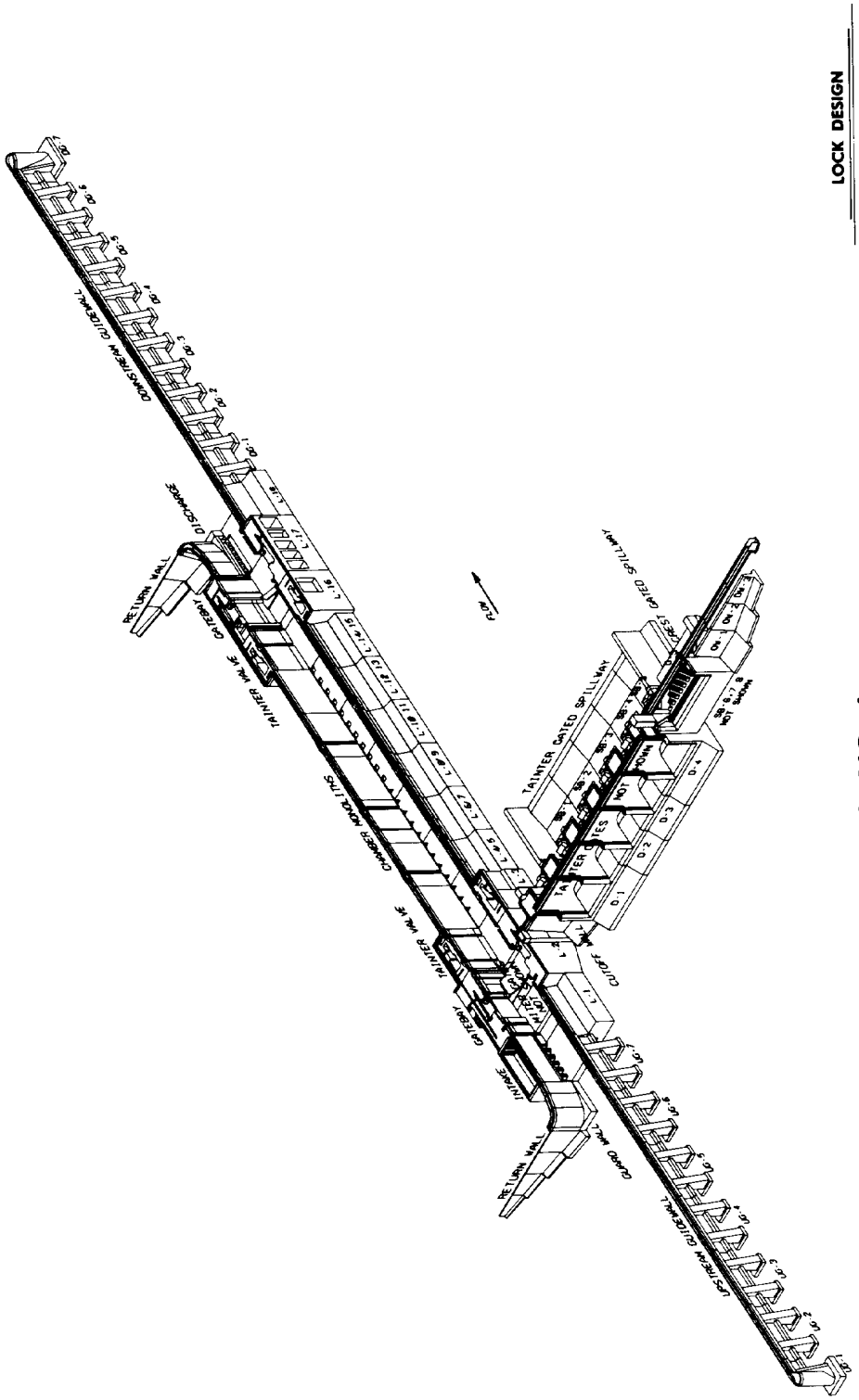
LOCK DESIGN

ELEMENTS OF A LOCK
GRAVITY TYPE



LOCK DESIGN

ELEMENTS OF A LOCK
COMBINATION TYPE

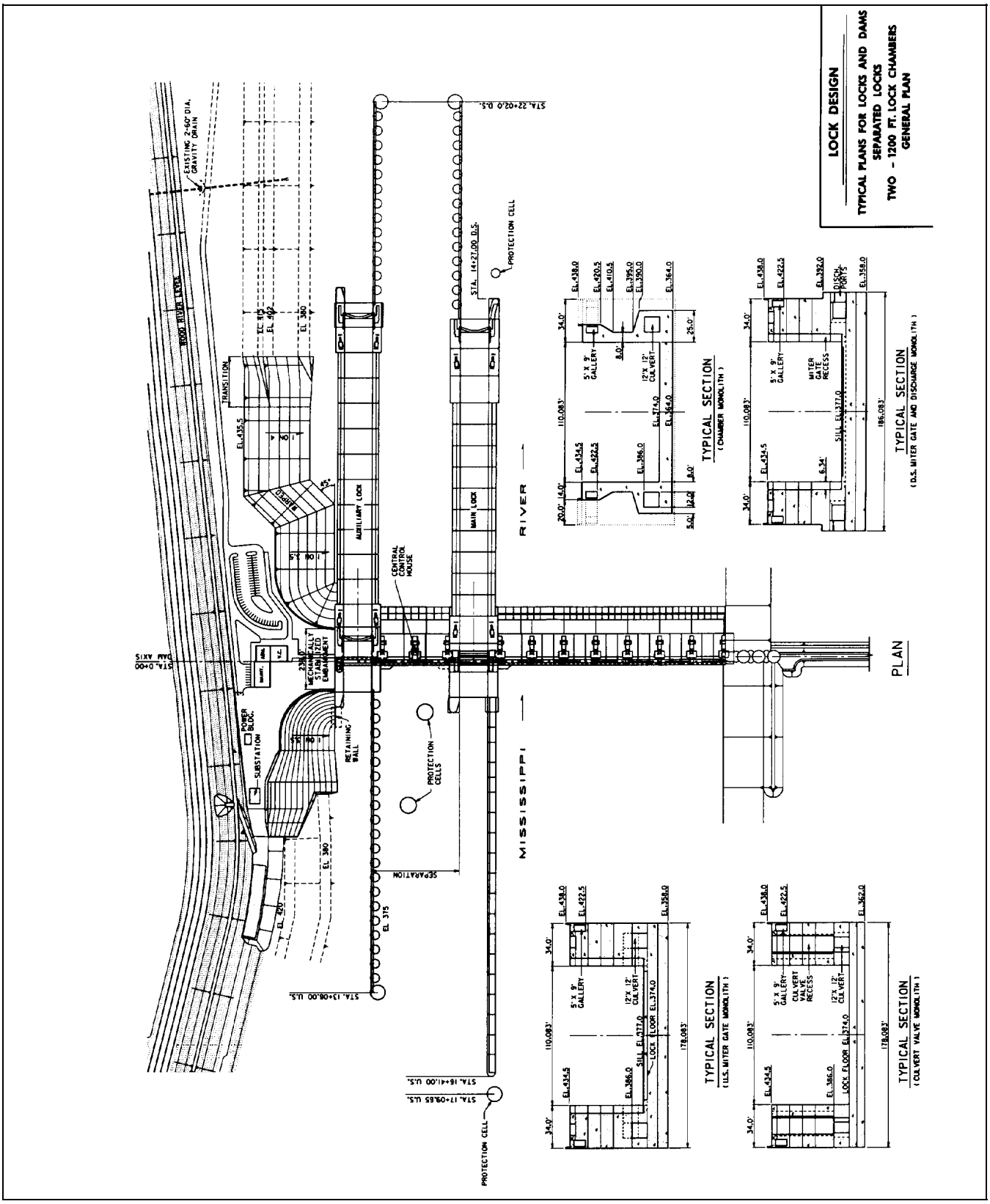


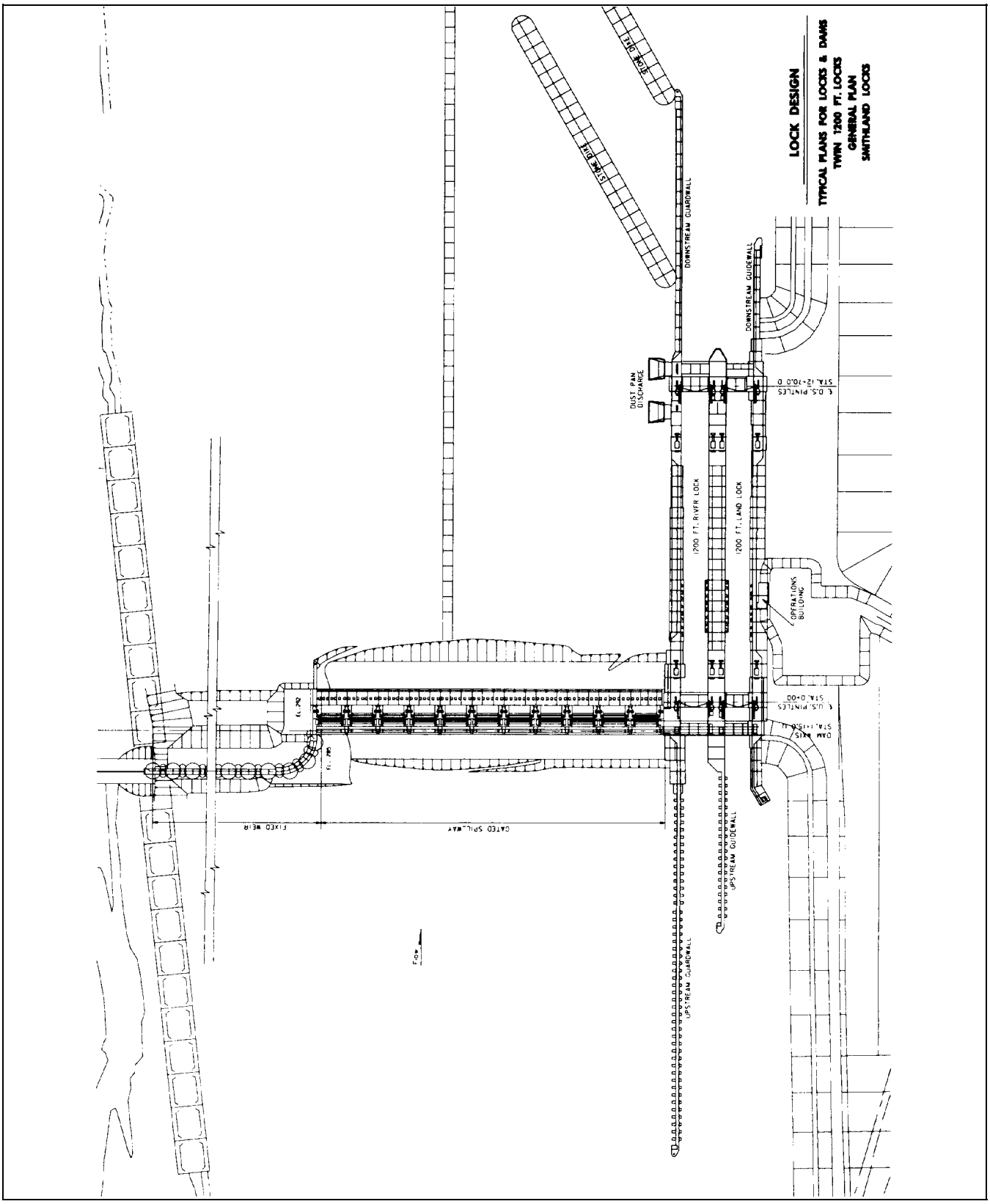
LOCK DESIGN

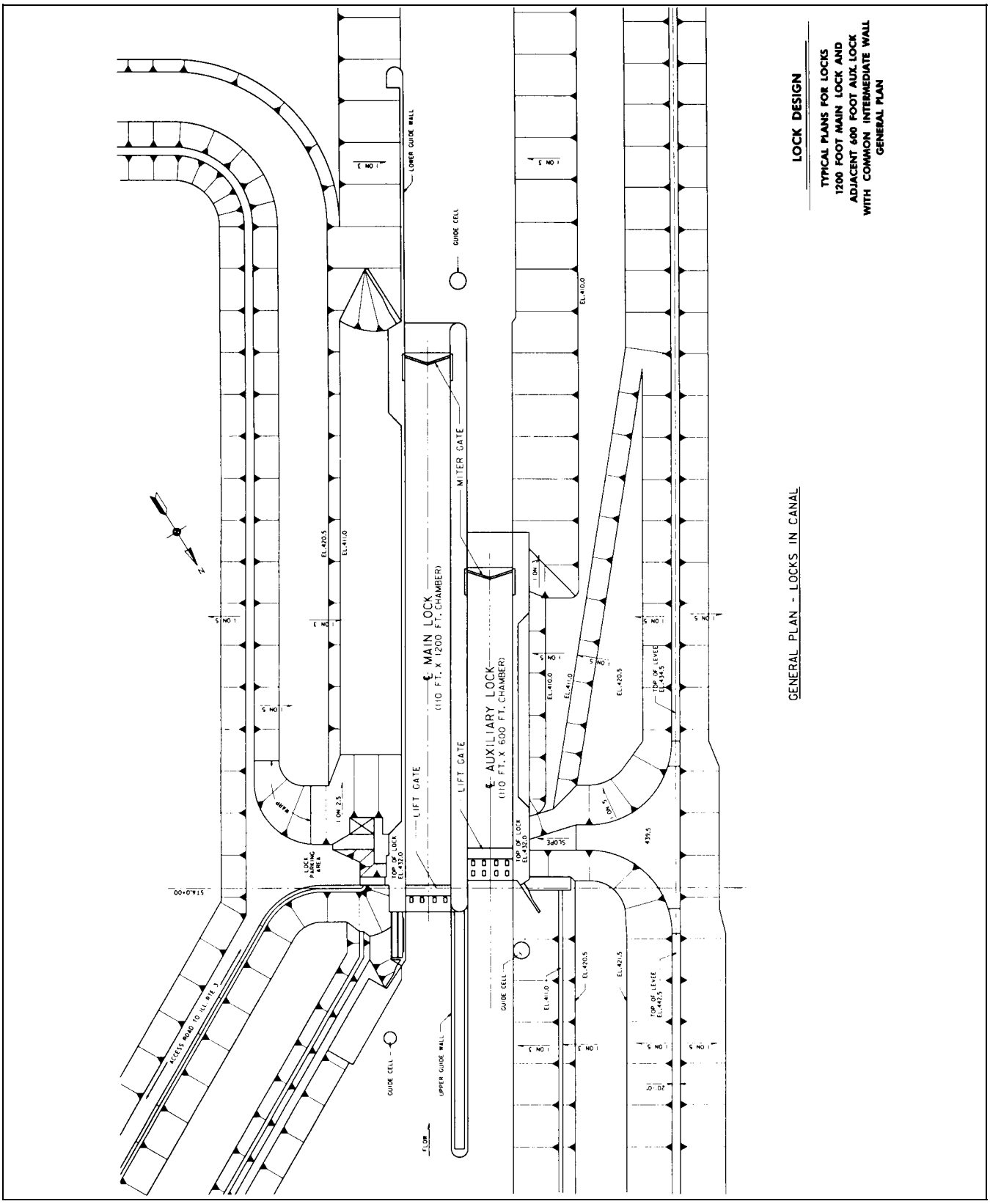
RED RIVER WATER WAY
LOCK AND DAM NO. 4
ISOMETRIC VIEW

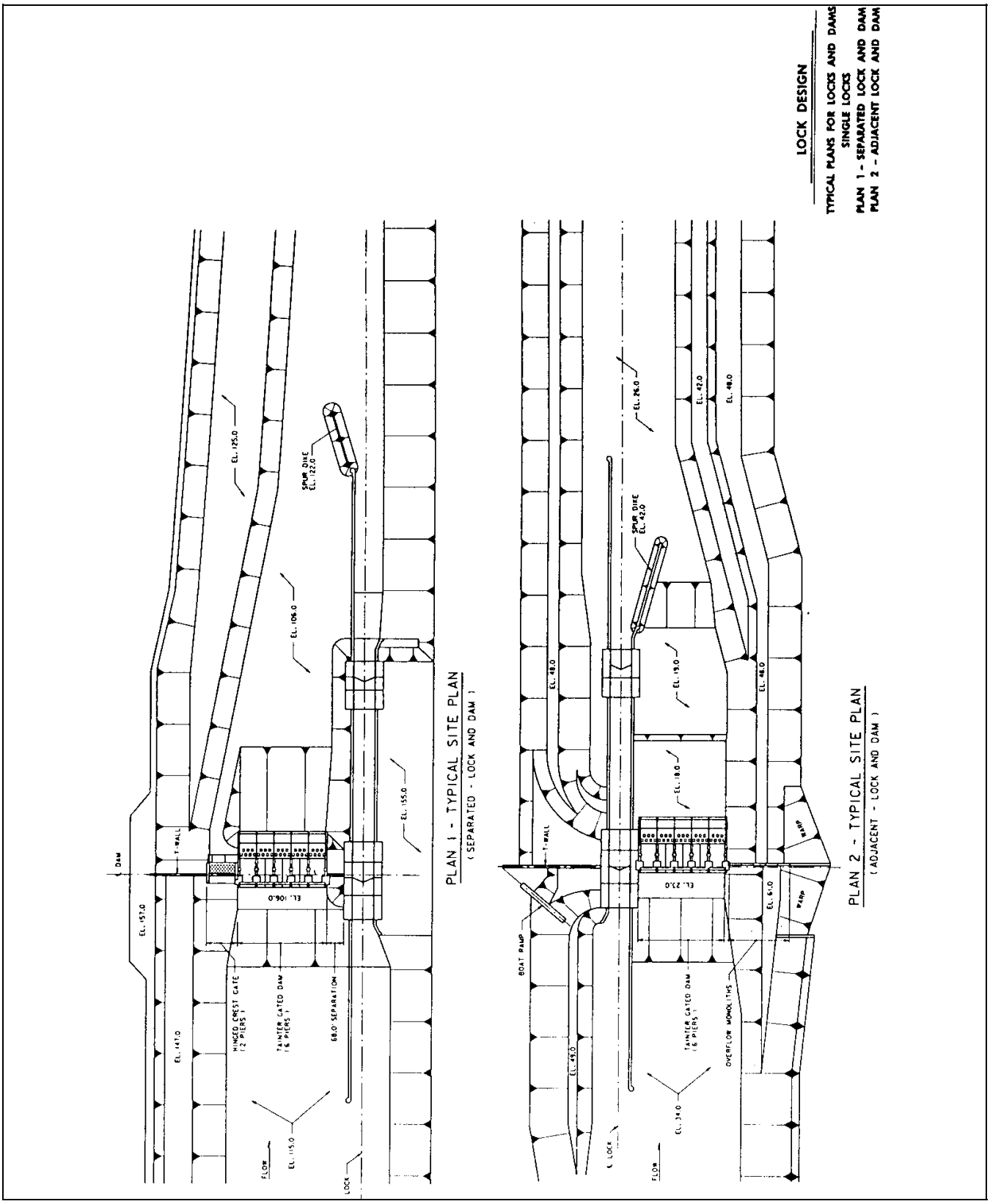
LOCK & DAM NO. 4

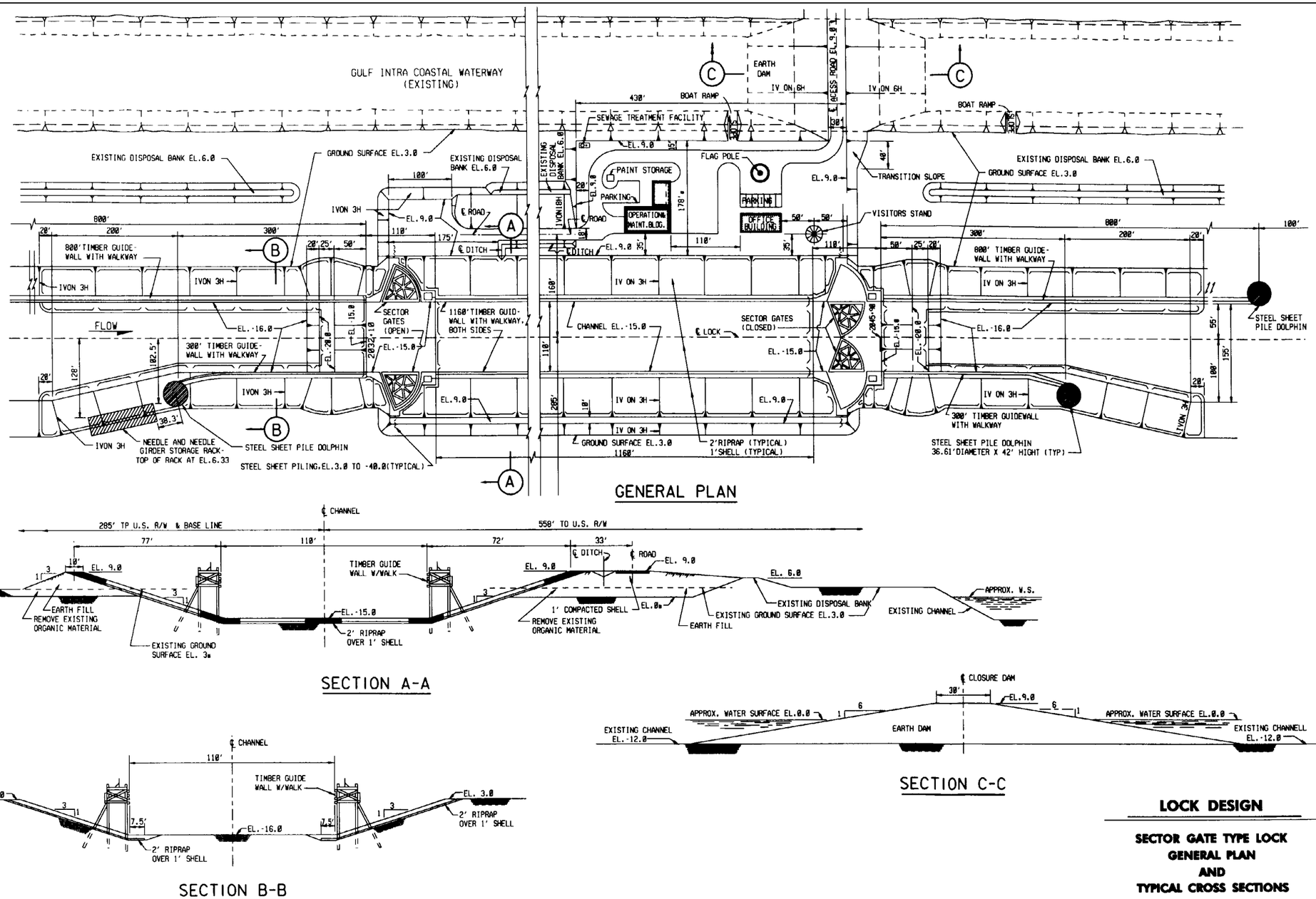
COUSHATTA, LOUISIANA

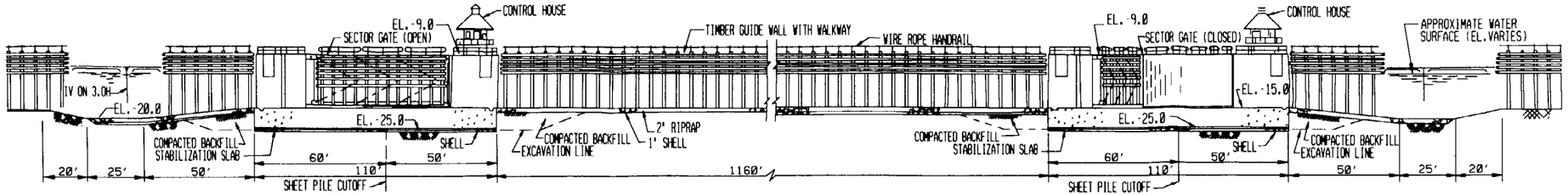

LOCK DESIGN
TYPICAL PLANS FOR LOCKS AND DAMS
SEPARATED LOCKS
TWO - 1200 FT. LOCK CHAMBERS
GENERAL PLAN
PLAN
MISSISSIPPI RIVER
AUXILIARY LOCK
MAIN LOCK
CENTRAL CONTROL HOUSE
PROTECTION CELL
PROTECTION CELLS
RETAINING WALL
POWER BLDG.
SUBSTATION
TRANSITION
SEPARATION
TYPICAL SECTION
(CHAMBER MONOLITH)
TYPICAL SECTION
(D.S. MITER GATE AND DISCHARGE MONOLITH)
TYPICAL SECTION
(U.S. MITER GATE MONOLITH)
TYPICAL SECTION
(CULVERT VALVE MONOLITH)


LOCK DESIGN
TYPICAL PLANS FOR LOCKS & DAMS
TWIN 1200 FT. LOCKS
GENERAL PLAN
SMITHLAND LOCKS
STONE DIKE
STONE DIKE
DOWNSTREAM GUARDWALL
DOWNSTREAM GUIDEWALL
DUST PAN DISCHARGE
1200 FT. RIVER LOCK
1200 FT. LAND LOCK
OPERATIONS BUILDING
UPSTREAM GUIDEWALL
UPSTREAM GUARDWALL
FIXED WEIR
GATED SPILLWAY
Flow

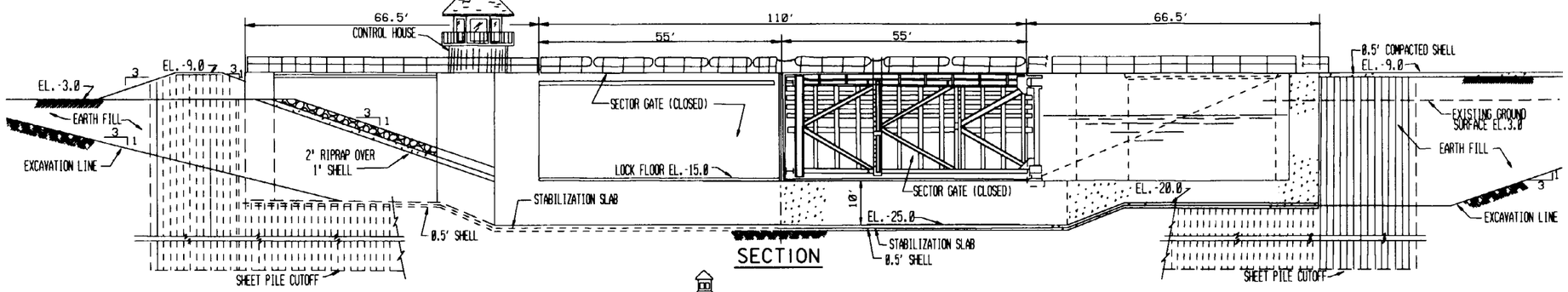

LOCK DESIGN
TYPICAL PLANS FOR LOCKS
1200 FOOT MAIN LOCK AND
ADJACENT 600 FOOT AUX. LOCK
WITH COMMON INTERMEDIATE WALL
GENERAL PLAN
GENERAL PLAN - LOCKS IN CANAL
MAIN LOCK
(110 FT. X 1200 FT. CHAMBER)
AUXILIARY LOCK
(110 FT. X 600 FT. CHAMBER)
LIFT GATE
LIFT GATE
MITER GATE
LOWER GUIDE WALL
UPPER GUIDE WALL
GUIDE CELL
GUIDE CELL
GUIDE CELL
LOCK PARKING AREA
ACCESS ROAD TO ILL. RTE. 3
FLOW
STA.0+00
EL.410.0
EL.411.0
EL.420.5
EL.421.5
TOP OF LOCK EL.432.0
TOP OF LEVEE EL.434.5
TOP OF LEVEE EL.442.5
439.5
SLOPE
WARP
20'-0"


LOCK DESIGN
TYPICAL PLANS FOR LOCKS AND DAMS
SINGLE LOCKS
PLAN 1 - SEPARATED LOCK AND DAM
PLAN 2 - ADJACENT LOCK AND DAM
PLAN 1 - TYPICAL SITE PLAN
(SEPARATED - LOCK AND DAM)
PLAN 2 - TYPICAL SITE PLAN
(ADJACENT - LOCK AND DAM)
EL. 125.0
EL. 106.0
EL. 155.0
EL. 157.0
EL. 141.0
EL. 115.0
EL. 106.0
SPUR DIKE
EL. 122.0
T-WALL
DAM
HINGED CREST GATE
(2 PIERS)
TAINTER GATED DAM
(6 PIERS)
68.0' SEPARATION
FLOW
LOCK
EL. 26.0
EL. 42.0
EL. 48.0
EL. 19.0
EL. 18.0
EL. 22.0
EL. 61.0
EL. 49.0
EL. 34.0
SPUR DIKE
EL. 42.0
BOAT RAMP
RAMP
OVERFLOW MONOLITHS

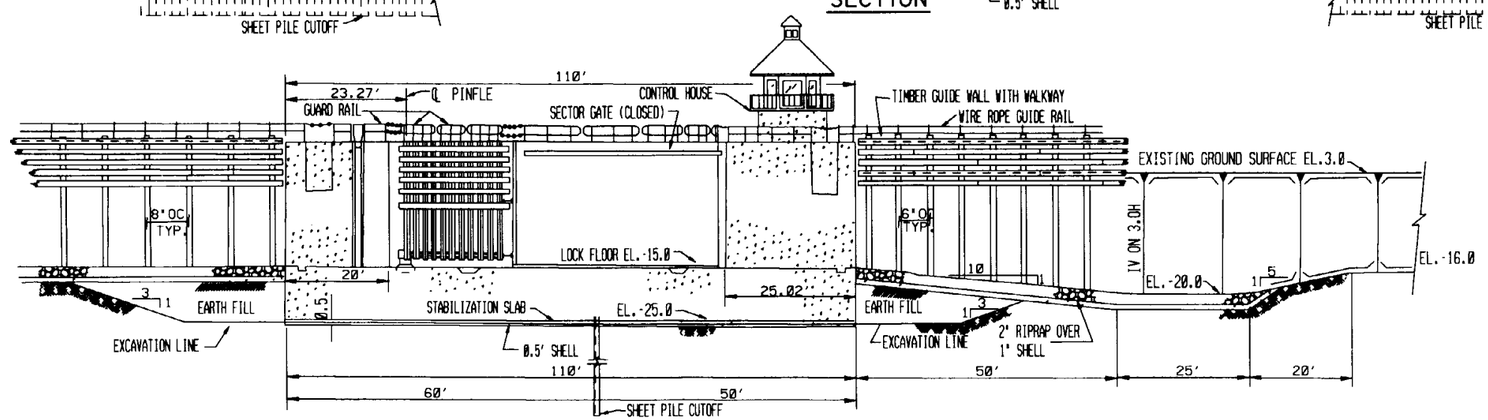

GULF INTRA COASTAL WATERWAY (EXISTING)
EARTH DAM
IV ON 6H
BOAT RAMP
SEWAGE TREATMENT FACILITY
EXISTING DISPOSAL BANK EL.6.0
GROUND SURFACE EL.3.0
PAINT STORAGE
PARKING
OPERATION& MAINT.BLDG.
OFFICE BUILDING
FLAG POLE
TRANSITION SLOPE
VISITORS STAND
800' TIMBER GUIDE-WALL WITH WALKWAY
300' TIMBER GUIDE-WALL WITH WALKWAY
1160' TIMBER GUID-WALL WITH WALKWAY, BOTH SIDES
SECTOR GATES (OPEN)
SECTOR GATES (CLOSED)
CHANNEL EL.-15.0
LOCK
FLOW
STEEL SHEET PILE DOLPHIN
NEEDLE AND NEEDLE GIRDER STORAGE RACK-TOP OF RACK AT EL.6.33
STEEL SHEET PILING,EL.3.0 TO -40.0(TYPICAL)
GROUND SURFACE EL.3.0
2'RIPRAP (TYPICAL) 1'SHELL (TYPICAL)
300' TIMBER GUIDEWALL WITH WALKWAY
STEEL SHEET PILE DOLPHIN 36.61'DIAMETER X 42' HIGHT (TYP)
GENERAL PLAN
285' TP U.S. R/W & BASE LINE
558' TO U.S. R/W
TIMBER GUIDE WALL W/WALK
EARTH FILL
REMOVE EXISTING ORGANIC MATERIAL
EXISTING GROUND SURFACE EL. 3.0
2' RIPRAP OVER 1' SHELL
1' COMPACTED SHELL
EXISTING DISPOSAL BANK
EXISTING GROUND SURFACE EL.3.0
EXISTING CHANNEL
APPROX. W.S.
SECTION A-A
CLOSURE DAM
APPROX. WATER SURFACE EL.0.0
EXISTING CHANNEL EL.-12.0
EARTH DAM
SECTION C-C
SECTION B-B
LOCK DESIGN
SECTOR GATE TYPE LOCK
GENERAL PLAN
AND
TYPICAL CROSS SECTIONS



LONGITUDINAL ELEVATION



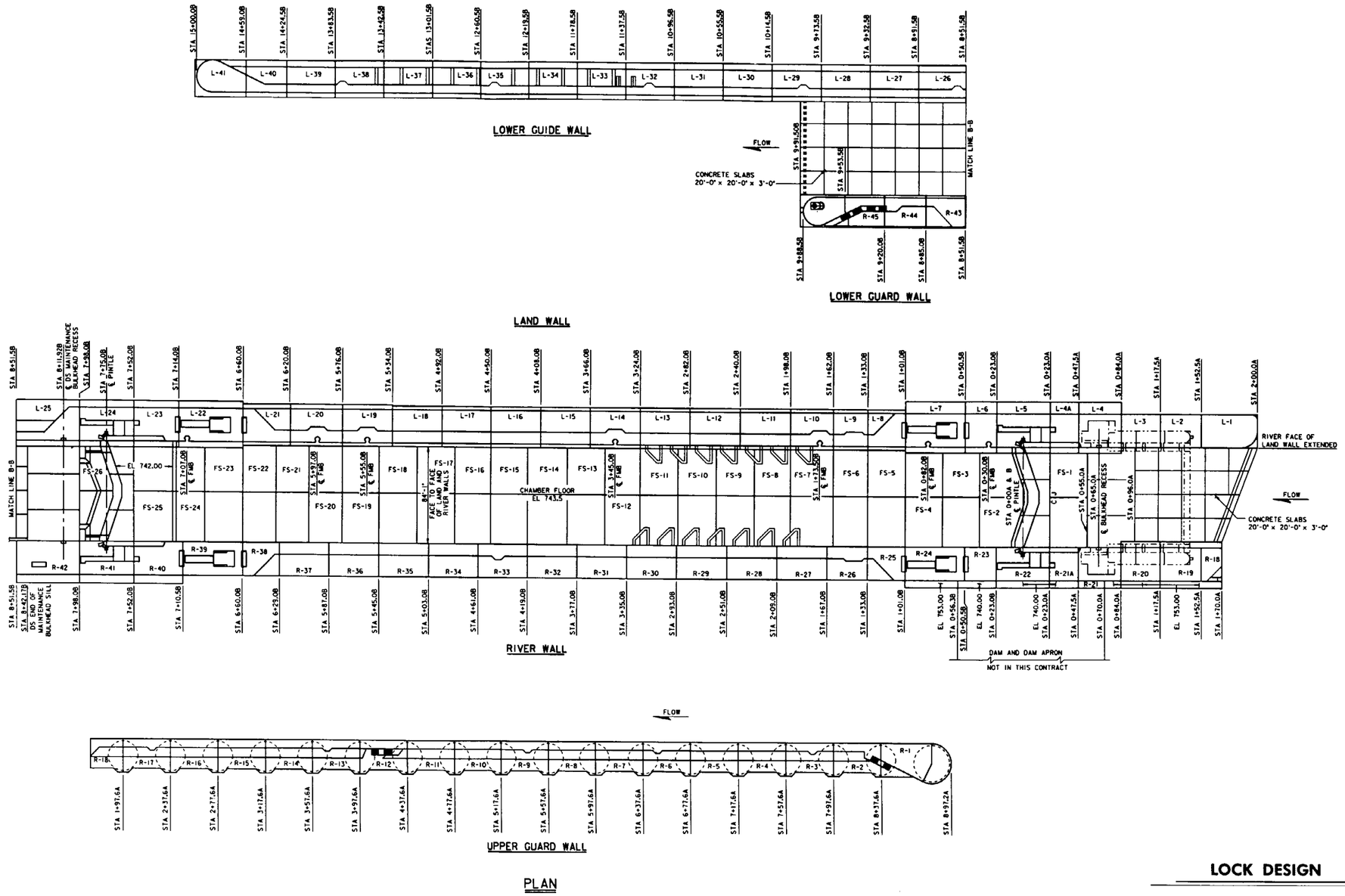
SECTION



LONGITUDINAL ELEVATION- EAST GATE BAY

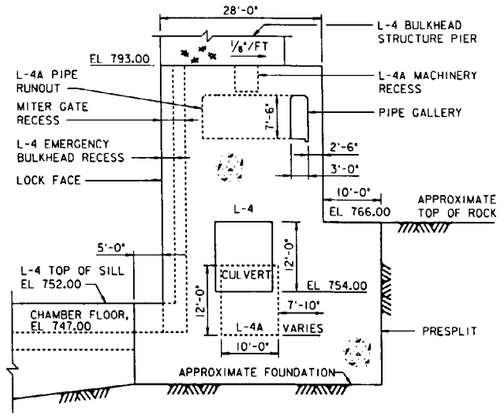
LOCK DESIGN

SECTOR GATE TYPE LOCK
SECTIONS AND DETAILS

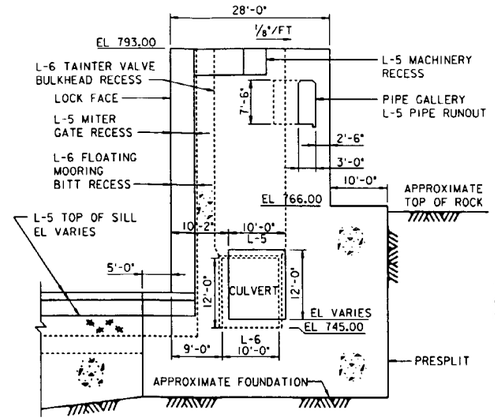


LOCK DESIGN

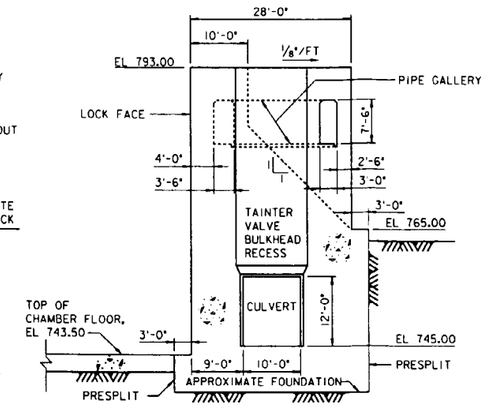
LOCK CHAMBER SECTIONS
LOCK MONOLITH PLAN
GRAVITY AND SEMI GRAVITY WALLS



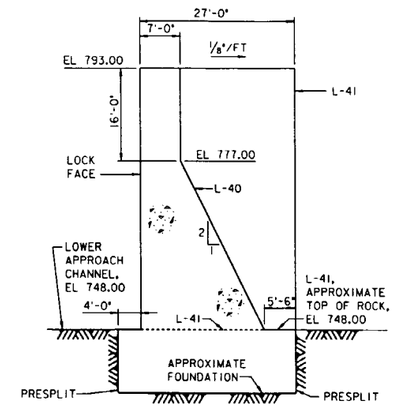
L-4 THRU L-4A



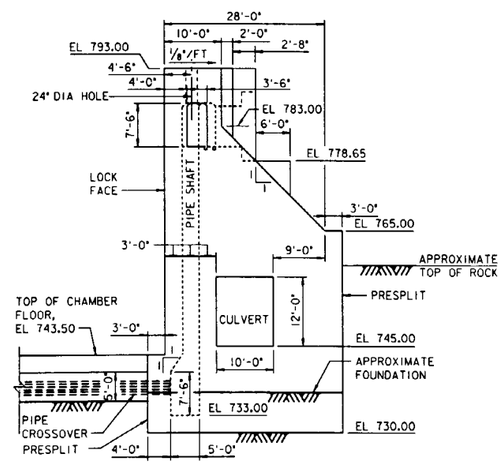
L-5 THRU L-6



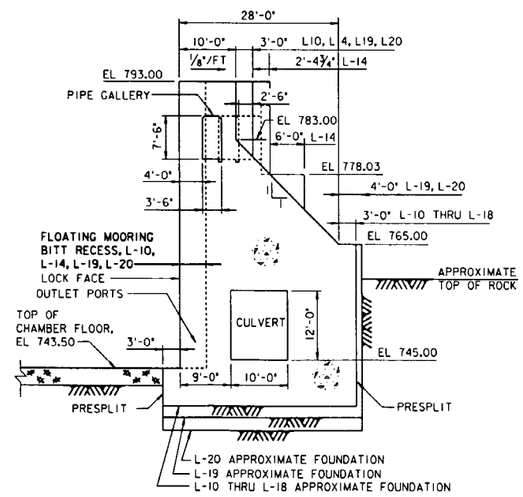
L-8



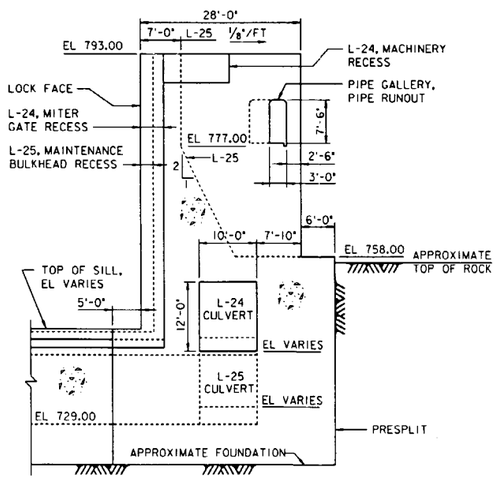
L-40 THRU L-41



L-9



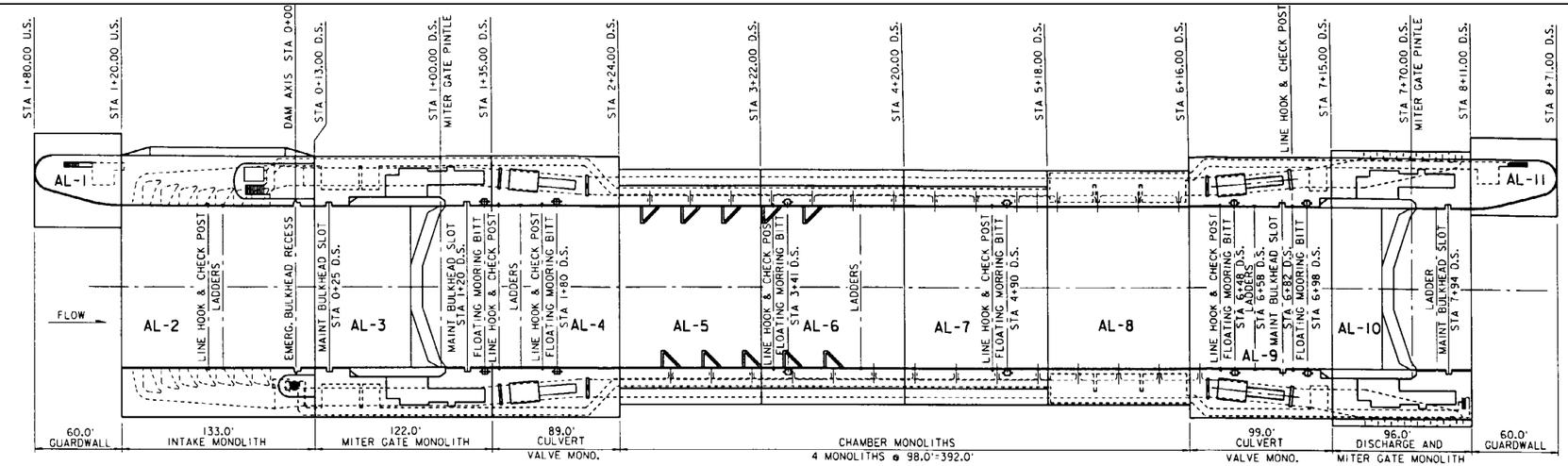
L-10 THRU L-20



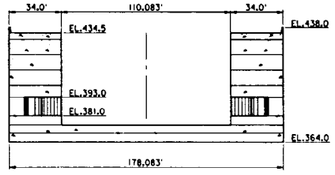
L-24 THRU L-25

LOCK DESIGN

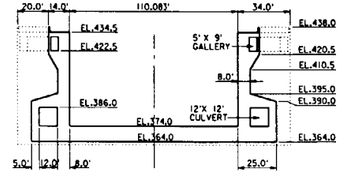
LOCK CHAMBER SECTIONS
GRAVITY AND SEMI GRAVITY WALLS
LAND WALL SECTIONS



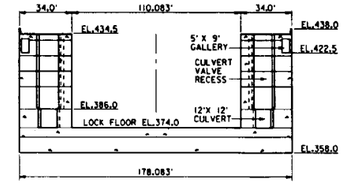
PLAN



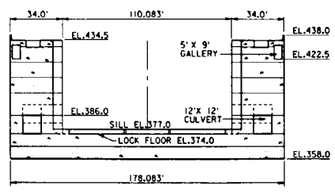
SECTION AT STA 0+67.5 U.S.



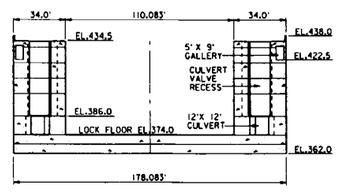
SECTION AT STA 2+25 D.S.



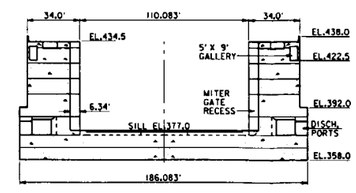
SECTION AT STA 6+62 D.S.



SECTION AT STA 1+00



SECTION AT STA 1+65 D.S.

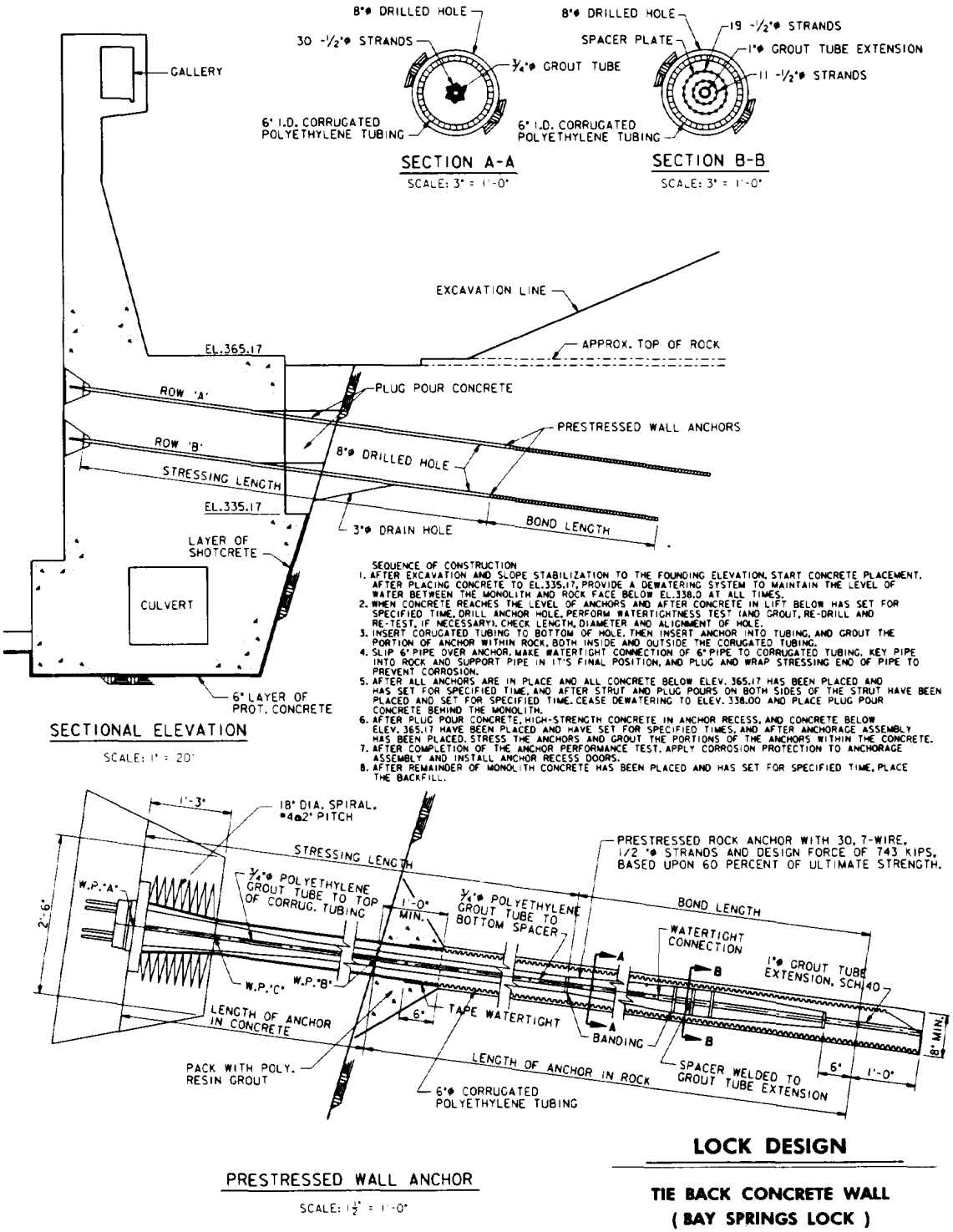


SECTION AT STA 7+70 D.S.

NOTES:
1. ALL CONCRETE LOCK MONOLITHS WILL BE FOUNDED ON STEEL H PILES

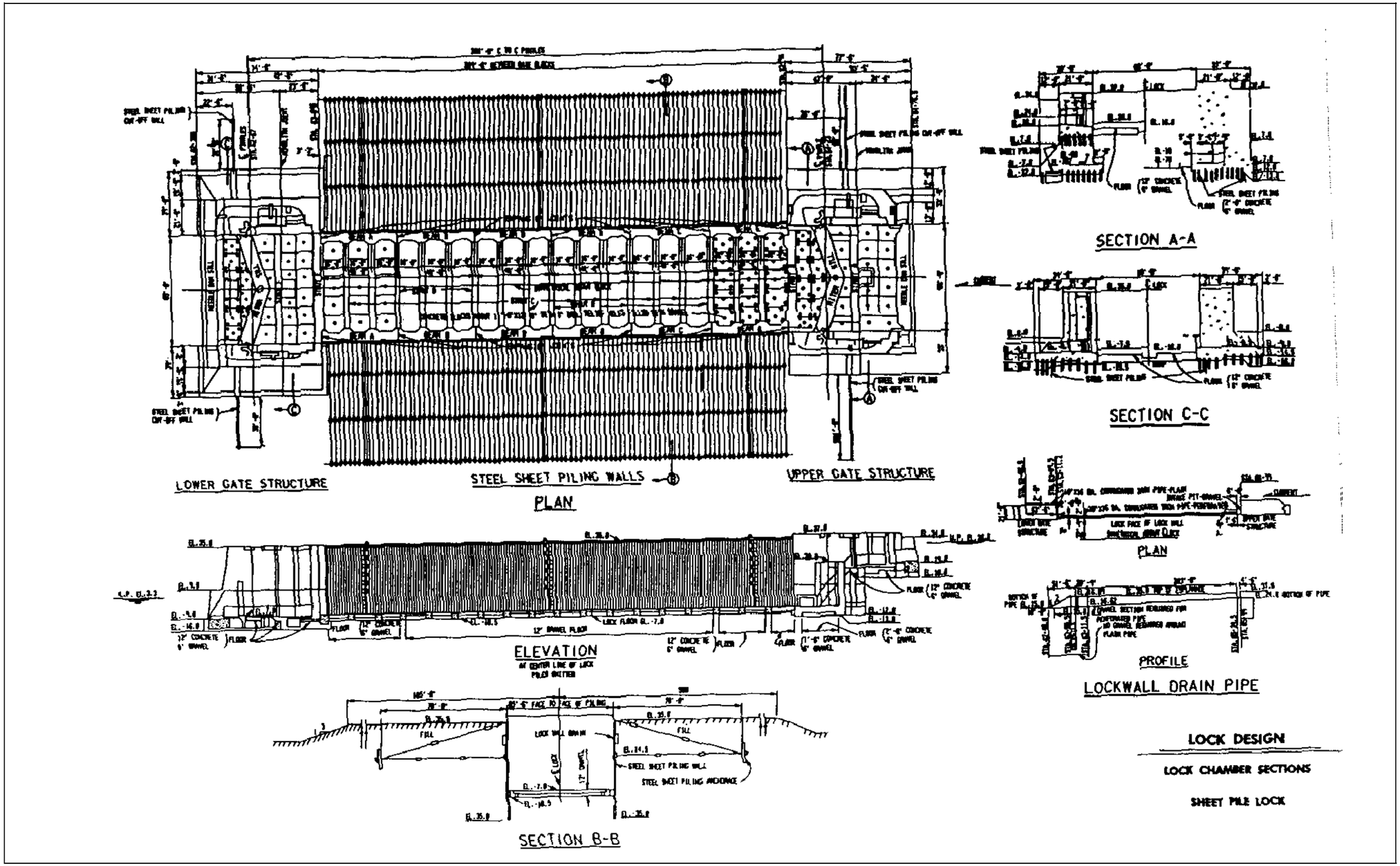
LOCK DESIGN

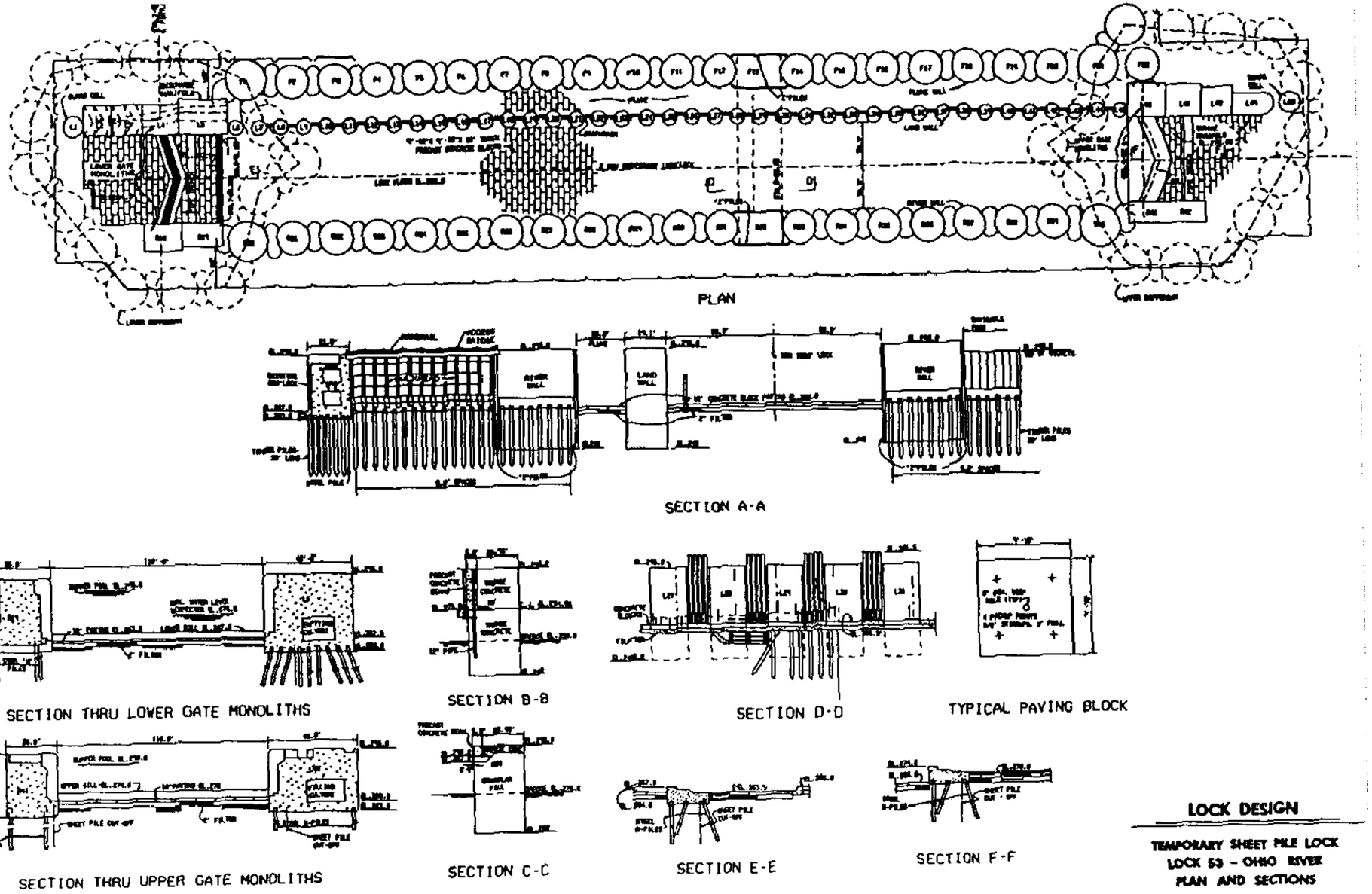
LOW LIFT NAVIGATION LOCK
CONCRETE "U" FRAME
110 FT X 600 FT. LOCK CHAMBER
LOCK MONOLITH LAYOUT
PLAN AND SECTIONS



LOCK DESIGN

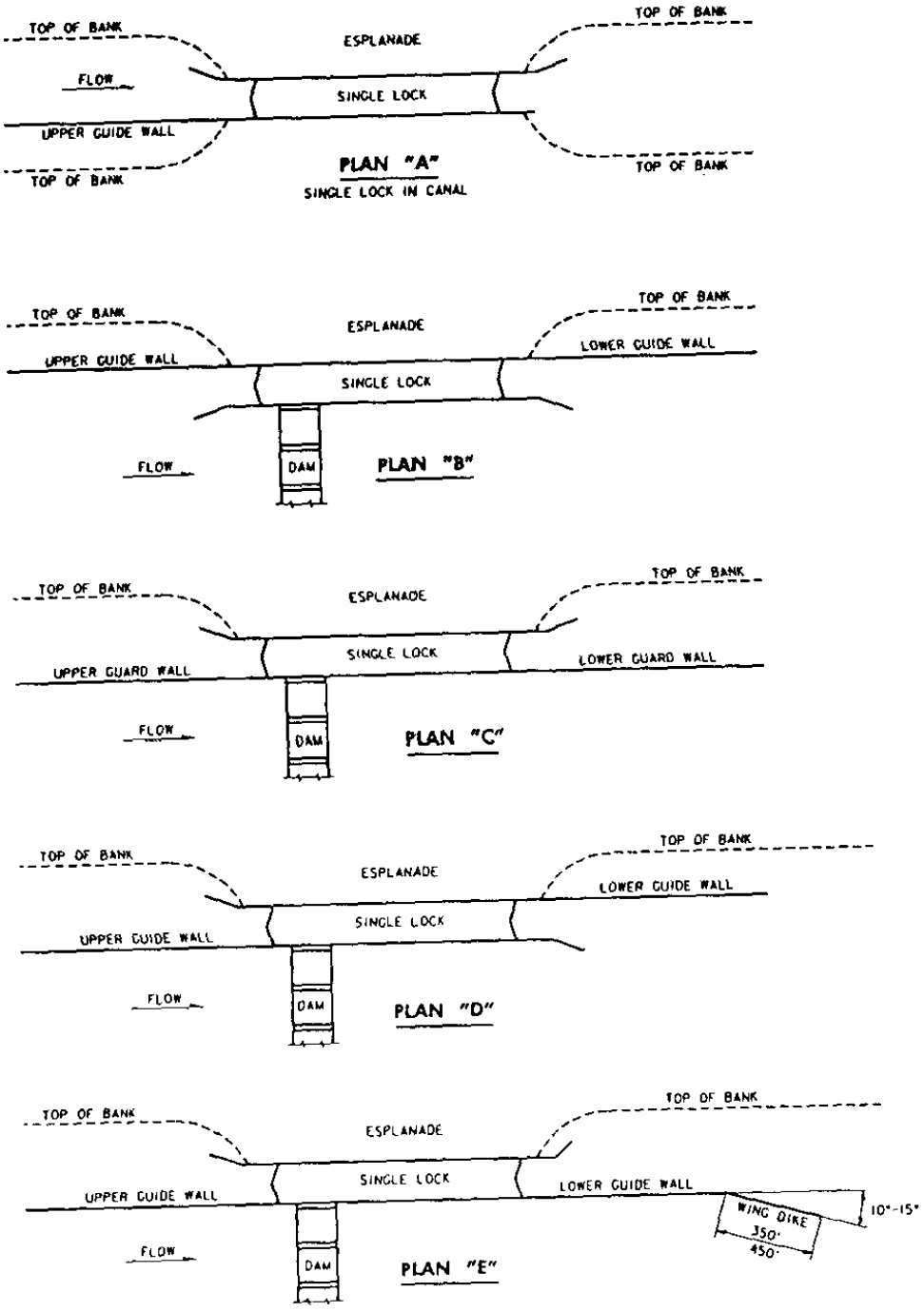
TIE BACK CONCRETE WALL
(BAY SPRINGS LOCK)
ELEVATION AND SECTIONS


LOWER GATE STRUCTURE
STEEL SHEET PILING WALLS
UPPER GATE STRUCTURE
PLAN
ELEVATION
SECTION B-B
SECTION A-A
SECTION C-C
PLAN
PROFILE
LOCKWALL DRAIN PIPE
LOCK DESIGN
LOCK CHAMBER SECTIONS
SHEET PILE LOCK



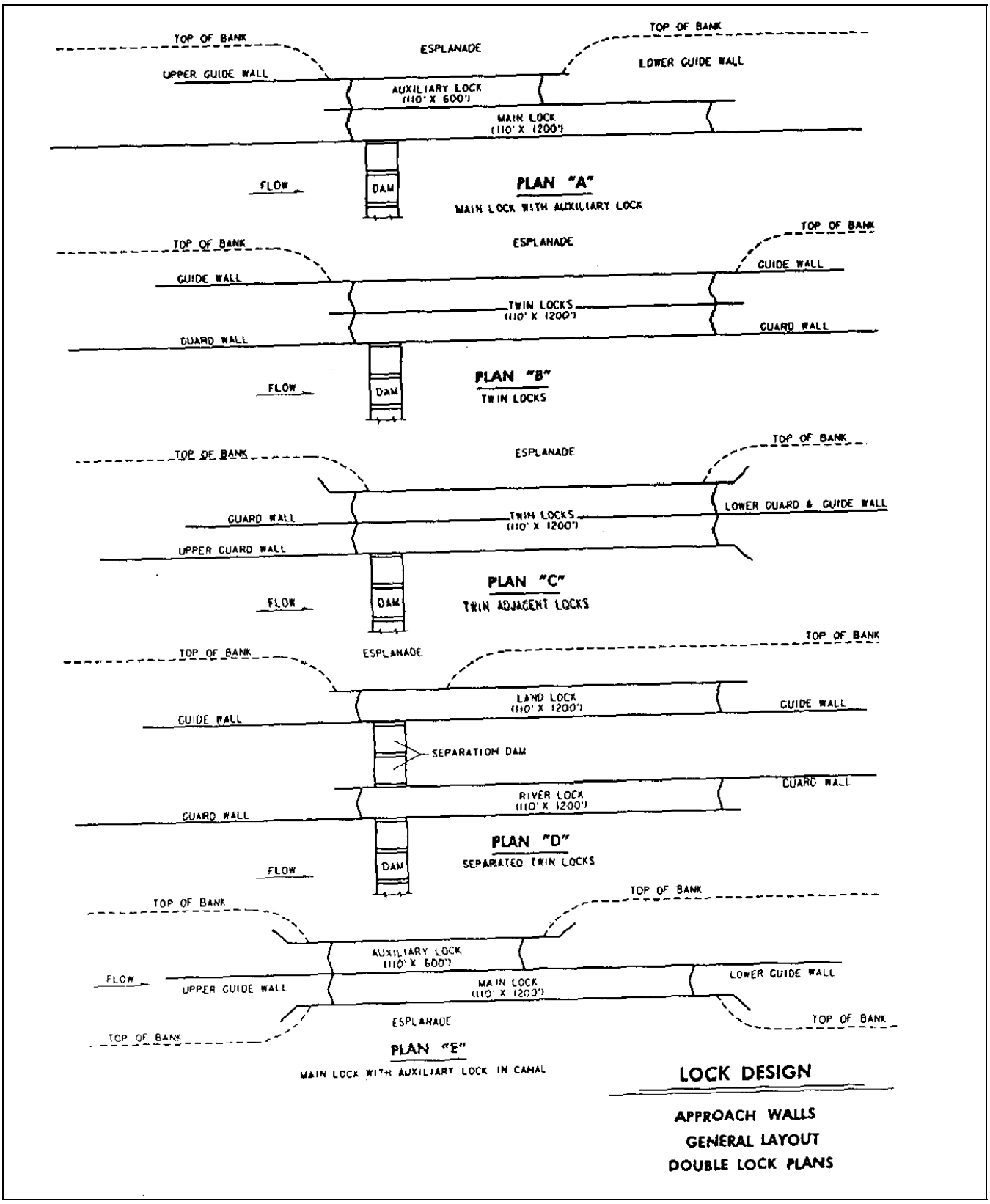
LOCK DESIGN

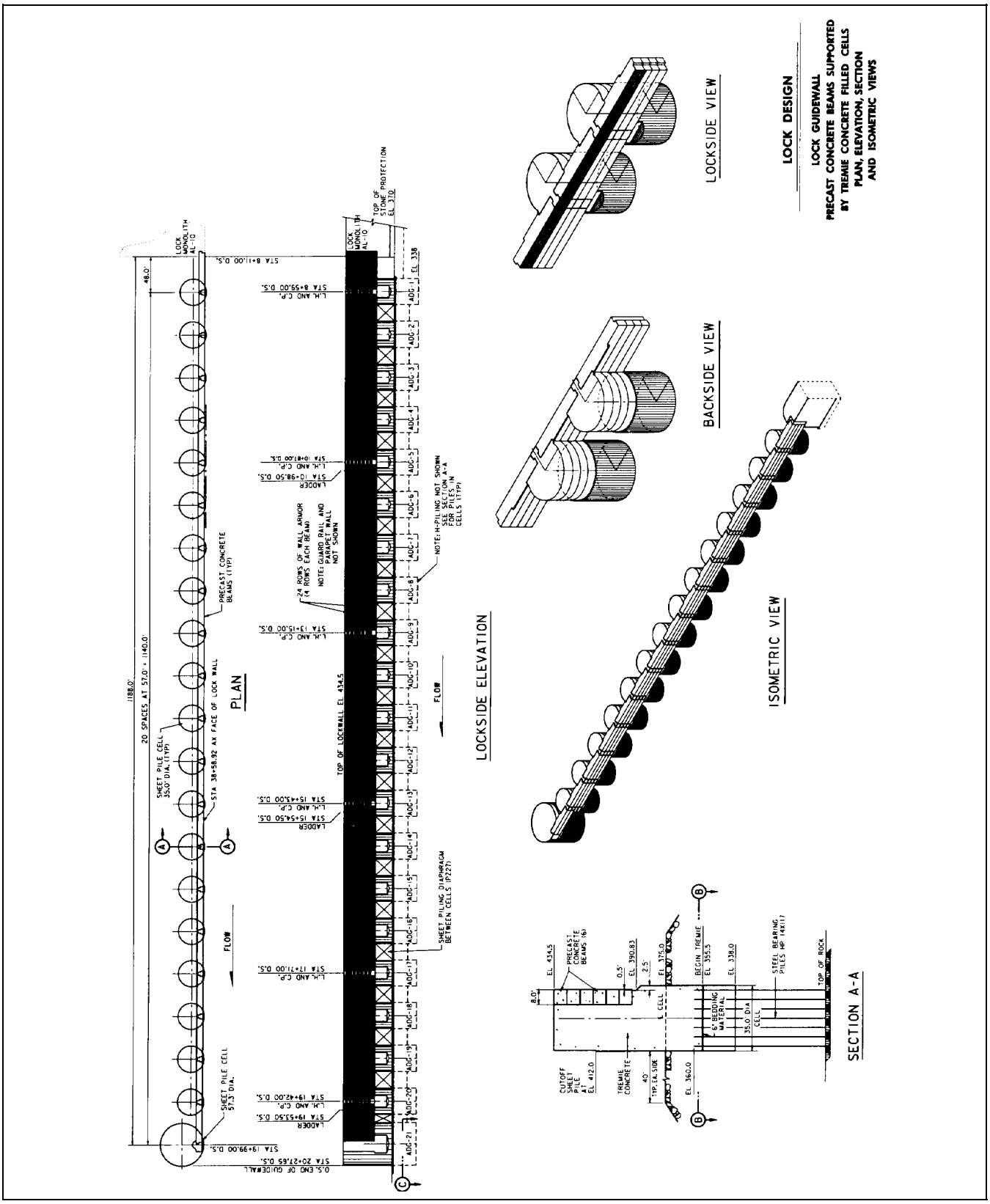
TEMPORARY SHEET PILE LOCK
LOCK 53 - OHIO RIVER
PLAN AND SECTIONS

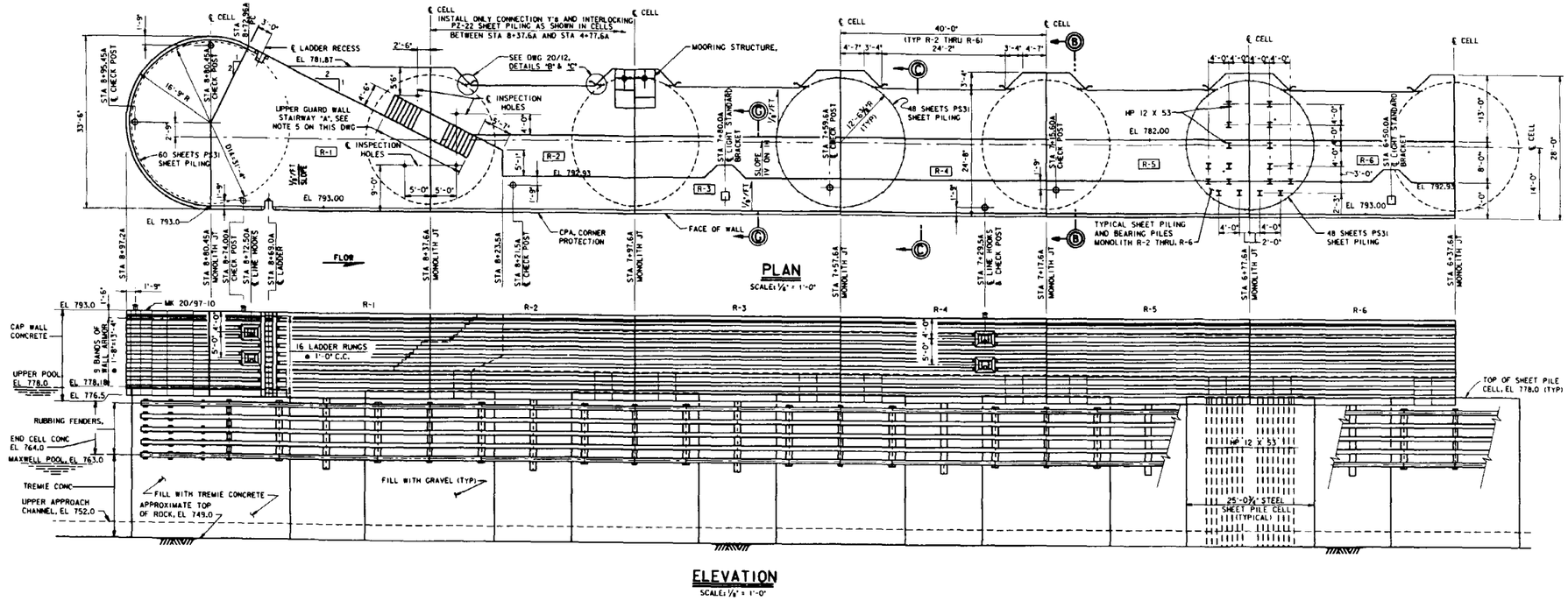


LOCK DESIGN

APPROACH WALLS
GENERAL LAYOUT
SINGLE LOCK PLANS

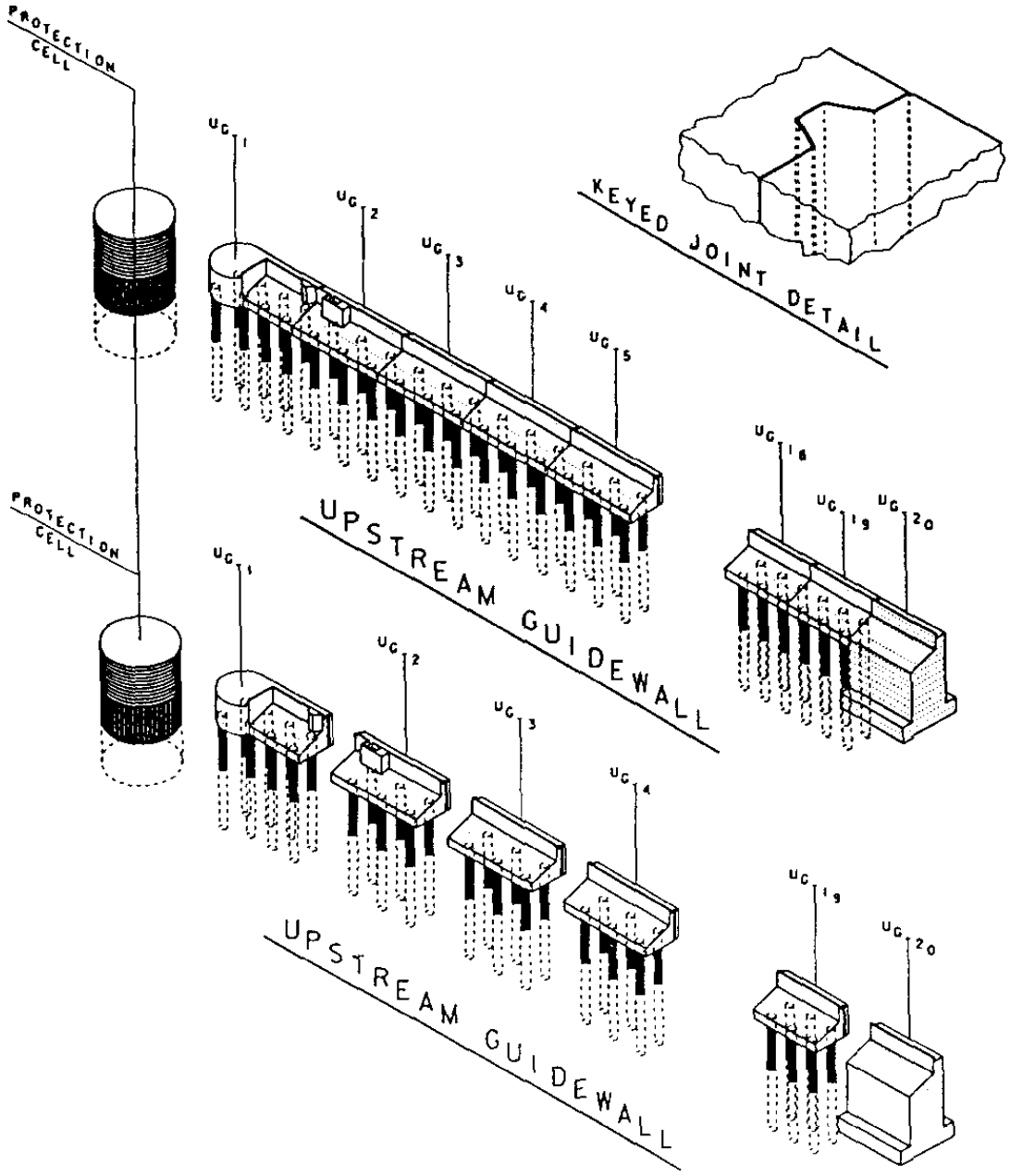

TOP OF BANK
ESPLANADE
TOP OF BANK
LOWER GUIDE WALL
UPPER GUIDE WALL
AUXILIARY LOCK (110' X 600')
MAIN LOCK (110' X 1200')
FLOW
DAM
PLAN "A"
MAIN LOCK WITH AUXILIARY LOCK
TOP OF BANK
ESPLANADE
TOP OF BANK
GUIDE WALL
GUIDE WALL
TWIN LOCKS (110' X 1200')
GUARD WALL
GUARD WALL
FLOW
DAM
PLAN "B"
TWIN LOCKS
TOP OF BANK
ESPLANADE
TOP OF BANK
LOWER GUARD & GUIDE WALL
GUARD WALL
TWIN LOCKS (110' X 1200')
UPPER GUARD WALL
FLOW
DAM
PLAN "C"
TWIN ADJACENT LOCKS
TOP OF BANK
ESPLANADE
TOP OF BANK
LAND LOCK (110' X 1200')
GUIDE WALL
GUIDE WALL
SEPARATION DAM
GUARD WALL
RIVER LOCK (110' X 1200')
GUARD WALL
FLOW
DAM
PLAN "D"
SEPARATED TWIN LOCKS
TOP OF BANK
TOP OF BANK
AUXILIARY LOCK (110' X 600')
FLOW
UPPER GUIDE WALL
MAIN LOCK (110' X 1200')
LOWER GUIDE WALL
ESPLANADE
TOP OF BANK
TOP OF BANK
PLAN "E"
MAIN LOCK WITH AUXILIARY LOCK IN CANAL
LOCK DESIGN
APPROACH WALLS
GENERAL LAYOUT
DOUBLE LOCK PLANS


LOCK DESIGN
LOCK GUIDEWALL
PRECAST CONCRETE BEAMS SUPPORTED BY TREMIE CONCRETE FILLED CELLS
PLAN, ELEVATION, SECTION AND ISOMETRIC VIEWS
LOCKSIDE VIEW
BACKSIDE VIEW
ISOMETRIC VIEW
PLAN
LOCKSIDE ELEVATION
SECTION A-A
20 SPACES AT 57.0 = 1140.0'
1188.0'
48.0'
SHEET PILE CELL 35.0' DIA. (TYP)
SHEET PILE CELL 57.5' DIA.
PRECAST CONCRETE BEAMS (TYP)
STA 38+58.92 AX FACE OF LOCK WALL
FLOW
TOP OF LOCKWALL EL 434.5
LOCK MONOLITH AL-10
TOP OF STONE PROTECTION EL 370
SHEET PILING DIAPHRAGM BETWEEN CELLS (PZ27)
24 ROWS OF WALL ARMOR (4 ROWS EACH BEAM)
NOTE: GUARD RAIL AND PARAPET WALL NOT SHOWN
NOTE: H-PILING NOT SHOWN SEE SECTION A-A FOR PILES IN CELLS (TYP)
LADDER
L.H. AND C.P.
STA 8+11.00 D.S.
STA 8+59.00 D.S.
STA 10+81.00 D.S.
STA 10+98.50 D.S.
STA 13+15.00 D.S.
STA 15+45.00 D.S.
STA 15+54.50 D.S.
STA 17+71.00 D.S.
STA 19+42.00 D.S.
STA 19+53.50 D.S.
STA 19+99.00 D.S.
STA 20+27.65 D.S.
0.S. END OF GUIDEWALL
EL 338
EL 434.5
PRECAST CONCRETE BEAMS (6)
8.0'
0.5'
EL 390.83
2.5'
EL 375.0
BEGIN TREMIE
EL 355.5
EL 338.0
STEEL BEARING PILES HP 14X117
TOP OF ROCK
CUTOFF SHEET PILE AT EL 412.0
TREMIE CONCRETE
40'
TYP. EA. SIDE
EL 360.0
℄ CELL
℄ BEDDING MATERIAL
35.0 DIA
CELL



LOCK DESIGN

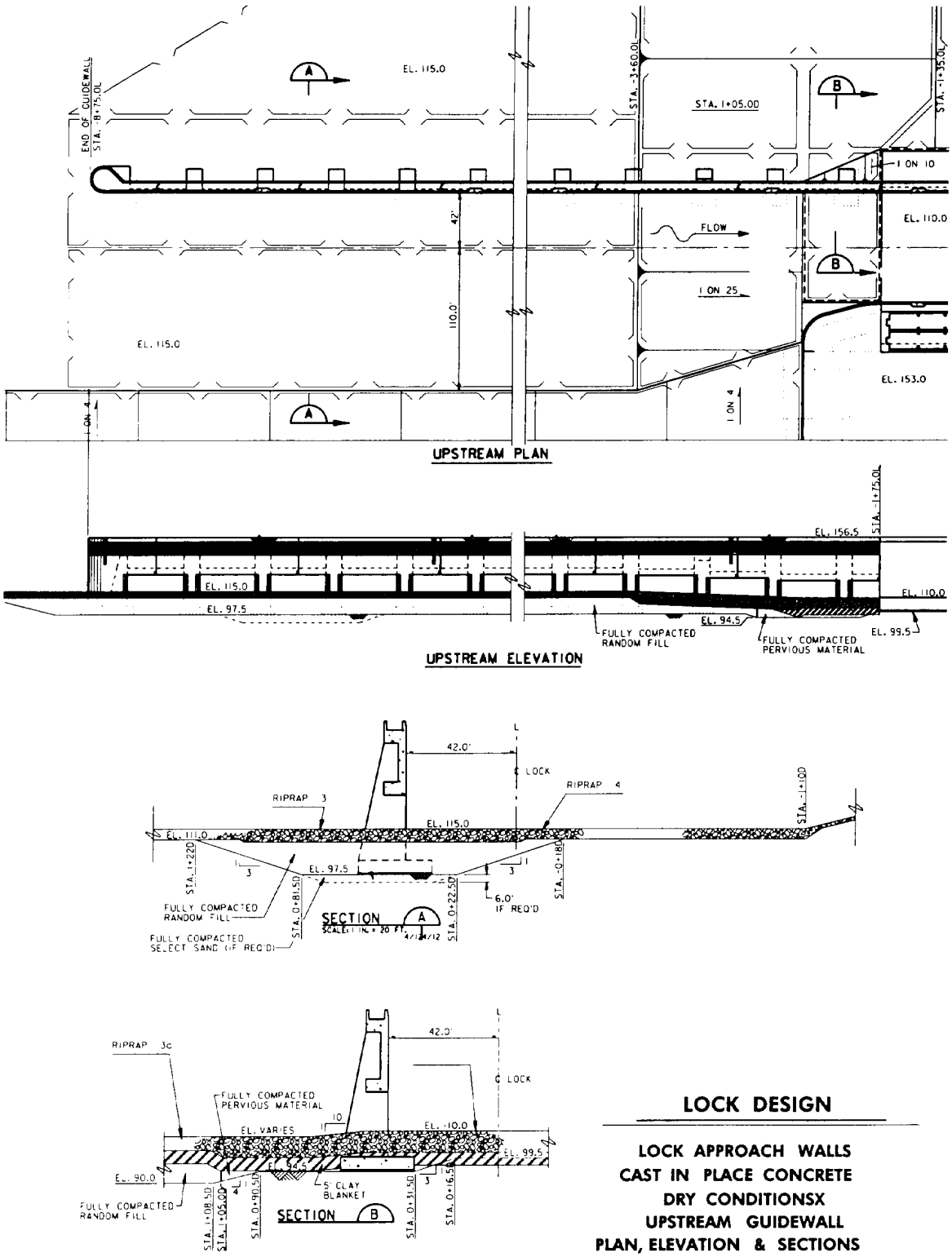
APPROACH WALLS
GUIDEWALLS
CAST IN PLACE ON
TREMIE FILLED SHEET PILE CELLS



GUIDEWALLS FOR 1200 FOOT LOCK

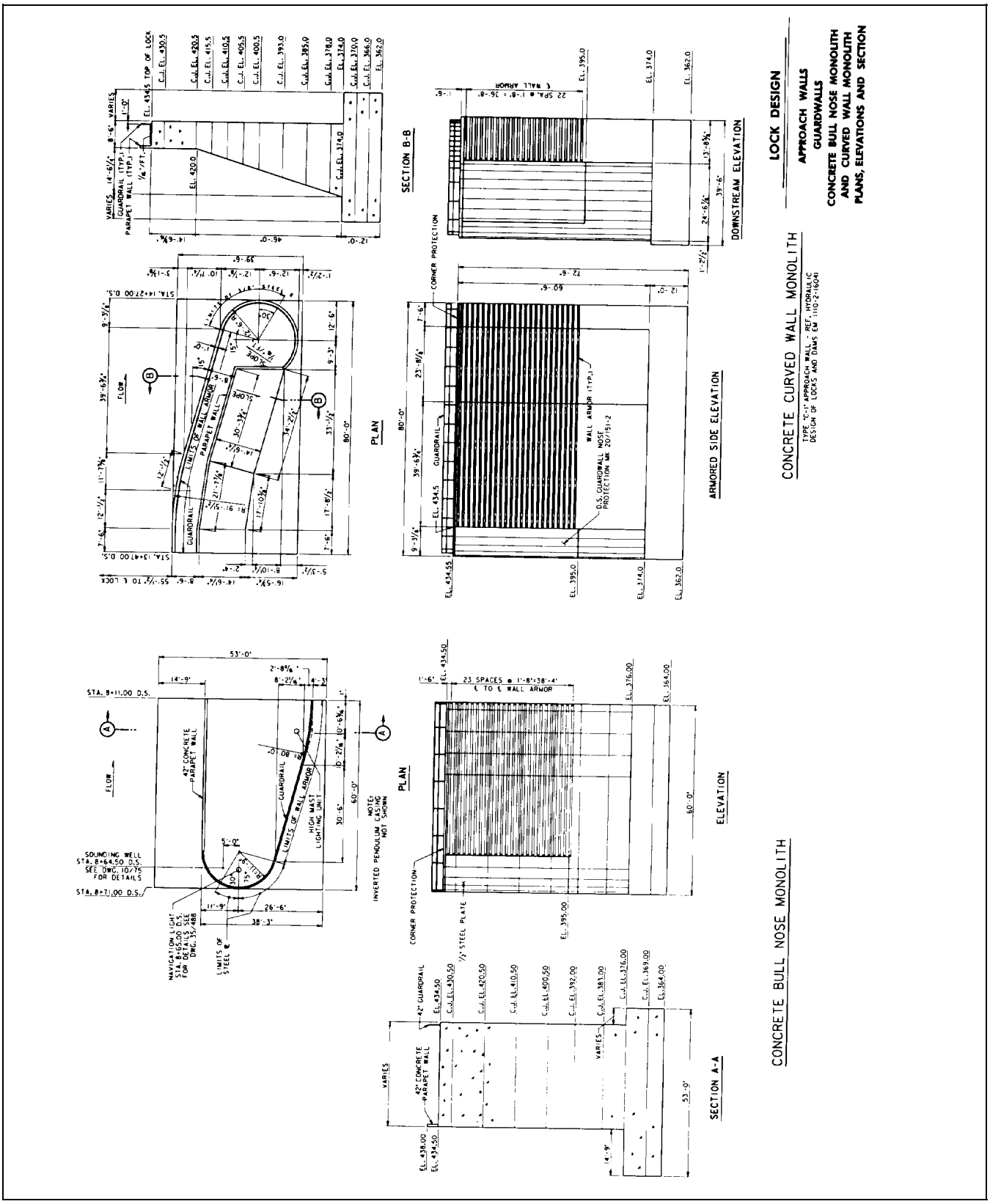
LOCK DESIGN

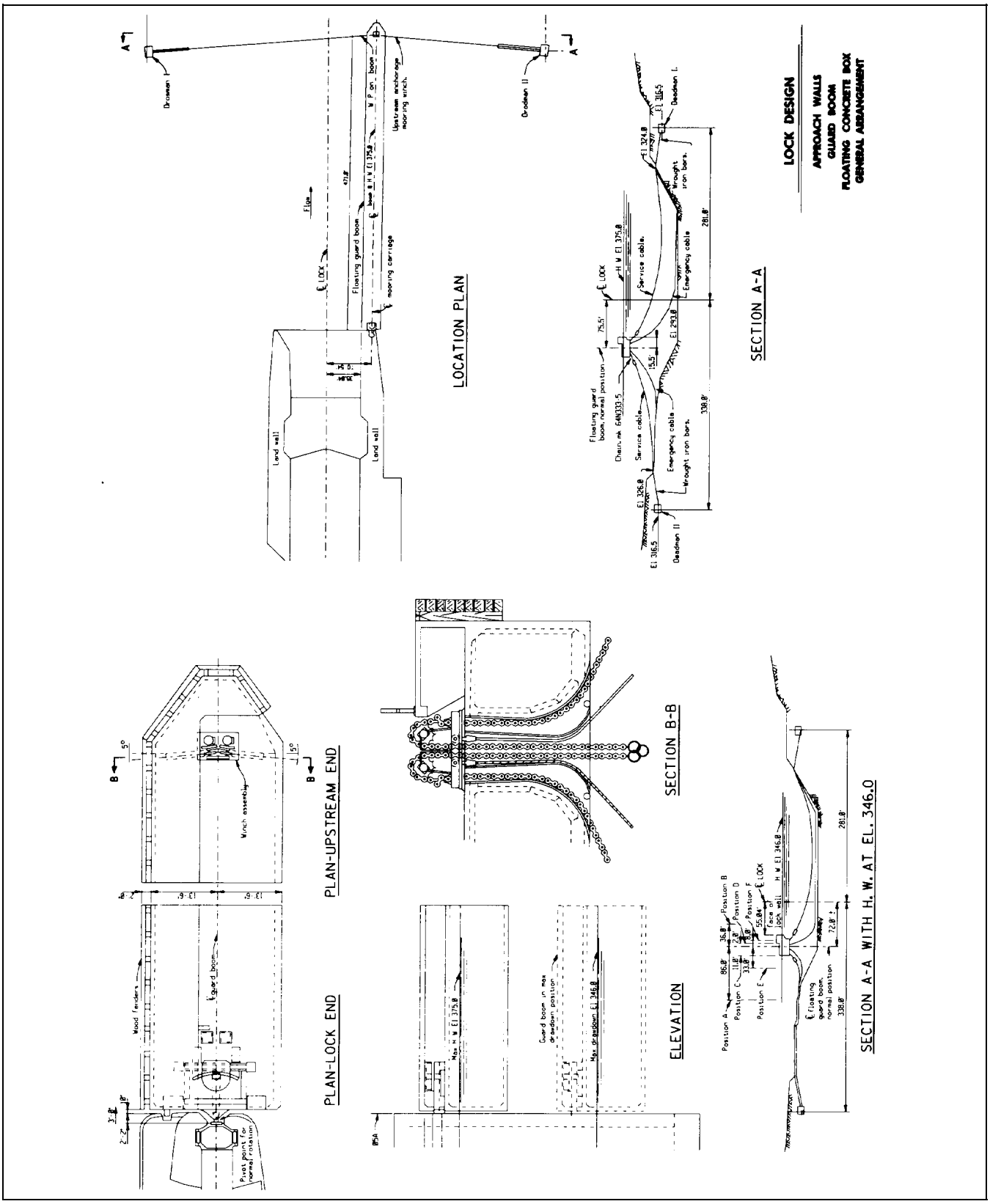
APPROACH WALLS
U.S. GUIDEWALL
CAST IN PLACE ON CAISSONS
IN RIVER WITHOUT COFFERDAM
ISOMETRIC VIEWS

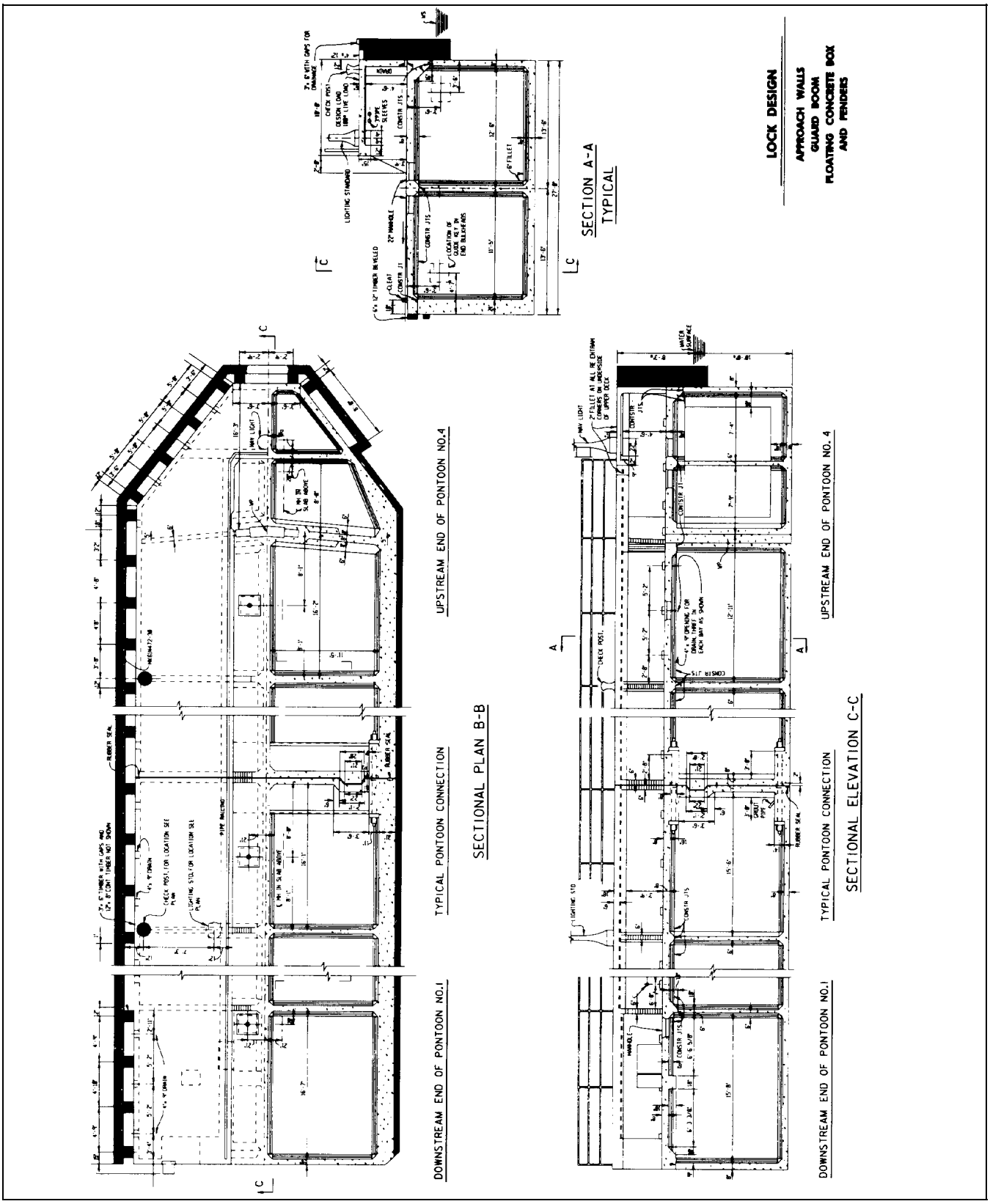


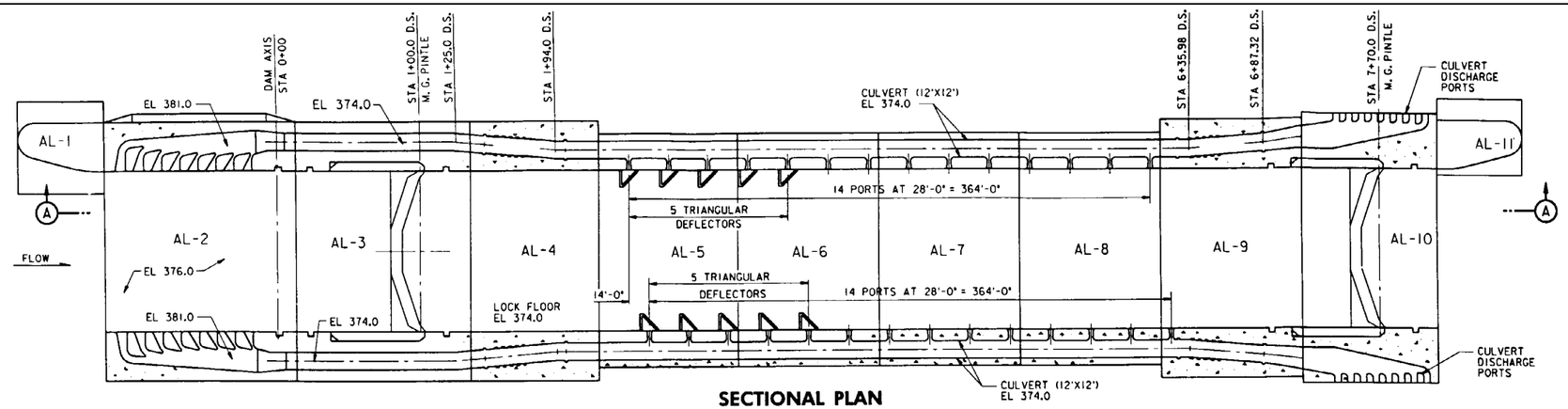
LOCK DESIGN

LOCK APPROACH WALLS
CAST IN PLACE CONCRETE
DRY CONDITIONSX
UPSTREAM GUIDEWALL
PLAN, ELEVATION & SECTIONS

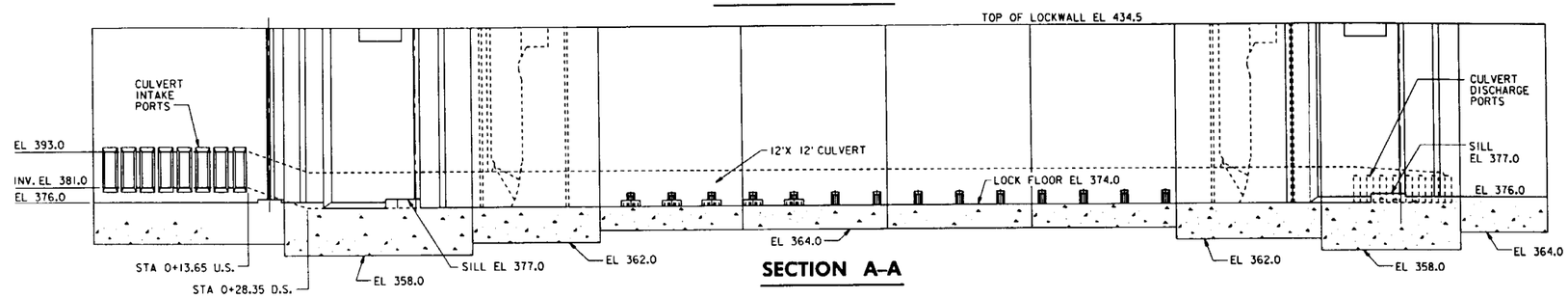

LOCK DESIGN
APPROACH WALLS
GUARDWALLS
CONCRETE BULL NOSE MONOLITH
AND CURVED WALL MONOLITH
PLANS, ELEVATIONS AND SECTION
CONCRETE CURVED WALL MONOLITH
TYPE "C-1" APPROACH WALL - REF. HYDRAULIC DESIGN OF LOCKS AND DAMS EM 1110-2-1604
CONCRETE BULL NOSE MONOLITH
PLAN
SECTION B-B
DOWNSTREAM ELEVATION
ARMORED SIDE ELEVATION
ELEVATION
SECTION A-A
FLOW
GUARDRAIL
PARAPET WALL
LIMITS OF WALL ARMOR
CORNER PROTECTION
WALL ARMOR (TYP.)
D.S. GUARDWALL NOSE PROTECTION MK 20/151-2
42" CONCRETE PARAPET WALL
HIGH MAST LIGHTING UNIT
NOTE: INVERTED PENDULUM CASING NOT SHOWN
SOUNDING WELL STA. 8+64.50 D.S. SEE DWG. 10/75 FOR DETAILS
STA. 8+71.00 D.S.
STA. 8+11.00 D.S.
NAVIGATION LIGHT STA. 8+65.00 D.S. FOR DETAILS SEE DWG. 35/488
LIMITS OF STEEL ℄
23 SPACES @ 1'-8"=38'-4" ℄ TO ℄ WALL ARMOR
1/2" STEEL PLATE
VARIES
EL. 434.50
EL. 395.00
EL. 376.00
EL. 364.00
EL. 438.00
EL. 434.55
EL. 374.0
EL. 362.0
EL. 420.0
EL. 430.5
EL. 420.5
EL. 415.5
EL. 410.5
EL. 405.5
EL. 400.5
EL. 393.0
EL. 385.0
EL. 378.0
EL. 370.0
EL. 366.0
EL. 362.0
EL. 434.5
EL. 395.0
EL. 374.0
EL. 362.0
EL. 434.50
EL. 430.50
EL. 420.50
EL. 410.50
EL. 400.50
EL. 392.00
EL. 383.00
EL. 376.00
EL. 369.00
EL. 364.00
EL. 434.55
EL. 395.0
EL. 374.0
EL. 362.0
EL. 395.0
EL. 374.0
EL. 362.0
EL. 434.50
EL. 434.50
EL. 438.00
EL. 434.50
53'-0"
60'-0"
80'-0"
39'-6"
12'-6"
14'-9"
38'-3"
26'-6"
11'-9"
30'-6"
12'-0"
12'-6"
9'-3"
33'-1/2"
17'-8 1/2"
7'-6"
9'-3 1/2"
39'-6 3/4"
23'-8 1/8"
7'-6"
12'-0"
60'-6"
72'-6"
39'-6"
24'-6 3/4"
13'-8 3/4"
1'-2 1/2"
14'-6 3/4"
46'-0"
12'-0"
1'-0"
8'-6"
14'-6 1/2"
8'-6"
55'-1/2" TO ℄ LOCK
STA. 13+47.00 D.S.
STA. 14+27.00 D.S.
STA. 14+65.00 D.S.
STA. 14+75.00 D.S.
STA. 14+75.00 D.S.
22 SPA. @ 1'-8" = 36'-8" ℄ WALL ARMOR
VARIES
GUARDRAIL (TYP.)
PARAPET WALL (TYP.)
1/16"/FT.
EL. 434.5 TOP OF LOCK
EL. 420.0
EL. 374.0
EL. 395.0
EL. 374.0
EL. 362.0
EL. 434.55
EL. 395.0
EL. 374.0
EL. 362.0
EL. 434.50
EL. 376.00
EL. 364.00
EL. 395.00
EL. 434.50
EL. 434.50
EL. 438.00
EL. 434.50
53'-0"
14'-9"
60'-0"
30'-6"
14'-9"
53'-0"


LOCK DESIGN
APPROACH WALLS
GUARD BOOM
FLOATING CONCRETE BOX
GENERAL ARRANGEMENT
LOCATION PLAN
SECTION A-A
PLAN-UPSTREAM END
PLAN-LOCK END
SECTION B-B
ELEVATION
SECTION A-A WITH H. W. AT EL. 346.0

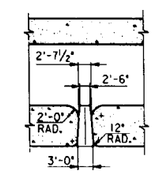

LOCK DESIGN
APPROACH WALLS
GUARD BOOM
FLOATING CONCRETE BOX
AND FENDERS
SECTION A-A
TYPICAL
UPSTREAM END OF PONTOON NO.4
TYPICAL PONTOON CONNECTION
DOWNSTREAM END OF PONTOON NO.1
SECTIONAL PLAN B-B
UPSTREAM END OF PONTOON NO.4
TYPICAL PONTOON CONNECTION
DOWNSTREAM END OF PONTOON NO.1
SECTIONAL ELEVATION C-C



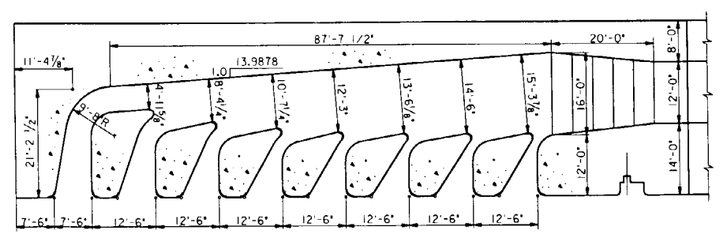
SECTIONAL PLAN



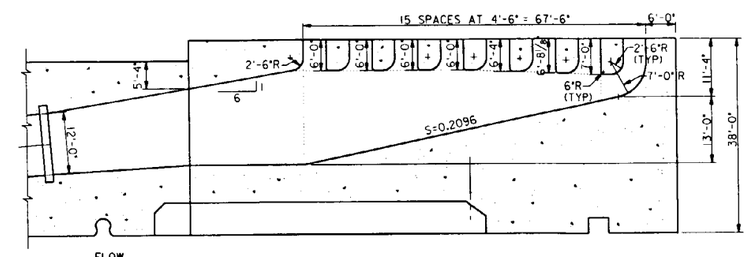
SECTION A–A



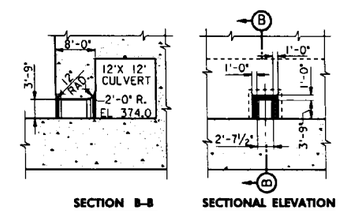
SECTIONAL PLAN



SECTIONAL PLAN OF INTAKE MANIFOLD

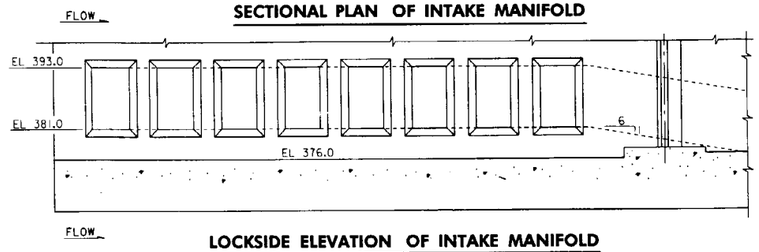


SECTIONAL PLAN OF DISCHARGE MANIFOLD

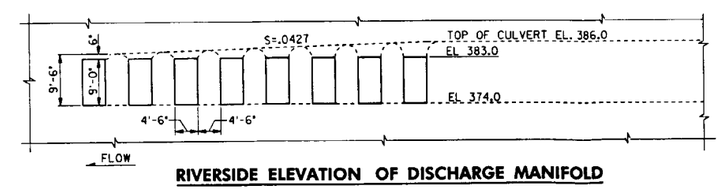


SECTION B–B SECTIONAL ELEVATION

TYPICAL FILLING PORT



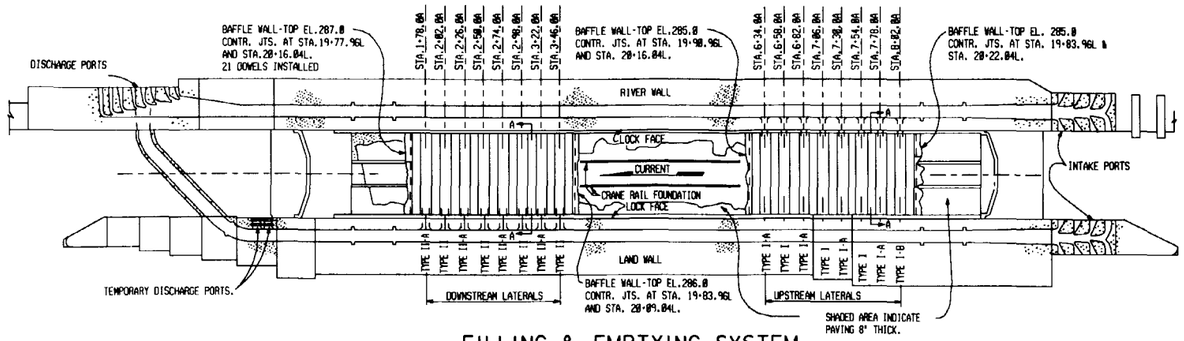
LOCKSIDE ELEVATION OF INTAKE MANIFOLD



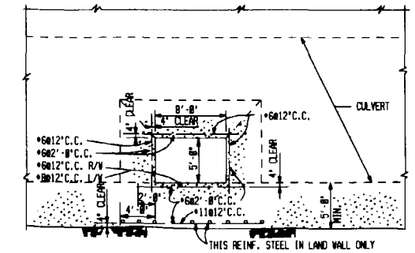
RIVERSIDE ELEVATION OF DISCHARGE MANIFOLD

LOCK DESIGN

LOCK FILLING & EMPTYING STSTEMS
CHAMBER-SIDE PORT TYPE
600 FT. X 110 FT. LOW LIFT LOCK
SECTIONAL PLAN, ELEVATION,
MANIFOLD AND PORT DETAILS

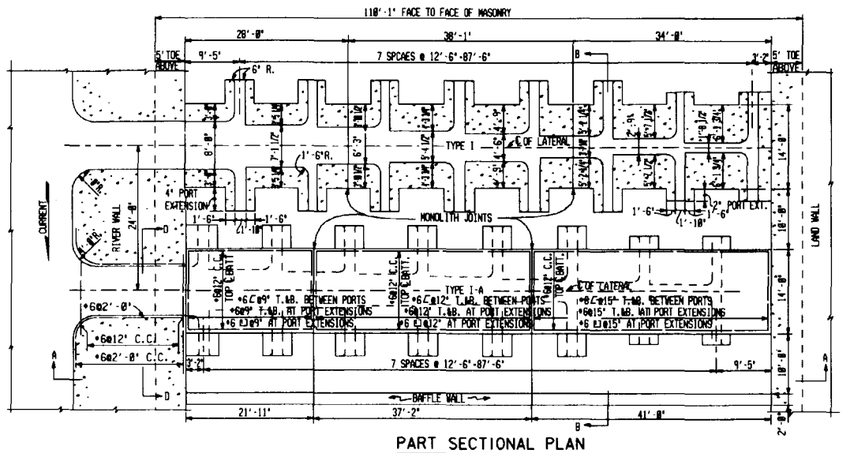


FILLING & EMPTYING SYSTEM



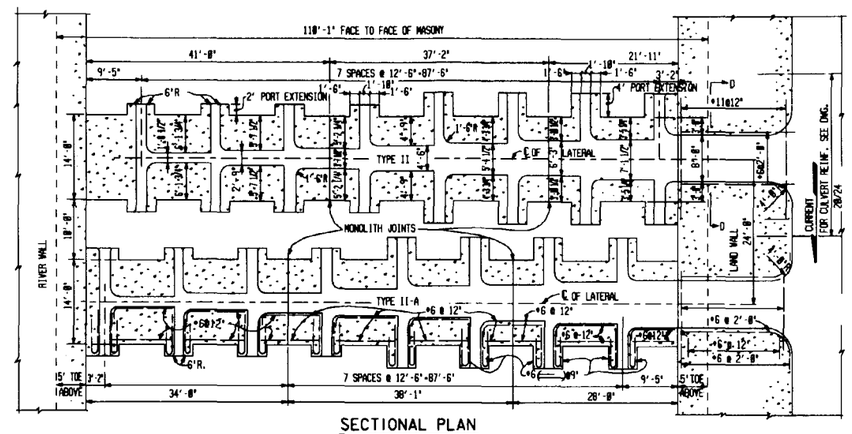
SECTION D-D

TYPICAL FOR ALL LATERALS



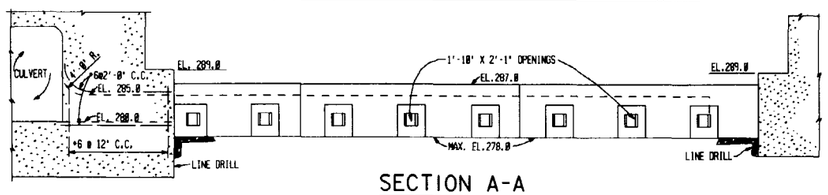
PART SECTIONAL PLAN

UPSTREAM LATERALS - TYPE I & I-A



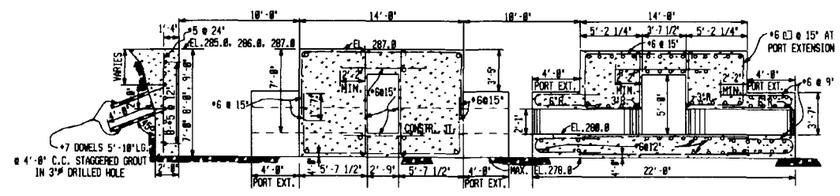
SECTIONAL PLAN

DOWNSTREAM LATERALS - TYPE II & II-A

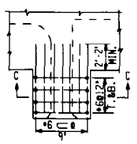


SECTION A-A

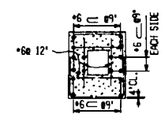
TYPICAL FOR ALL LATERALS



SECTION B-B



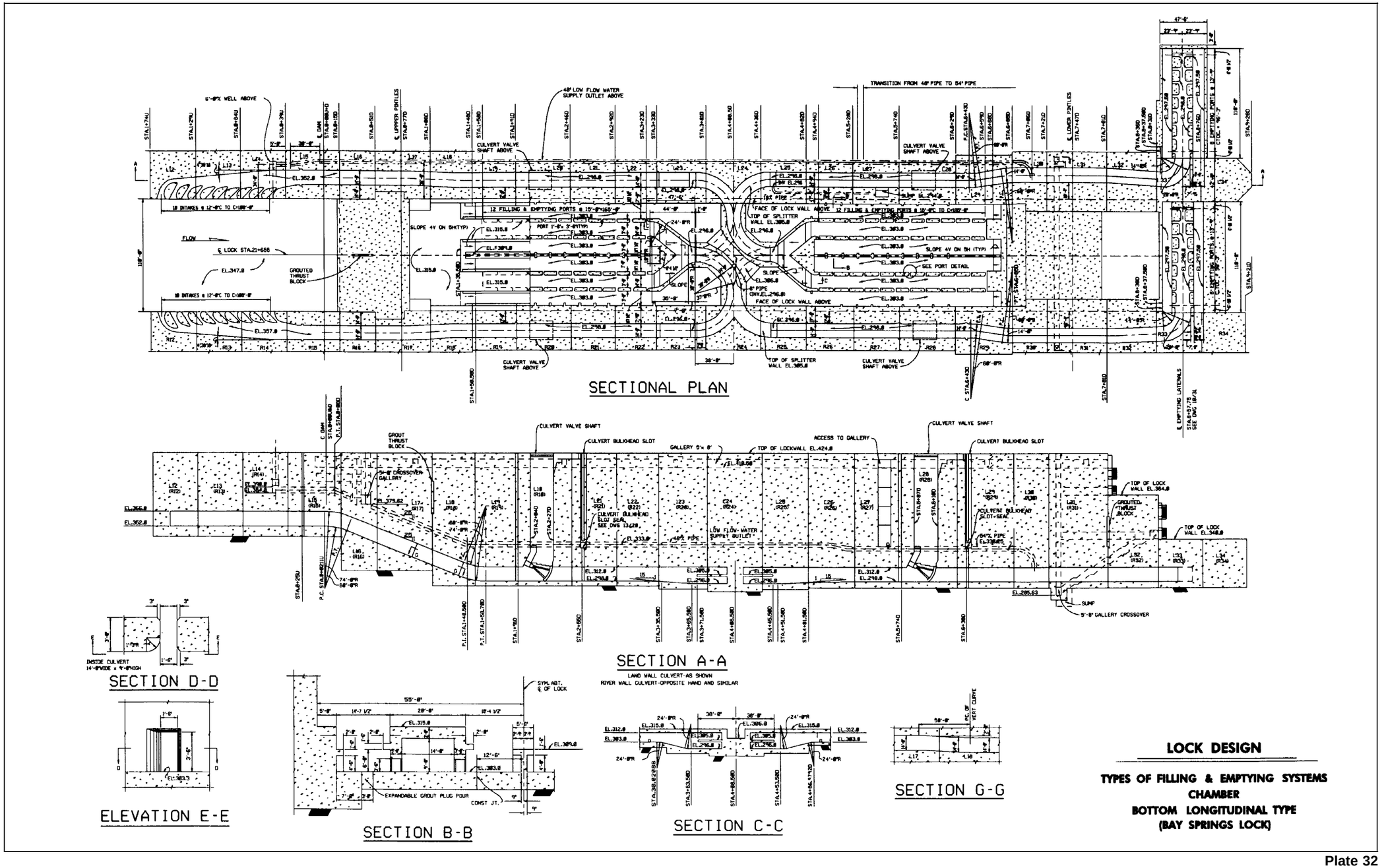
DETAIL A

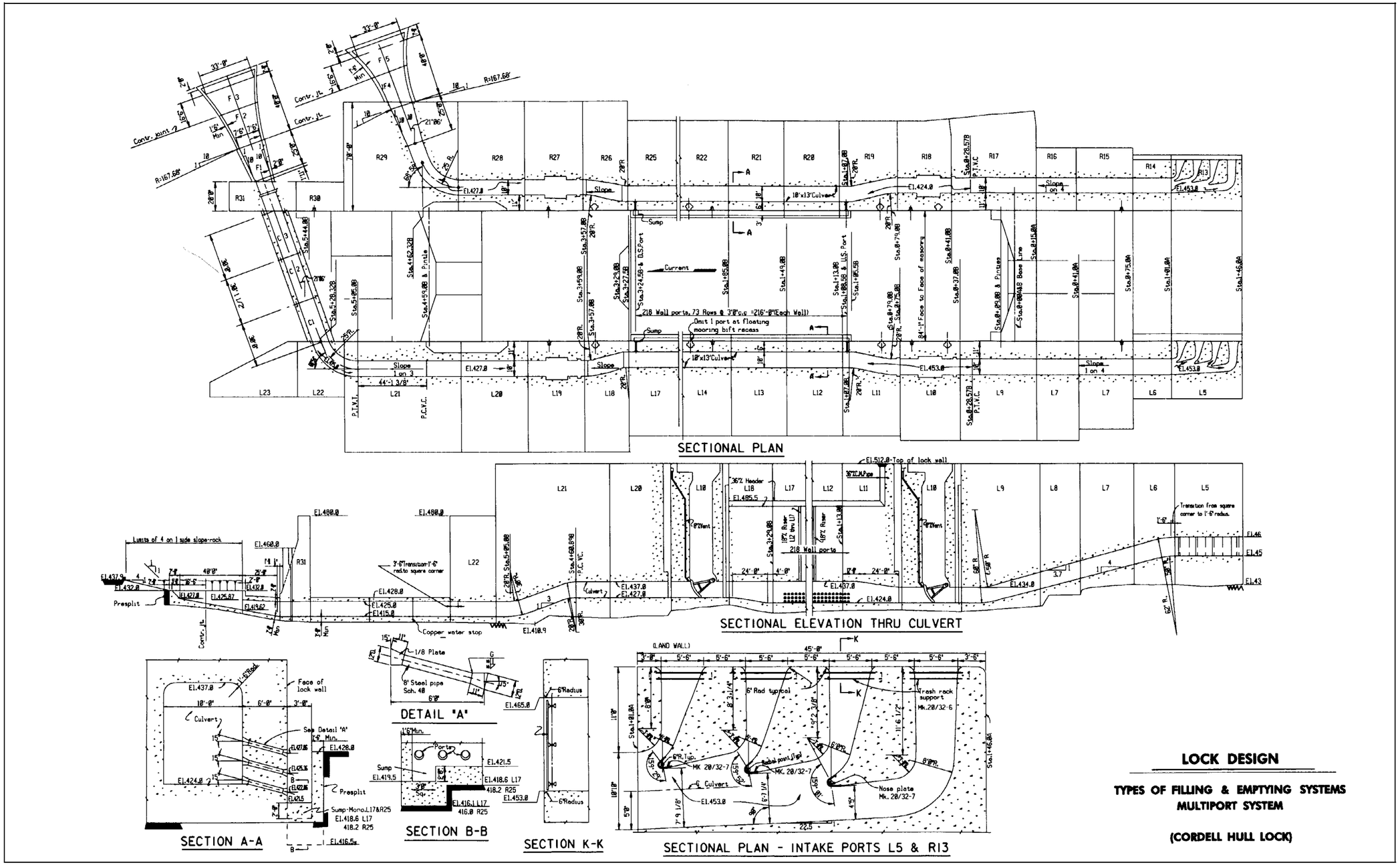


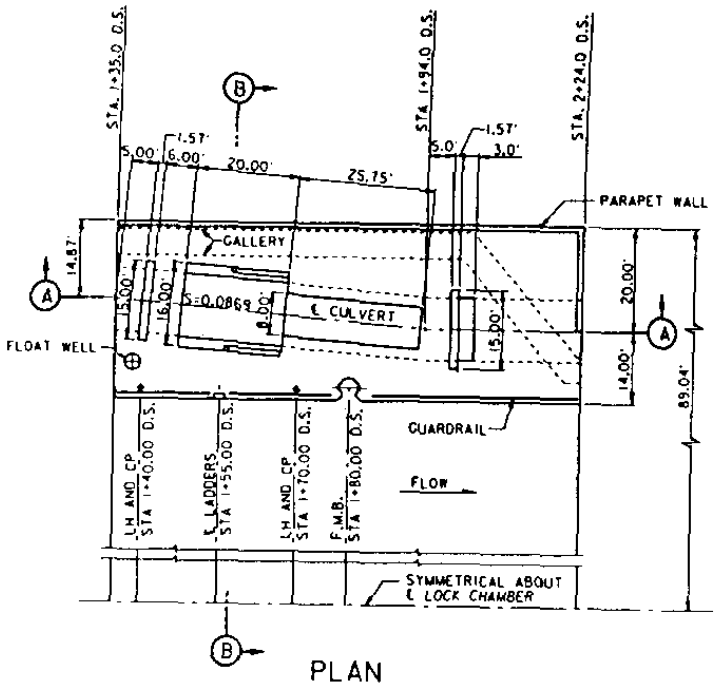
SECTION C-C

LOCK DESIGN

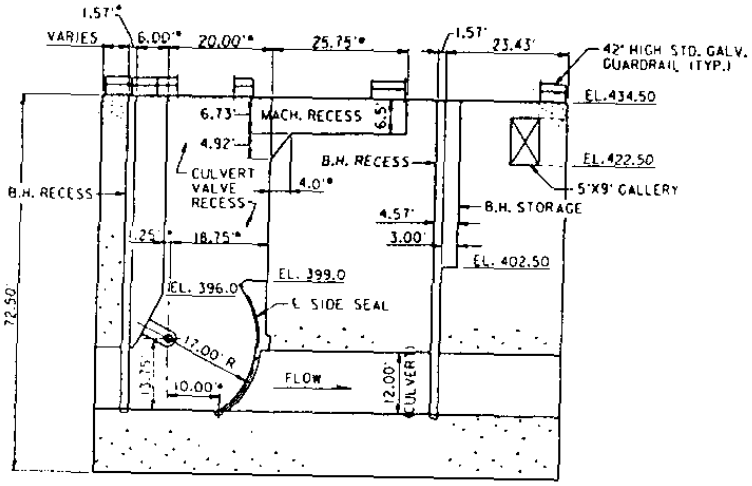
TYPES OF FILLING & EMPTYING SYSTEMS
CHAMBER - BOTTOM LATERAL TYPE
BARKLEY LOCK


SECTIONAL PLAN
SECTION A-A
LAND WALL CULVERT-AS SHOWN
RIVER WALL CULVERT-OPPOSITE HAND AND SIMILAR
SECTION B-B
SECTION C-C
SECTION D-D
ELEVATION E-E
SECTION G-G
LOCK DESIGN
TYPES OF FILLING & EMPTYING SYSTEMS
CHAMBER
BOTTOM LONGITUDINAL TYPE
(BAY SPRINGS LOCK)

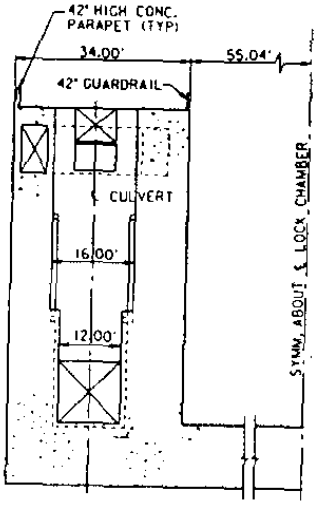

SECTIONAL PLAN
SECTIONAL ELEVATION THRU CULVERT
DETAIL "A"
SECTION A-A
SECTION B-B
SECTION K-K
SECTIONAL PLAN - INTAKE PORTS L5 & R13
LOCK DESIGN
TYPES OF FILLING & EMPTYING SYSTEMS
MULTIPORT SYSTEM
(CORDELL HULL LOCK)



PLAN



SECTION A-A

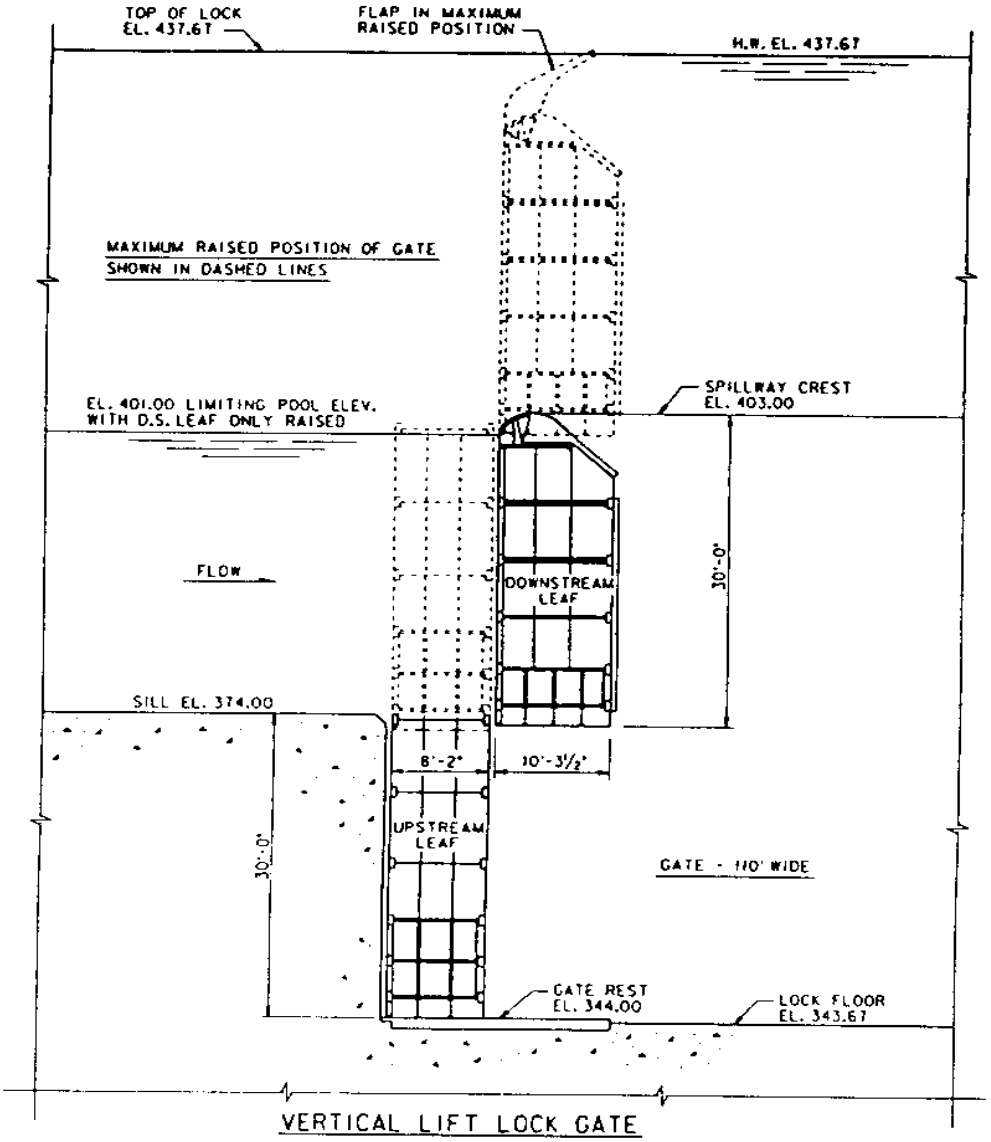


SECTION B-B

* DIMENSIONS MARKED WITH AN ASTERISK ARE ROTATED INTO VIEW FOR CLARITY.

LOCK DESIGN

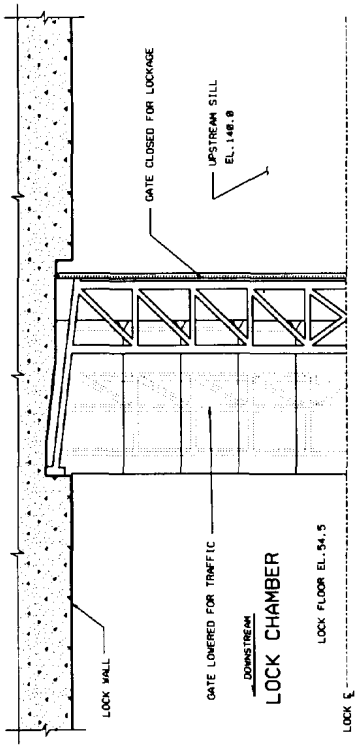
LOW LIFT NAVIGATION LOCK
CONCRETE "U" FRAME
TYPICAL CULVERT VALVE MONOLITH
PLAN AND SECTIONS



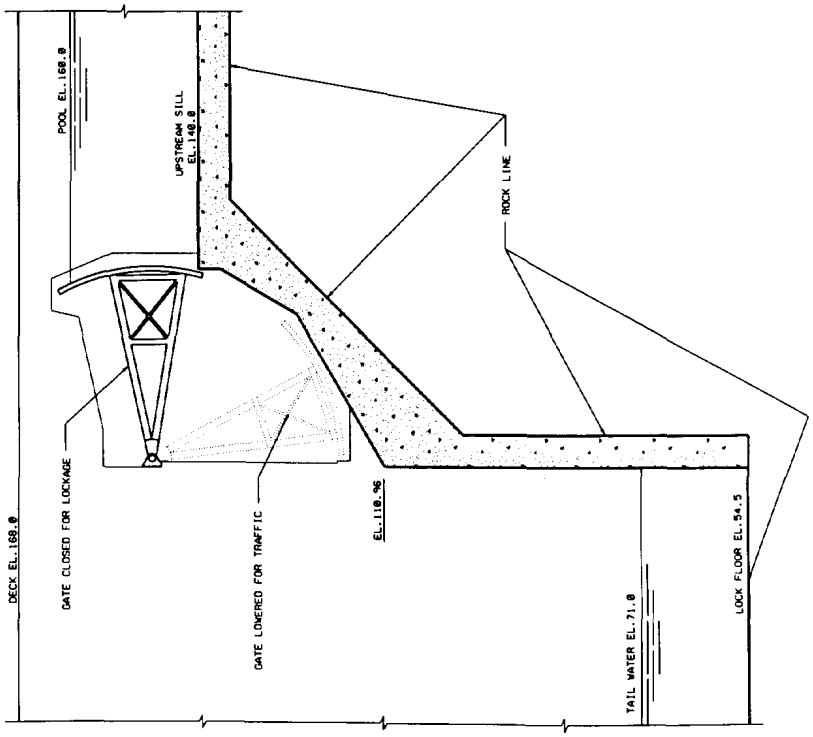
VERTICAL LIFT LOCK GATE
CHAIN OF ROCKS LOCKS
MISSISSIPPI RIVER

LOCK DESIGN

TYPES OF LOCK GATES & SILLS
LOW LIFT NAVIGATION LOCK
UPPER SILL WITH VERTICAL LIFT GATE



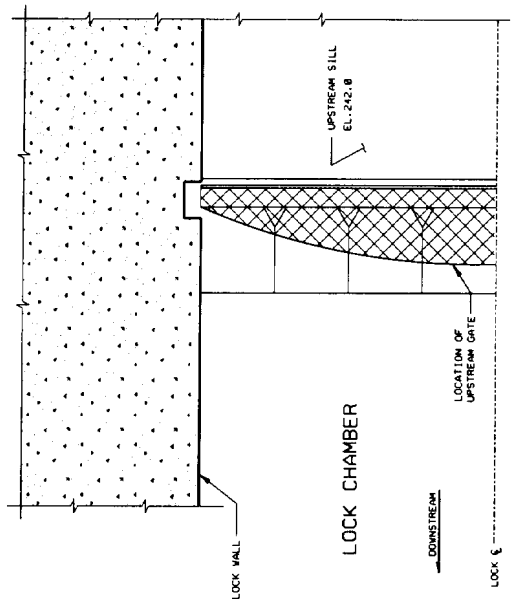
PLAN



UPSTREAM SILL SECTION

LOCK DESIGN

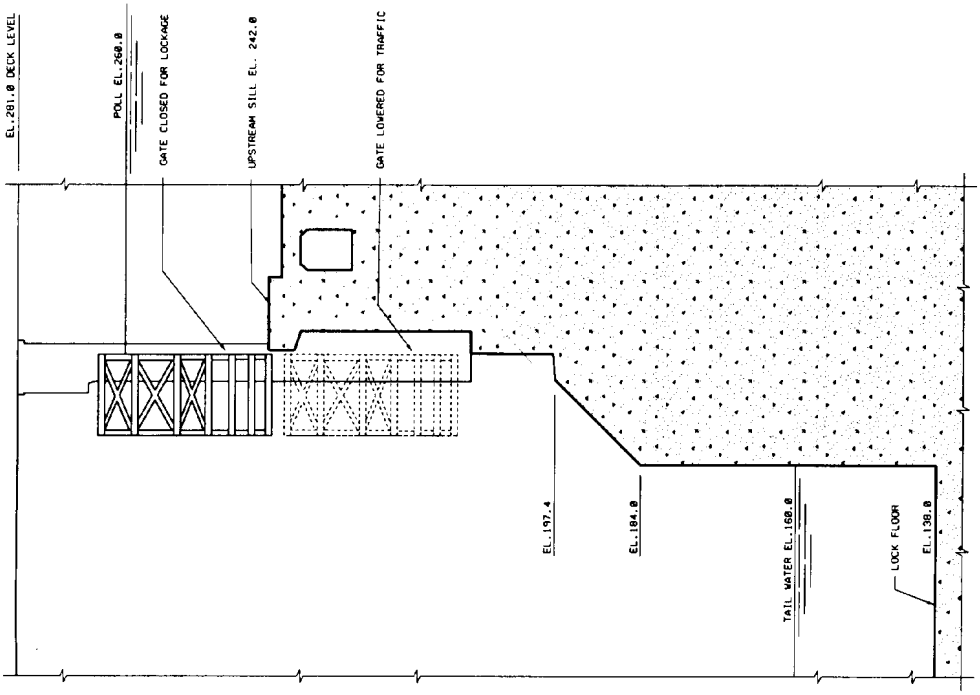
TYPES OF LOCK GATES AND SILLS
HIGH UPPER SILL - HIGH LIFT LOCK
SILL WITH TAINTER GATE
UPPER GATE DELLE LOCK



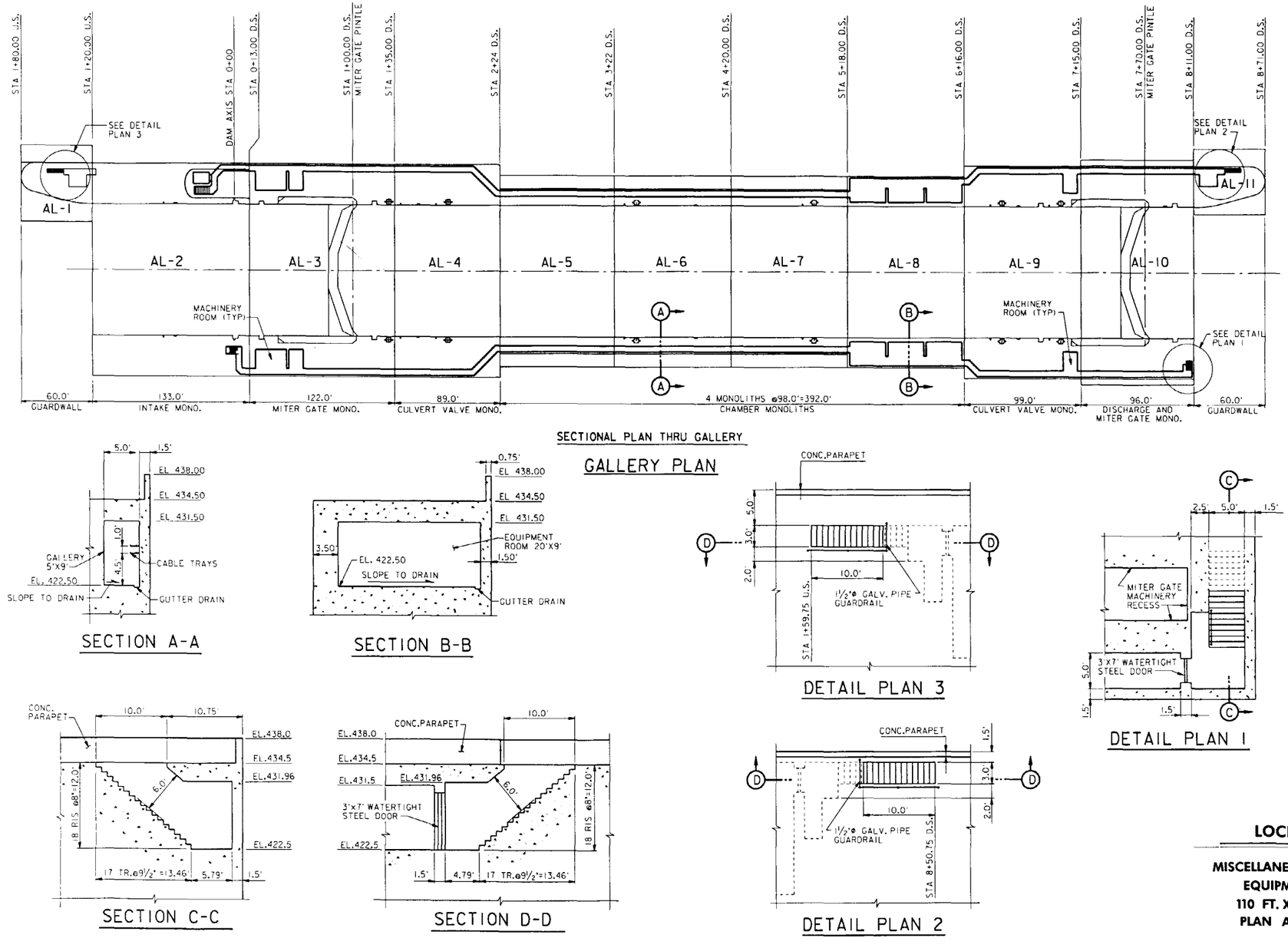
PLAN

LOCK DESIGN

TYPES OF LOCK GATES AND SILLS
HIGH UPPER SILL - HIGH LIFT LOCK
SILL WITH LIFT GATE
UPPER GATE JOHN DAY LOCK



UPSTREAM SILL SECTION



SECTIONAL PLAN THRU GALLERY

GALLERY PLAN

SECTION A-A

SECTION B-B

DETAIL PLAN 3

DETAIL PLAN 1

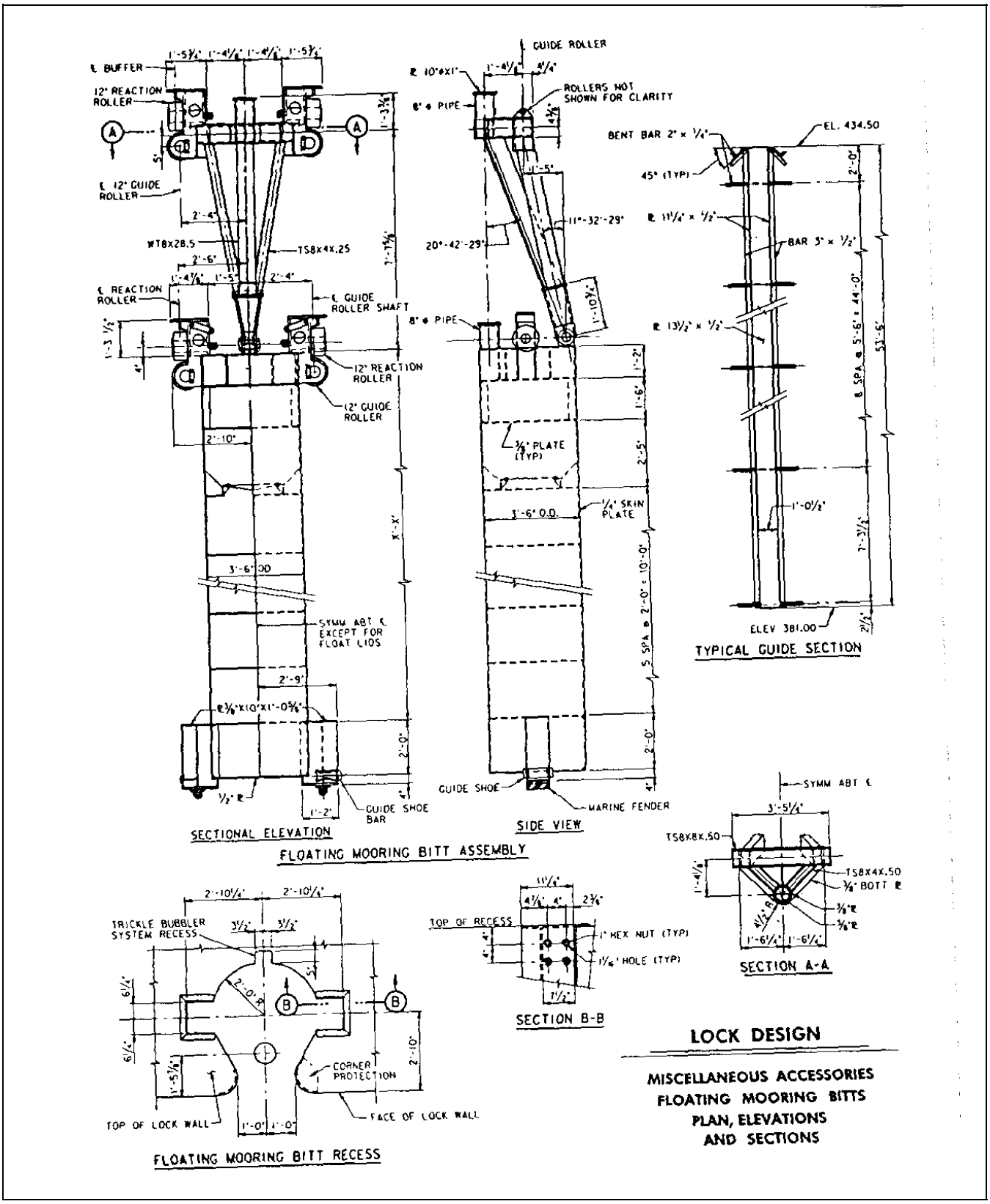
SECTION C-C

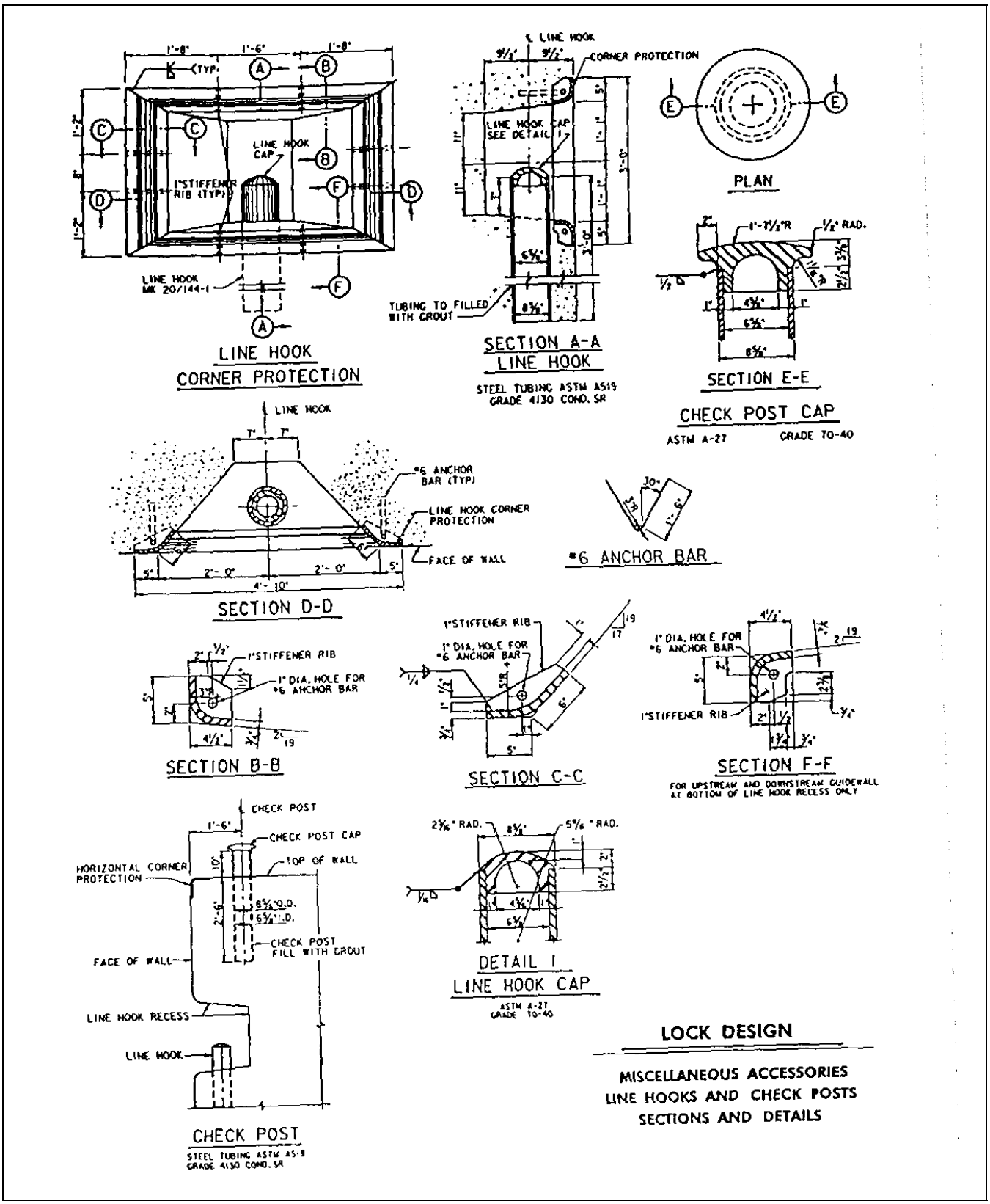
SECTION D-D

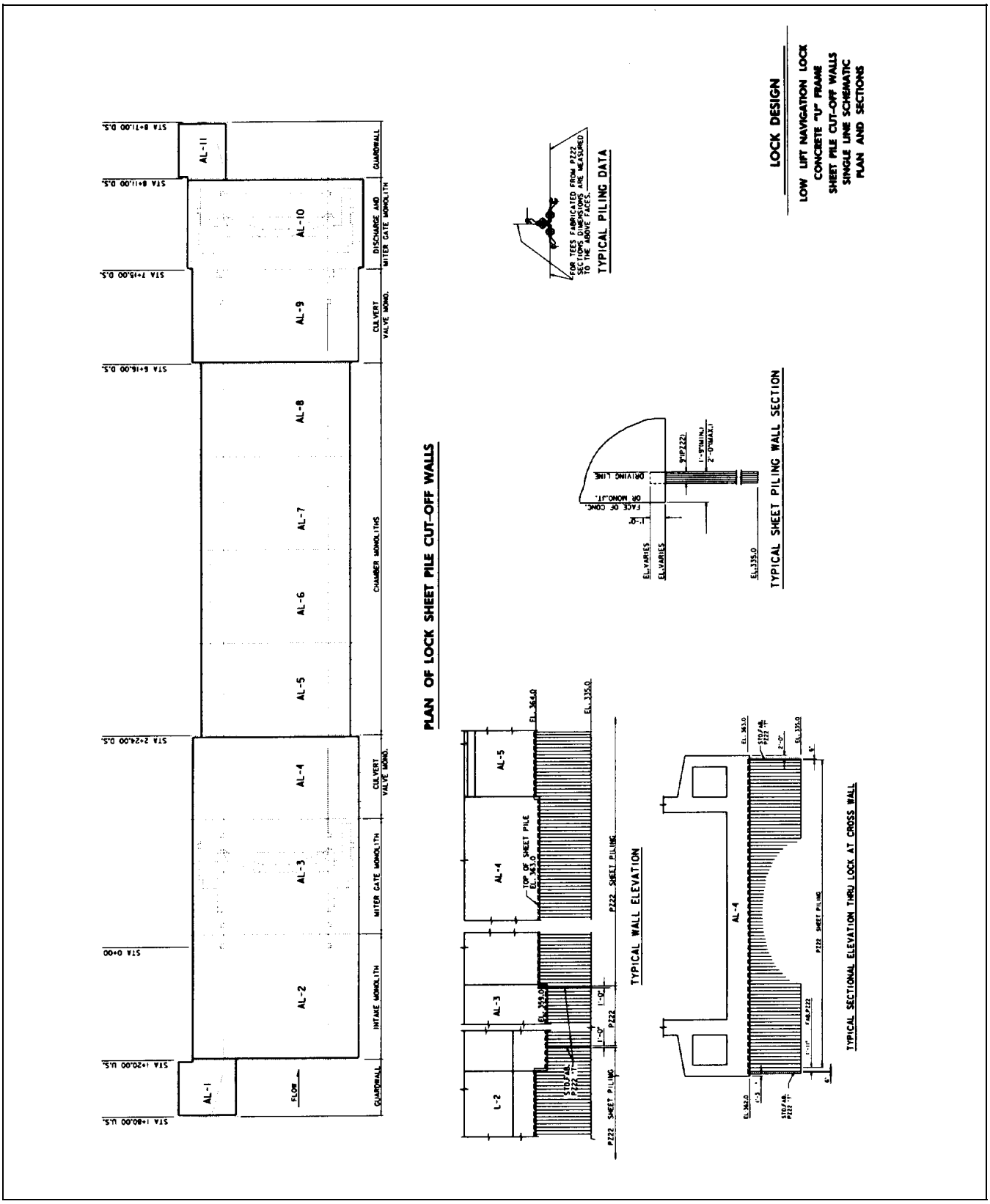
DETAIL PLAN 2

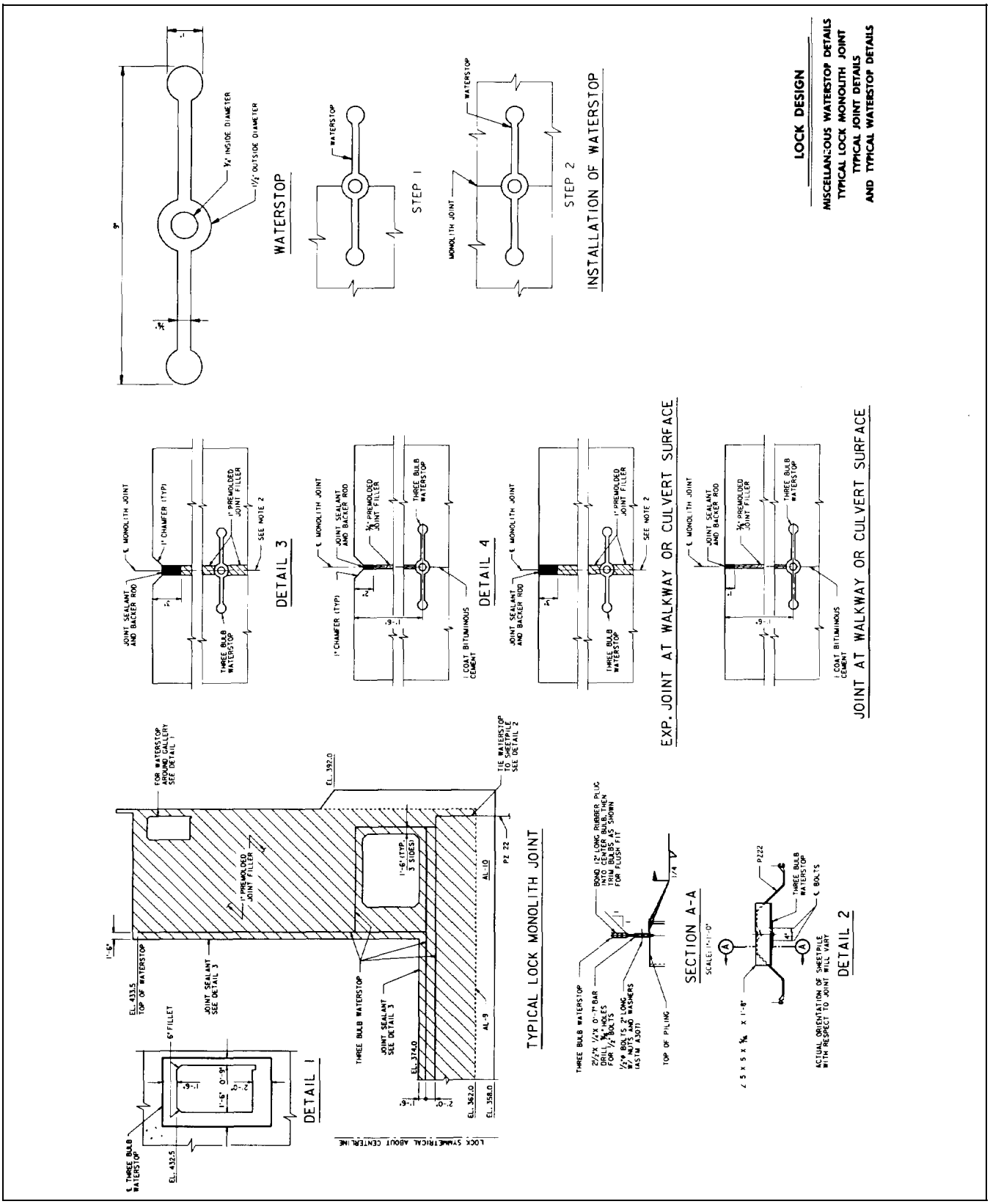
LOCK DESIGN

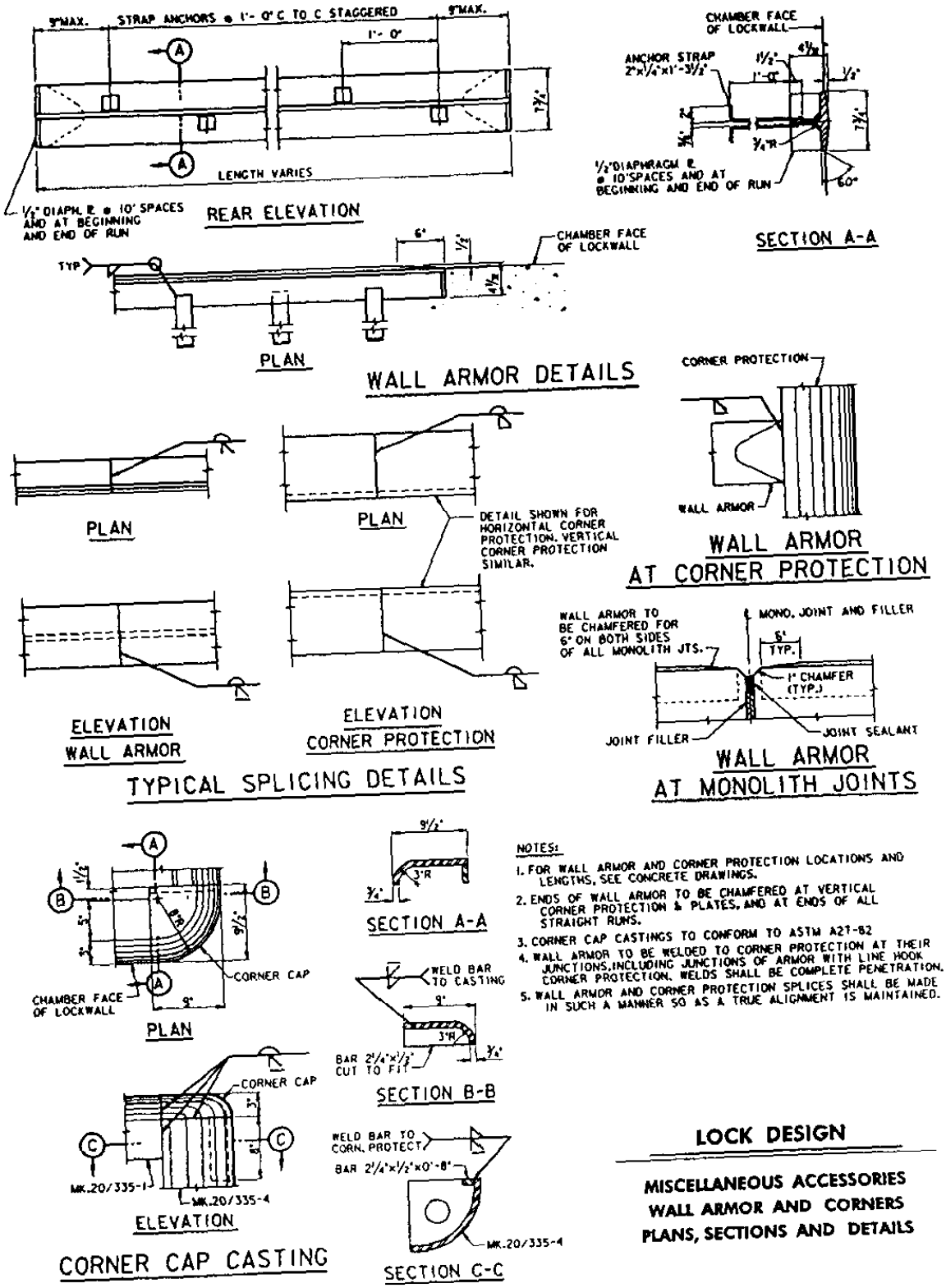
MISCELLANEOUS ACCESSORIES
EQUIPMENT GALLERY
110 FT. X 600 FT. LOCK
PLAN AND SECTIONS


SECTIONAL ELEVATION
SIDE VIEW
TYPICAL GUIDE SECTION
FLOATING MOORING BITT ASSEMBLY
FLOATING MOORING BITT RECESS
SECTION B-B
SECTION A-A
LOCK DESIGN
MISCELLANEOUS ACCESSORIES
FLOATING MOORING BITTS
PLAN, ELEVATIONS
AND SECTIONS


LINE HOOK CORNER PROTECTION
LINE HOOK CAP
1" STIFFENER RIB (TYP)
LINE HOOK MK 20/144-1
SECTION A-A LINE HOOK
CORNER PROTECTION
LINE HOOK CAP SEE DETAIL 1
TUBING TO FILLED WITH GROUT
STEEL TUBING ASTM A519 GRADE 4130 COND. SR
PLAN
SECTION E-E
CHECK POST CAP
ASTM A-27
GRADE 70-40
SECTION D-D
#6 ANCHOR BAR (TYP)
LINE HOOK CORNER PROTECTION
FACE OF WALL
#6 ANCHOR BAR
SECTION B-B
1" STIFFENER RIB
1" DIA. HOLE FOR #6 ANCHOR BAR
SECTION C-C
SECTION F-F
FOR UPSTREAM AND DOWNSTREAM GUIDEWALL AT BOTTOM OF LINE HOOK RECESS ONLY
CHECK POST
CHECK POST CAP
TOP OF WALL
HORIZONTAL CORNER PROTECTION
CHECK POST FILL WITH GROUT
FACE OF WALL
LINE HOOK RECESS
LINE HOOK
CHECK POST
STEEL TUBING ASTM A519 GRADE 4130 COND. SR
DETAIL 1
LINE HOOK CAP
ASTM A-27 GRADE 70-40
LOCK DESIGN
MISCELLANEOUS ACCESSORIES
LINE HOOKS AND CHECK POSTS
SECTIONS AND DETAILS


LOCK DESIGN
LOW LIFT NAVIGATION LOCK
CONCRETE "U" FRAME
SHEET PILE CUT-OFF WALLS
SINGLE LINE SCHEMATIC
PLAN AND SECTIONS
PLAN OF LOCK SHEET PILE CUT-OFF WALLS
TYPICAL PILING DATA
FOR TEES FABRICATED FROM PZ22 SECTIONS DIMENSIONS ARE MEASURED TO THE ABOVE FACES.
TYPICAL SHEET PILING WALL SECTION
TYPICAL WALL ELEVATION
TYPICAL SECTIONAL ELEVATION THRU LOCK AT CROSS WALL
AL-1
AL-2
AL-3
AL-4
AL-5
AL-6
AL-7
AL-8
AL-9
AL-10
AL-11
L-2
FLOW
GUARDWALL
INTAKE MONOLITH
MITER GATE MONOLITH
CULVERT VALVE MONO.
CHAMBER MONOLITHS
DISCHARGE AND MITER GATE MONOLITH
STA 1+80.00 U.S.
STA 1+20.00 U.S.
STA 0+00
STA 2+24.00 D.S.
STA 6+16.00 D.S.
STA 7+15.00 D.S.
STA 8+11.00 D.S.
STA 8+71.00 D.S.
TOP OF SHEET PILE EL. 363.0
EL. 364.0
EL. 335.0
EL. 359.0
PZ22 SHEET PILING
EL. VARIES
EL. 335.0
DRIVING LINE
FACE OF CONC. OR MONO. JT.
9"(PZ22)
1'-9"(MIN.)
2'-0"(MAX.)
EL. 362.0
STD./FAB. PZ22 "T"
FAB. PZ22


WATERSTOP
STEP 1
STEP 2
INSTALLATION OF WATERSTOP
LOCK DESIGN
MISCELLANEOUS WATERSTOP DETAILS
TYPICAL LOCK MONOLITH JOINT
TYPICAL JOINT DETAILS
AND TYPICAL WATERSTOP DETAILS
DETAIL 3
DETAIL 4
EXP. JOINT AT WALKWAY OR CULVERT SURFACE
JOINT AT WALKWAY OR CULVERT SURFACE
DETAIL 1
TYPICAL LOCK MONOLITH JOINT
SECTION A-A
DETAIL 2
LOCK SYMMETRICAL ABOUT CENTERLINE


9"MAX.
STRAP ANCHORS @ 1'- 0" C TO C STAGGERED
9"MAX.
1'- 0"
LENGTH VARIES
1/2" DIAPH. R @ 10' SPACES AND AT BEGINNING AND END OF RUN
REAR ELEVATION
CHAMBER FACE OF LOCKWALL
ANCHOR STRAP 2"x1/4"x1'-3 1/2"
1/2"DIAPHRAGM R @ 10'SPACES AND AT BEGINNING AND END OF RUN
SECTION A-A
TYP
CHAMBER FACE OF LOCKWALL
PLAN
WALL ARMOR DETAILS
CORNER PROTECTION
WALL ARMOR
WALL ARMOR AT CORNER PROTECTION
PLAN
PLAN
DETAIL SHOWN FOR HORIZONTAL CORNER PROTECTION. VERTICAL CORNER PROTECTION SIMILAR.
ELEVATION WALL ARMOR
ELEVATION CORNER PROTECTION
TYPICAL SPLICING DETAILS
WALL ARMOR TO BE CHAMFERED FOR 6" ON BOTH SIDES OF ALL MONOLITH JTS.
MONO. JOINT AND FILLER
6" TYP.
1" CHAMFER (TYP.)
JOINT FILLER
JOINT SEALANT
WALL ARMOR AT MONOLITH JOINTS
CORNER CAP
CHAMBER FACE OF LOCKWALL
PLAN
SECTION A-A
WELD BAR TO CASTING
BAR 2 1/4"x1/2" CUT TO FIT
SECTION B-B
CORNER CAP
MK.20/335-1
MK.20/335-4
ELEVATION
CORNER CAP CASTING
WELD BAR TO CORN. PROTECT
BAR 2 1/4"x1/2"x0'-8"
MK.20/335-4
SECTION C-C
NOTES:
1. FOR WALL ARMOR AND CORNER PROTECTION LOCATIONS AND LENGTHS, SEE CONCRETE DRAWINGS.
2. ENDS OF WALL ARMOR TO BE CHAMFERED AT VERTICAL CORNER PROTECTION & PLATES, AND AT ENDS OF ALL STRAIGHT RUNS.
3. CORNER CAP CASTINGS TO CONFORM TO ASTM A27-82
4. WALL ARMOR TO BE WELDED TO CORNER PROTECTION AT THEIR JUNCTIONS, INCLUDING JUNCTIONS OF ARMOR WITH LINE HOOK CORNER PROTECTION. WELDS SHALL BE COMPLETE PENETRATION.
5. WALL ARMOR AND CORNER PROTECTION SPLICES SHALL BE MADE IN SUCH A MANNER SO AS A TRUE ALIGNMENT IS MAINTAINED.
LOCK DESIGN
MISCELLANEOUS ACCESSORIES
WALL ARMOR AND CORNERS
PLANS, SECTIONS AND DETAILS