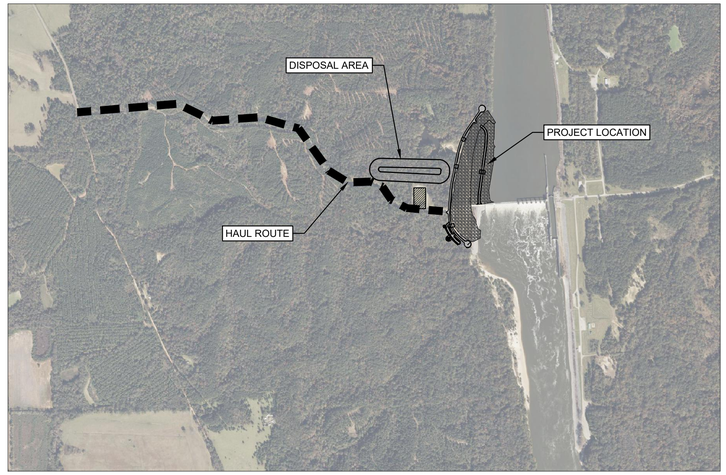
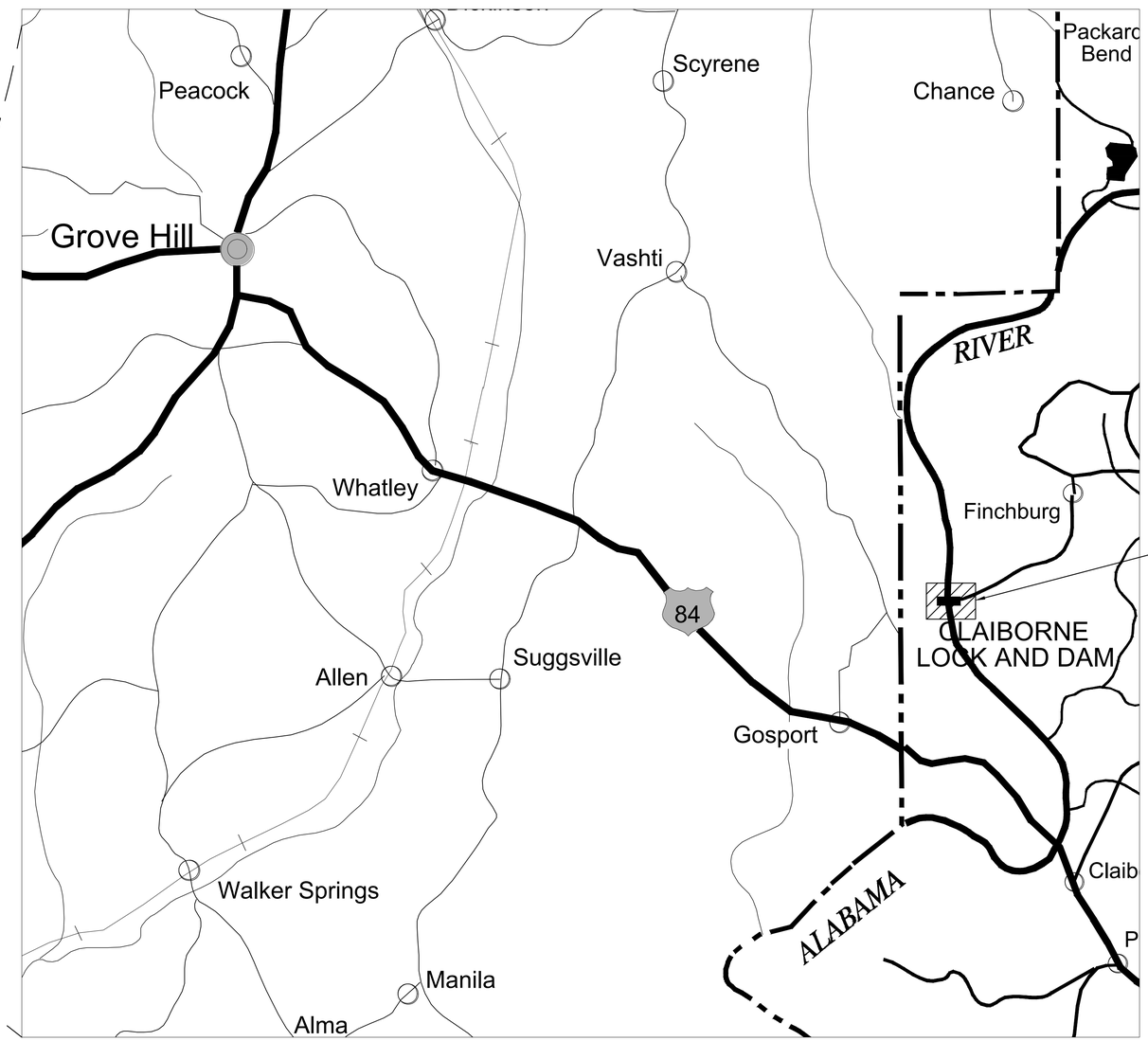


PROJECT LIMITS

NOT TO SCALE

ALABAMA COUNTIES
(VICINITY MAP)

N.T.S.



CLAIBORNE LOCK AND DAM PROJECT LOCATION MAP

NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: MMM.YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001

DESIGNED BY: J. CAPE
DRAWN BY: S. TURNER
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-C-001A.dwg

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

LOCATION AND VICINITY MAP

SHEET ID
C-001

A

@	AT
A/C	AMPS INTERRUPTING CAPACITY (SYM RMS)
AB	ANCHOR BOLT
ABT	ABOUT
AC	ASPHALT CEMENT
ACSR	ALUMINUM CONDUCTOR STEEL REINFORCED
ACST	ACOUSTIC
ADEM	ALABAMA DEPT OF ENVIRONMENTAL MANAGEMENT
AFF	ABOVE FINISH FLOOR
AFFF	AQUEOUS FILM-FORMING FOAM
AFG	ABOVE FINISH GRADE
AGG	AGGREGATE
AHU	AIR HANDLING UNIT
AI	AREA INLET
AIC	AMPS INTERRUPTING CAPACITY (SYM RMS)
AL	ALUMINUM
ALDOT	ALABAMA DEPARTMENT OF TRANSPORTATION
ALT	ALTERNATE
AMP	AMPERE
AP	ACCESS PANEL
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
ATC	ACOUSTICAL TILE CEILING
AUTO	AUTOMATIC
AVE	AVENUE
AVG	AVERAGE

B

B & B	BALL AND BURLAP
BM	BEGIN BENCH MARK
BATT	BATTEN INSULATION
BCE	BASE CIVIL ENGINEER
BDRY	BOUNDARY
BIT	BITUMINOUS
BL	BUILDING LINE
BLDG	BUILDING
BLDG. DIR	BUILDING DIRECTORY
BLK	BLOCK
BLKG	BLOCKING
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BOC	BACK OF CURB
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRG	BEARING
BRKT	BRACKET
BT	BENT
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BWF	BARBED WIRE FENCE

C

CL	CENTER LINE
C TO C	CENTER TO CENTER
C&G	CURB & GUTTER
COE	CORPS OF ENGINEERS
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CADD	COMPUTER AIDED DRAFTING AND DESIGN
CAP	CAPACITY
CB	CATCH BASIN
CC	CENTER TO CENTER
CEM	CEMENT
CFM	CUBIC FEET PER MINUTE
CG	CORNER GUARD
CI	CURB INLET
CIR	CIRCULAR
CJ	CONSTRUCTION JOINT
CKD	CHECKED
CKT	CIRCUIT
CL	CENTER LINE
CL	CLEARANCE
CLG	CEILING
CLKG	CAULKING
CLR	CRUSHED LIMEROCK BASE
CLOS	CLOSED
CMP	CORRIGATED METAL PIPE
CMT	CERAMIC MOSAIC TILE
CMU	CONCRETE MASONRY UNITS
CNTR	COUNTER
CO	CLEANOUT
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMB.	COMBUSTION
COMM	COMMUNICATIONS
COMP	COMPRESSIBLE
CONC	CONCRETE
CONN	CONNECTOR
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COR	CONTRACTING OFFICERS REPRESENTATIVE
CORR	CORRIDOR
COV	COVERED
CP	CONCRETE PIPE
CPL	CEMENT PLASTER
CPS or	CYCLES PER SECOND
CRES	CORROSIVE RESISTANT STEEL
CRG	CARRIAGE
CRS	COURSE
CSK	COUNTERSUNK
CSO	COMBINATION SEWER OUTFLOW
CTB	CEMENT TREATED BASE
CTR	CENTER
CTRL	CONTROL
CTU	CERAMIC TILE UNGLAZED
CU	CONDENSING UNIT
CU YD	CUBIC YARDS
CUH	CABINET UNIT HEATER
CV	CEILING VENT
CW	COLD WATER
CWR	CHILLED WATER RETURN
CWRR	CHILLED WATER REVERSE RETURN
CWS	CHILLED WATER SUPPLY
CYL	CYLINDER

D

d	PENNY (as in nail-10d)
DIA	DIAMETER
DBL	DOUBLE
DCJ	DOWELED CONTROL JOINT
D.I.	DUCTILE IRON
DA	DOUBLE ACTING
DB	DRY BULB
DC	DIRECT CURRENT
DCJT	DUMMY CONTROL JOINT
DCL	DOOR CLOSER
DDESB	DEPT DEFENSE EXPLOSIVE SAFTETY BOARD
DEG	DEGREE
DEPR	DEPRESSION
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DHWR	DOMESTIC HOT WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DIA or ~	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DIST	DISTRIBUTION
DN STR	DOWN STREAM
DO	DOOR OPENING
DOIM	DIVISION OF INFORMATION MANAGEMENT
DOM	DOOR OPERATOR MOTOR
DP	DAMPPROOFING
DPST	DOUBLE POLE SNGL THROW
DR	DRAIN
DS	DOWN SPOUT
DTL	DETAIL
DWD	DRINKING WATER DISPENSER
DWG	DRAWING
DWLS	DOWELS

E

E	EAST
EA	EACH
EF	EXHAUST FAN
EOC	EDGE OF CURB
EOP	EDGE OF PAVEMENT
EL	ELEVATION (GRADE or BLDG)
ELEC	ELECTRICAL OR ELECTRIC
EM	EMERGENCY
ENG	ENGINEER
ENVIR	ENVIROMENT/ENVIROMENTAL
ENT	ENTRANCE
EOC	EDGE OF CURB
EOD	EXPLOSIVE ORDINANCE DISPOSAL
EP / EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ERP	ENVIRONMENTAL RESOURCE PERMIT
EST	ESTIMATE
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXC	EXCAVATE
EXIST	EXISTING
EXP	EXPOSED
EXPN	EXPANSION
EXT	EXTERIOR
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION

F

F	FAHRENHEIT
FPM	FEET PER MINUTE
FS	FAR SIDE OR FULL SIZE
FA	FRESH AIR
FCU	FAN COIL UNIT
FC	FOOT CANDLE
FCG	FACING
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIG	FIGURE
FIN	FINISH
FIX	FIXTURE
FL	FLOOR
FLASH	FLASHING
FLG	FLOORING
FLUOR	FLUORESCENT
FOC	FIBER OPTIC CABLE
FP	FIRE PROTECTION
FPRF	FIRE PROOF
FR	FRAME OR FIRE RATED
FT	FEET OR FINNED TUBE
FTG	FOOTING
FURR'G	FURRING

G

G	GAS
GCO	GROUND CLEANOUT
GV	GATE VALVE
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GCAB	GRADED CRUSHED AGGREGATE BASE / SURFACE
GEN	GENERAL
GI	GALVANIZED IRON
GL	GLASS
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTES
GR	GRADE
GRND	GROUND
GRTG	GRATING
GRVL	GRAVEL
GTD	GRADE TO DRAIN
GWB	GYPSUM WALLBOARD
GWT	GLAZED WALL TILE
GYP	GYPSUM

H

H.PT	HIGH POINT
H.S.	HIGH STRENGTH
HB	HOSE BIBB
HBD	HARDBOARD
HDW	HARDWARE
HDR	HEADER
HTR	HEATER
HEP	HORIZONTAL ELLIPTICAL PIPE
HMA	HOT MIX ASPHALT
HOA	HANDS OFF AUTO
HP	HORSE POWER
HPW	HIGH PRESSURE WASHER
HR	HOUR
HSB	HIGH STRENGTH BOLT
HSGYP	HIGH-STRENGTH GYPSUM PLASTER
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HW	HOT WATER
HWH	HOT WATER HEATER
HWR	HOT WATER RETURN
HWRR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HYD	HYDRAULIC

I

I OR FE	IRON
I.D.	INSIDE DIAMETER
I.P.	IRON PIPE
IAW	IN ACCORDANCE WITH
IBC	INTERNATIONAL BUILDING CODE
IC	INTERCOM
IE	INVERT ELEVATION
IES	ILLUMINATING ENG. SOCIETY
IESCR	INTERUPTING ELECTRICAL SHORT CIRCUIT RATING
IN	INCH
INSUL.	INSULATION
INT	INTERIOR
INV	INVERT
IRH	INFRA-RED HEATER
IS	INDUSTRIAL SEWER

J

JB	JUNCTION BOX
JC	JANITOR CLOSET
JCT	JUNCTION
JST	JOIST
JT	JOINT

K

K	ALGEBRAIC DIFFERENCE IN GRADE / LENGTH VERTICAL CURVE
KIT	KITCHEN
KL	KEY LOCK
KP	KICK PLATE
KSF	KIPS/SQUARE FOOT
KSI	KIPS/SQUARE INCH
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KW	KILOWATTS
KWH	KILOWATT HOUR METER

L

L	LUMEN
LAU	LAUNDRY
LAV	LAVATORY
LBR	LUMBER
LBS	POUND
LD	LOAD
LDG	LOADING
LG	LENGTH
LIN	LINEAR
LIS	LAWN IRRIGATION SYSTEM
LLH	LONG - LEG HORIZONTAL
LLV	LONG - LEG VERTICAL
LNDG	LANDING
LNTL	LINTEL
LONG	LONGITUDINAL
LP	LOW POINT
LPS	LIGHT PROOF SHADE
LT	LIGHT
LT. WT.	LIGHT WEIGHT
LVC	LENGTH VERTICAL CURVE

M

M	THOUSAND
M & B	MATCHED & BEADED
MACH	MACHINE
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MC	MEDICINE CABINET
MDEQ	MISSISSIPPI DEPT ENVIR QUALITY
MECH	MATCH EXISTING
MET.	MECHANICAL
	METAL
MFG	MANUFACTURING
MFR	MANUFACTURE
MG	MOTOR GENERATOR
MH	MANHOLE
MHGY	MAHOGANY
MIN	MINIMUM
ML	METAL LATH
MLDG	MOULDING
MO	MASONRY OPENING
MON	MONUMENT
MONO	MONOLITHIC
MOT	MOTOR
MSTC	MASTIC
MT	METAL THRESHOLD
MTD	MOUNTED
MTN	MOUNTAIN
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
MW	MONITORING WELL

N

N	NORTH
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCATION
NIC	NOT IN CONTRACT
NOI	NOTICE OF INTENT
NTP	NOTICE TO PROCEED

O

OA	OUTSIDE AIR
OB WG	OBSCURE WIRE GLASS
OBGL	OBSCURE GLASS
OBSC	OBSCURE
OC	ON CENTERS
OD	OUTSIDE DIMENSION
OFF.	OFFICE
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPP. HD.	OPPOSITE HAND
OPS	OPERATIONS
OSP	OUTSIDE PLANT CABLE
OVSCP	OVERFLOW SCUPPER
OWS	OIL WATER SEPARATOR

P

P	POLE
P. LAM.	PLASTIC LAMINATE
P/S	PRESTRESSED
PA	PUBLIC ADDRESS
PAN. B	PANIC BOLT
PBS	PUSH BUTTON STATION
PCC	PORTLAND CEMENT CONCRETE
PD	PAVEMENT DRAIN
PERF	PERFORATED
PH or 0	PHASE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL	PLATE
PLAS	PLASTER
PLATF	PLATFORM
PLBG	PLUMBING
PLG	PILING
PLY WD	PLYWOOD
PNL	PANEL
PNL BD	PANEL BOARD
POL	POLISH
PORC	PORCELAIN
POB	POINT OF BEGINNING
PP	POWER POLE
PR	PAIR
PREFAB	PREFABRICATED
PROJ	PROJECTION
PROP	PROPOSED
PRPT	PARAPET
PRV	PRESSURE REGULATING VALVE
PSF	POUNDS/SQUARE FOOT
PSI	POUNDS/SQUARE INCH
PT	POINT
PTD	PAINTED
PVMT	PAVEMENT

Q

QD	QUANTITY DISTANCE
1/4 RD	QUARTER ROUND
Q.T.	QUARRY TILE
QT	QUART
QTERS	QUARTERS

R

R	RISER
R.D.	ROOF DRAIN
R.S.	ROOF SCUTTLE
RA	RETURN AIR
RAD or R	RADIUS
RB	RUBBER BASE
RC	RADIATOR CONVECTOR
RC	REMOTE CONTROL
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCVR	RECEIVER
RD	ROAD
RD OR ~	ROUND
RECP	RECEPTACLE
RECR	RECREATION
REF or RE:	REFERENCE
REFR	REFRIGERATOR
REG	REGISTER OR REGULAR
REINF	REINFORCEMENT
REM	REMOVABLE
REQ'D	REQUIRED
REQMTS	REQUIREMENTS
REV	REVISIONS
RGE	RANGE
RGH	ROUGH
RM	ROOM
ROW	RIGHT OF WAY
RUB	RUBBER

S

S	SOUTH
S.D.	SUPPLY DIFFUSER
S.ST.	STAINLESS STEEL
S/W	SIDEWALK
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SB	SPLASH BLOCK
SCHD	SCHEDULE
SCP	SCUPPER
SCR	SCREW
SCUT	SCUTTLE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SEC	SECTION
SECY	SECRETARY
SEQ	SEQUENCE
SFU	STRUCTURAL FACING UNIT
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SM	SAND SILTY SAND POORLY GRADED
SPA	SPACING
SPDT	SINGLE POLE DBL THROW
SPEC	SPECIFICATIONS
SPF	SOUNDPROOF
SPH	SPACE HEATER
SPKR	SPEAKER
SPL	SPECIAL
SQ	SQUARE
SQUAD	SQUADRON
SR	SUPPLY REGISTER
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSMR	STRUCTURAL STANDING SEAM METAL ROOF PANELS
ST	STRAND
STA	STATION
STD	STANDARD
STF	STIFFENER
STGR	STRINGER
STL	STEEL
STN	STONE
STOR	STORAGE
STR	STRUCTURAL
STWY	STAIRWAY
SU	SPARE UNIT
SUB FL	SUB FLOOR
SUSP	SUSPENDED
SW	SWITCH
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
SYMM	SYMMETRICAL

T

T	TREAD
T.O.	TOP OF
TA	TRAINING AREA
TAB	TOP AND BOTTOM
TAN.	TANGENT
TAP	WATTAGE TAP
TBD	TO BE DETERMINED
TBR&R	TO BE REMOVED AND REPLACED
TCP	TRAFFIC CONTROL PLAN
TEL	TELEPHONE
TEMP	TEMPERATURE
TER	TERRAZZO
TERM	TERMINAL
TGL	TOGGLE
TH	THRESHOLD
THERMO	THERMOSTAT
THK	THICK
TOC	TOP OF CONCRETE
TOIL.	TOILET
TOPO	TOPOGRAPHY
TOS	TOP OF STEEL
TP	TEST PIT
TTB	TELE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL

U

U.S.	UNITED STATES
UC	UNIT COOLER
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UH	UNIT HEATER
UIP	USE IN PLACE
UL	UNDERWRITERS' LABORATORIES
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPSTR	UPSTREAM
UT	UTILITY
UV	UNIT VENTILATOR

V

V	VOLT
VB	VINYL BASE
VC	VINYL-WALL COVERING
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE
VENT	VENTILATION or VENTILATOR
VERT	VERTICAL
VFDU	VARIABLE FREQUENCY DRIVE UNIT
VOL	VOLUME
VS	VENT STACK
VTR	VENT THRU ROOF

W

W	WEST
W.E.	WATER ELEVATION
W.I.	WROUGHT IRON
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WD	WOOD
WF	WIDE FLANGE
WH	WALL HYDRANT
WHM	WATT HOUR METER
WKS	WORK SHOP
WL	WATER LINE
WP	WEATHER PROOF
WPF	WATER PROOF
WPFG	WATER PROOFING
WRB	WARDROBE
WS	WASTE STACK OR WEATHER STRIPPING
WSA	WEAPON STORAGE AREA
WT	WEIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC

X

XFMR	TRANSFORMER

Y

Y.D.	YARD DRAIN
YD	YARD

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
DESIGNED BY: J. CAPE
DRAWN BY:
CHECKED BY: S. TURNER
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-C-002A.dwg

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

ABBREVIATIONS

SHEET ID
C-002

CIVIL LEGEND

PROPOSED

- HOT MIX ASPHALT (HMA) FLEXIBLE PAVEMENT
- RIPRAP
- GUARDRAIL
- 5+00 6+00 — PROJECT CENTERLINE WITH STATIONING
- 40 — PROPOSED CONTOURS

DEMOLITION / REMOVAL LEGEND

SURVEY/EXISTING CONDITIONS LEGEND

- 40 — EXISTING CONTOURS
- C/E — PROPERTY EASEMENT
- PROPERTY LINES

SYMBOL IDENTIFICATION

A1 / CS501 — DETAIL IDENTIFICATION / SHEET NUMBER OF DWG. WHERE DETAIL IS SHOWN

NOTE: SHEET GRID COLUMN AND ROW LOCATION REFER TO THE LETTERS AND NUMBER WHICH OCCUR ON LEFT SIDE AND TOP OF BORDER.

G7 DETAIL/SECTION / ELEVATION TITLE
SCALE:

SHEET NAMING LEGEND

SAMPLE SHEET NAME: CS101

- DISCIPLINE DESIGNATOR
- SHEET TYPE DESIGNATOR
- SHEET SEQUENTIAL NUMBER

TABLE 1: DISCIPLINE DESIGNATOR

GI	INDEX/LEGEND SHEETS
G-	LOCATION/VICINITY MAP
VF	SURVEY EXISTING CONDITIONS
V-	SURVEY MONUMENTATION
C-	CIVIL GENERAL
CD	CIVIL DEMOLITION
CS	CIVIL SITE
CT	CIVIL TRANSPORTATION
CG	CIVIL GRADING
CU	CIVIL SITE UTILITY

GENERAL NOTES

1. THESE LEGENDS ARE COMPOSED OF STANDARD SYMBOLS AND ARE PERTINENT TO THE CONDITIONS ON THIS SET OF DRAWINGS TO THE EXTENT APPLICABLE.
2. ADDITIONAL LEGENDS AND/OR ANOTHER LEGEND SHEET MAY APPEAR IN THIS SET OF DRAWINGS TO INDICATE SPECIFIC CONDITIONS IN LIEU OF SYMBOLS SHOWN ON THIS SHEET.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CAPE
DRAWN BY: S. TURNER
CHECKED BY: J. LONG
SUBMITTED BY: J. O'CONNELL
SIZE: ANSI D
FILE NAME: CHB22001-C-003A.dwg
ISSUE DATE: MMM YYYY
SOLICITATION NO.: -
CONTRACT NO.: -
PROJECT NUMBER: CHK271008

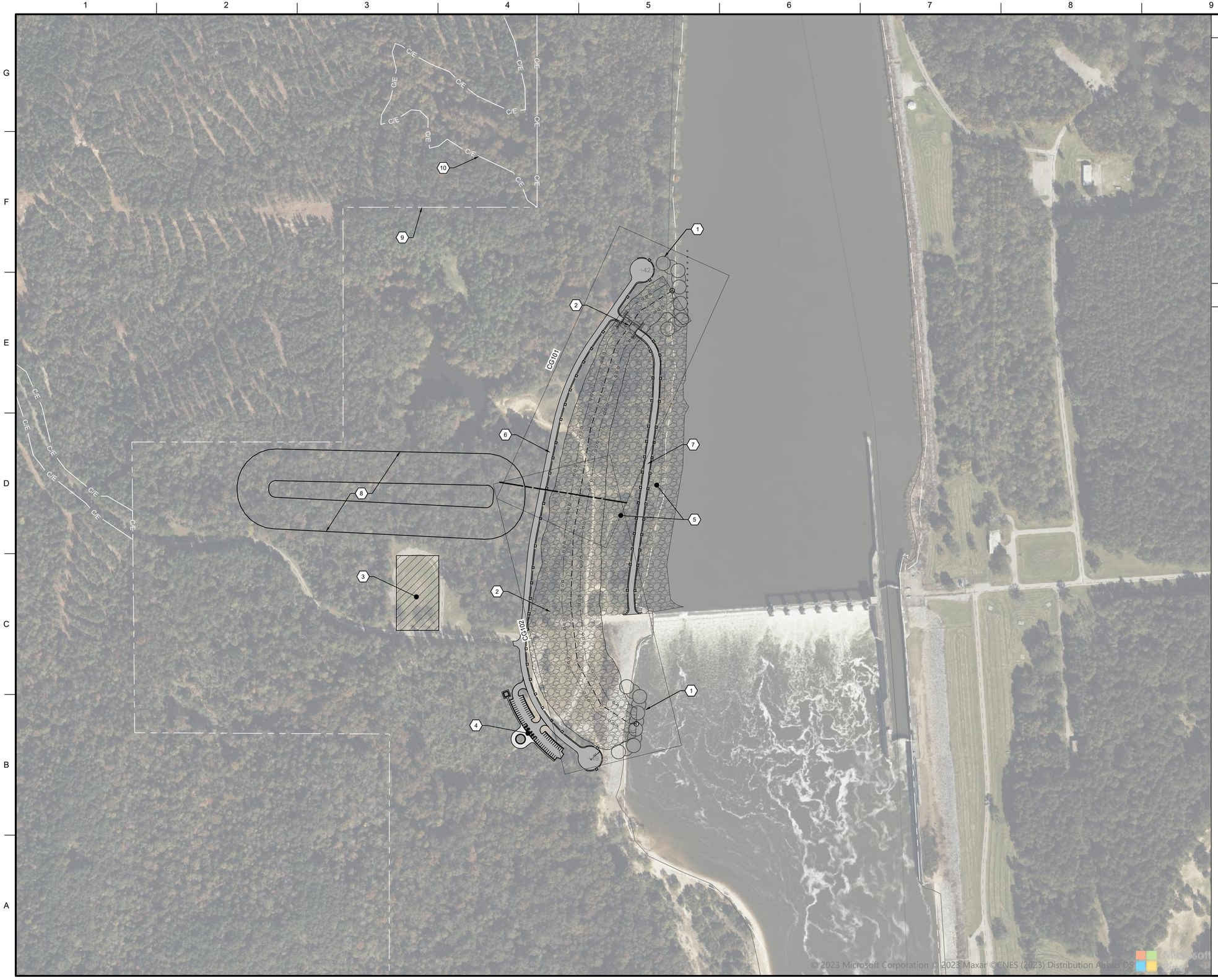
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

HOLT LOCK AND DAM
HOLT LOCK AND DAM
ROADWAY IMPROVEMENTS

LEGEND

SHEET ID
C-003

100% SUBMITTAL



GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. HORIZONTAL DATUM NAD83 STATE PLAN ALABAMA WEST. VERTICAL DATUM NAVD 88.
6. SURVEY WAS NOT PERFORMED. TOPOGRAPHY AND ELEVATIONS SHOWN ARE BASED ON AUTODESK AND GIS DATA. ACTUAL GEOLOCATED CONDITIONS MAY DIFFER.
7. ALL UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. ACTUAL LOCATIONS OF UTILITIES SHALL BE SURVEYED OR FIELD VERIFIED PRIOR TO CONSTRUCTION.
8. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
9. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG303-CG304.
10. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
11. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.

SHEET KEYNOTES

1. PROPOSED COFFER DAM. SEE SHEET S-100.
2. PROPOSED BRIDGE/STOP LOG STRUCTURE. SEE SHEET S-100.
3. CONTRACTOR STAGING AND LAY DOWN AREA.
4. PROPOSED PAVILION, PARKING, AND BATHROOM.
5. PROPOSED RIP RAP.
6. PROPOSED ACCESS ROAD.
7. PROPOSED ACCESS ROAD WITH SHEET PILE WALL UNDER CENTERLINE.
8. PROPOSED DISPOSAL SITE.
9. FEDERAL LANDS PROPERTY LINE.
10. EXISTING EASEMENTS.

PLAN NORTH

200' 0 200 400'

SCALE: 1"=200'

US Army Corps of Engineers®

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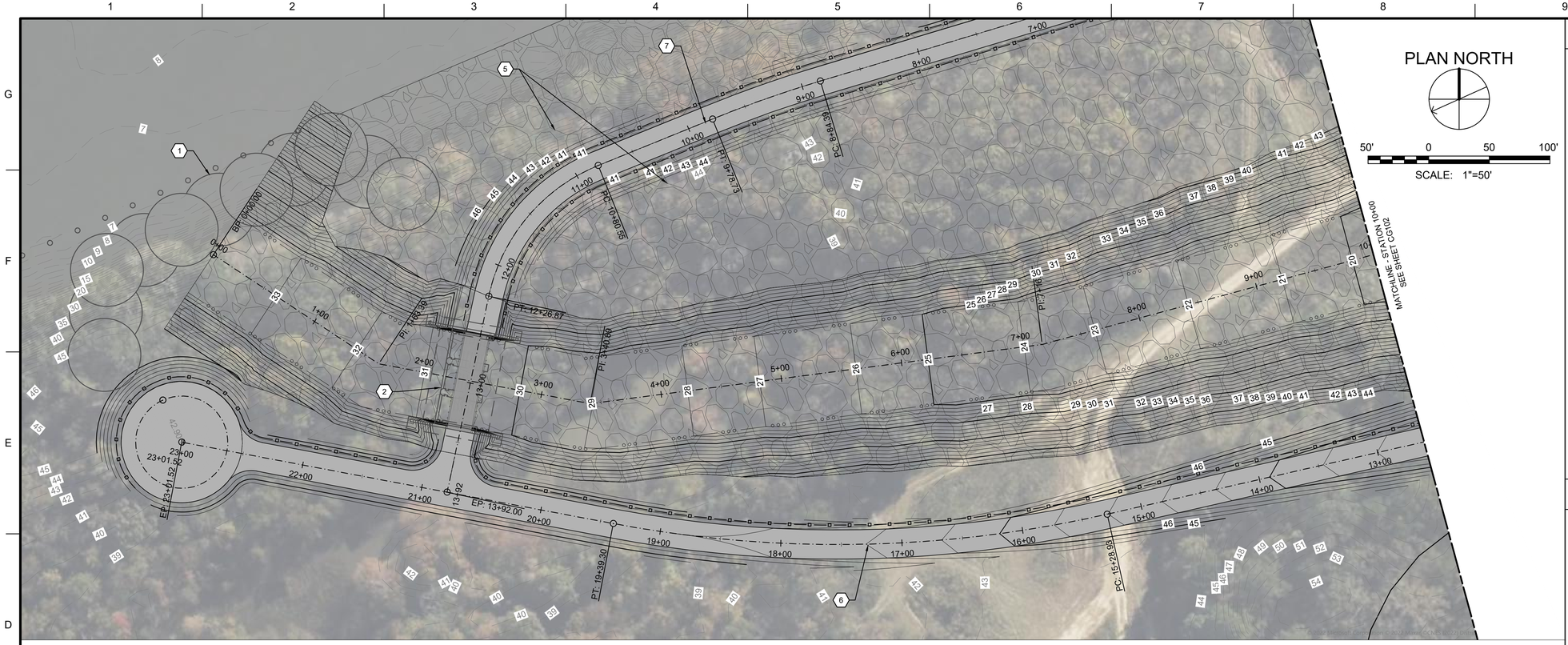
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

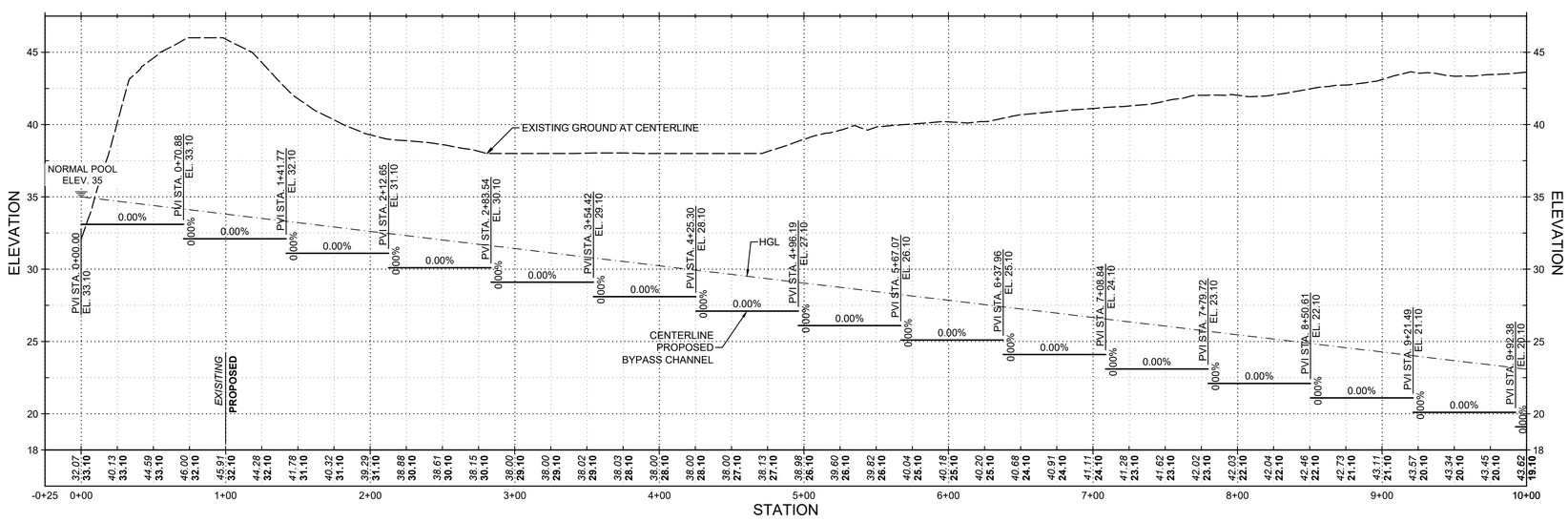
FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

CLAIBORNE BYPASS CHANNEL
GENERAL SITE OVERVIEW PLAN

SHEET ID
GC101



PROFILE VIEW OF CLAIBORNE RIGHT BANK BYPASS CENTERLINE



5' 0 5 10'
VERTICAL SCALE: 1"=5'

50' 0 50 100'
HORIZONTAL SCALE: 1"=50'

GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. HORIZONTAL DATUM NAD83 STATE PLAN ALABAMA WEST. VERTICAL DATUM NAVD 88.
6. SURVEY WAS NOT PERFORMED. TOPOGRAPHY AND ELEVATIONS SHOWN ARE BASED ON AUTODESK AND GIS DATA. ACTUAL GEOLOCATED CONDITIONS MAY DIFFER.
7. ALL UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. ACTUAL LOCATIONS OF UTILITIES SHALL BE SURVEYED OR FIELD VERIFIED PRIOR TO CONSTRUCTION.
8. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
9. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG303-CG304.
10. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
11. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.
12. POOL/RIFFLE CONSISTS OF A CONCEPTUAL LEVEL DESIGN USING STEPS IN PLACE OF EVERY ESTIMATED WEIR. THE BED PROFILE FOR EACH POOL IS PLANNED TO BE SLOPED. FURTHER DESIGN OF THE POOL/WEIR DESIGN WILL BE COMPLETED IN THE PRE-ENGINEERING DESIGN PHASE INCLUDING WEIR SIZING, BED SLOPE BETWEEN WEIRS, NUMBER OF WEIRS, ETC.

SHEET KEYNOTES

1. PROPOSED COFFER DAM. SEE SHEET S-100.
2. PROPOSED BRIDGE/STOP LOG STRUCTURE. SEE SHEET S-102.
3. CONTRACTOR STAGING AND LAY DOWN AREA.
4. PROPOSED PAVILION, PARKING, AND BATHROOM.
5. PROPOSED RIP RAP.
6. PROPOSED ACCESS ROAD.
7. PROPOSED ACCESS ROAD WITH SHEET PILE WALL UNDER CENTERLINE.
8. PROPOSED DISPOSAL AREA.
9. FEDERAL LANDS PROPERTY LINE.
10. EXISTING EASEMENTS.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
FILE NAME:

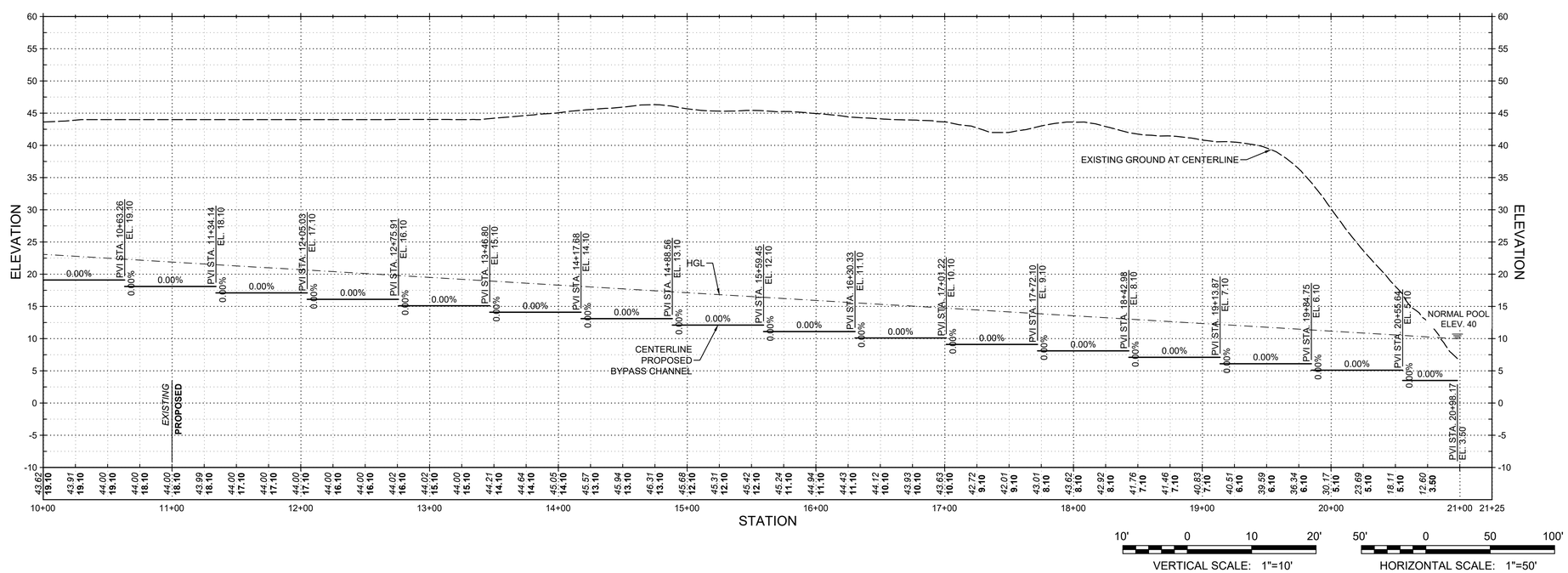
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

CLAIBORNE BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG101

PROFILE VIEW OF CLAIBORNE RIGHT BANK BYPASS CENTERLINE



GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. HORIZONTAL DATUM NAD83 STATE PLAN ALABAMA WEST. VERTICAL DATUM NAVD 88.
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8. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
9. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG303-CG304.
10. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
11. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.
12. POOL/RIFFLE CONSISTS OF A CONCEPTUAL LEVEL DESIGN USING STEPS IN PLACE OF EVERY ESTIMATED WEIR. THE BED PROFILE FOR EACH POOL IS PLANNED TO BE SLOPED. FURTHER DESIGN OF THE POOL/WEIR DESIGN WILL BE COMPLETED IN THE PRE-ENGINEERING DESIGN PHASE INCLUDING WEIR SIZING, BED SLOPE BETWEEN WEIRS, NUMBER OF WEIRS, ETC.

SHEET KEYNOTES

1. PROPOSED COFFER DAM. SEE SHEET S-100.
2. PROPOSED BRIDGE/STOP LOG STRUCTURE. SEE SHEET S-102.
3. CONTRACTOR STAGING AND LAY DOWN AREA.
4. PROPOSED PAVILION, PARKING, AND BATHROOM.
5. PROPOSED RIP RAP.
6. PROPOSED ACCESS ROAD.
7. PROPOSED ACCESS ROAD WITH SHEET PILE WALL UNDER CENTERLINE.
8. PROPOSED DISPOSAL AREA.
9. FEDERAL LANDS PROPERTY LINE.
10. EXISTING EASEMENTS.

US Army Corps of Engineers®

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FILE NAME:

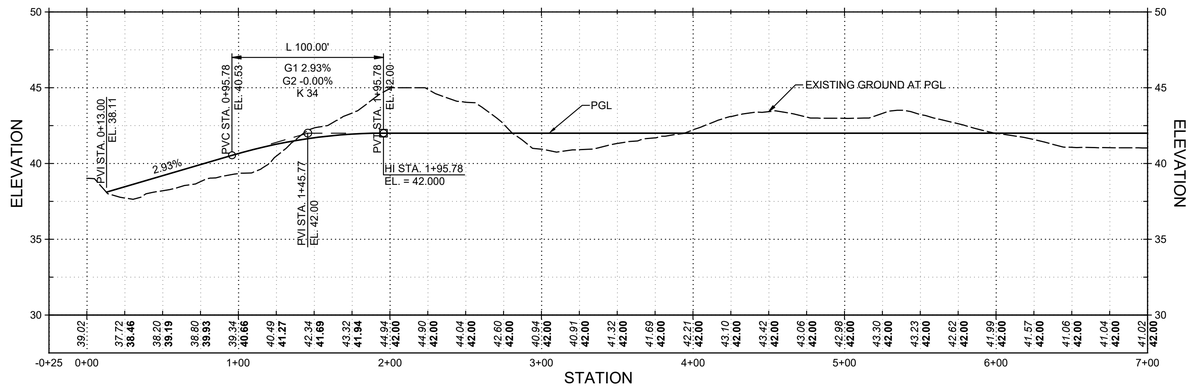
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

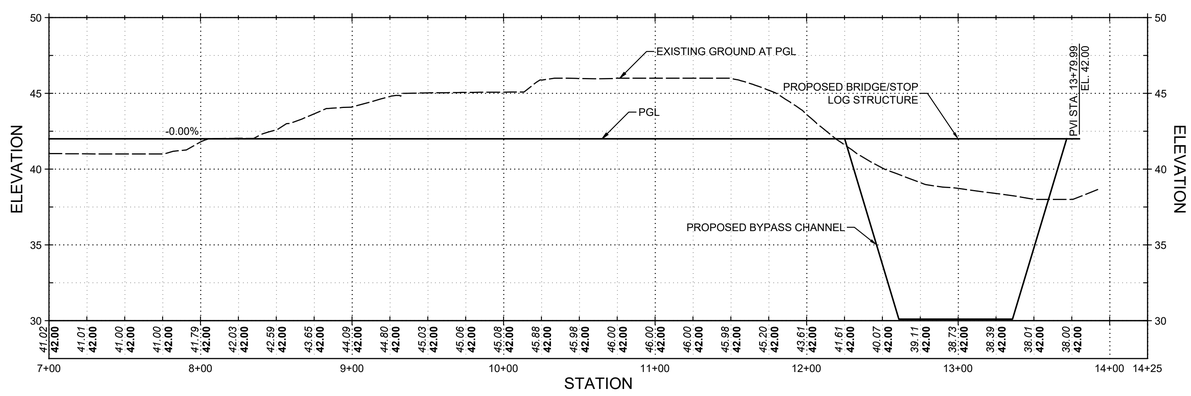
CLAIBORNE BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG102

PROFILE VIEW OF CLAIBORNE EAST ACCESS ROAD CENTERLINE



PROFILE VIEW OF CLAIBORNE EAST ACCESS ROAD CENTERLINE



GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
6. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG303-CG304.
7. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.

10' 0 10 20'
VERTICAL SCALE: 1"=10'

50' 0 50 100'
HORIZONTAL SCALE: 1"=50'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CAPE
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SIZE: ANSI D
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FILE NAME:

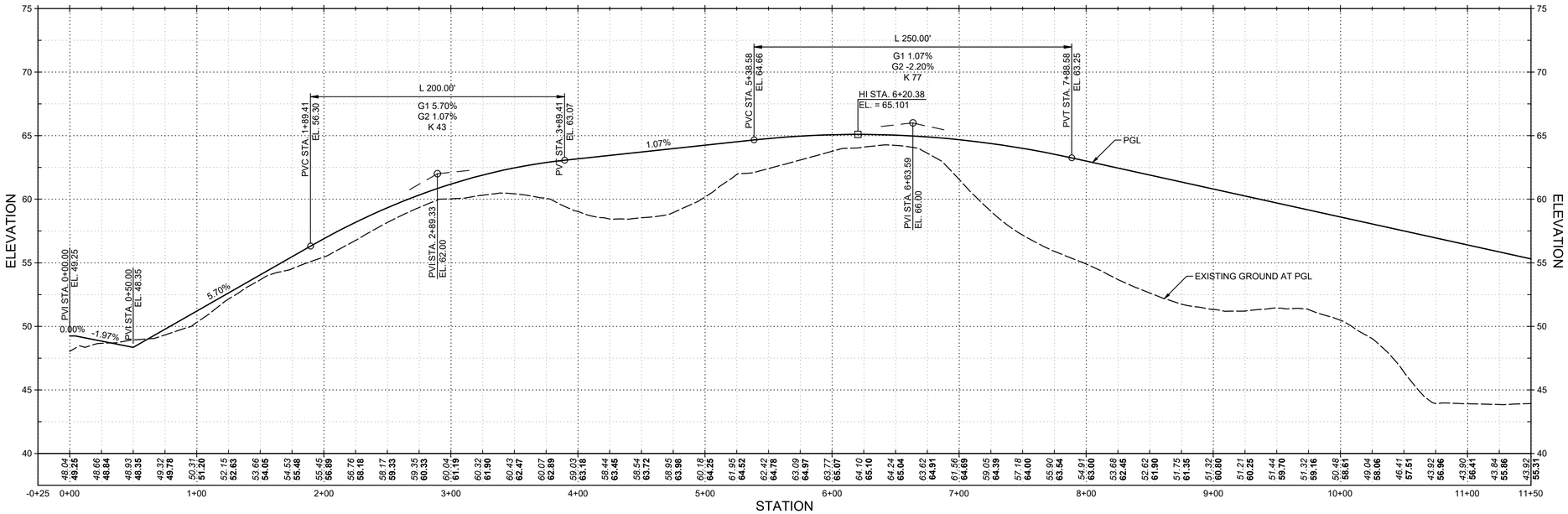
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

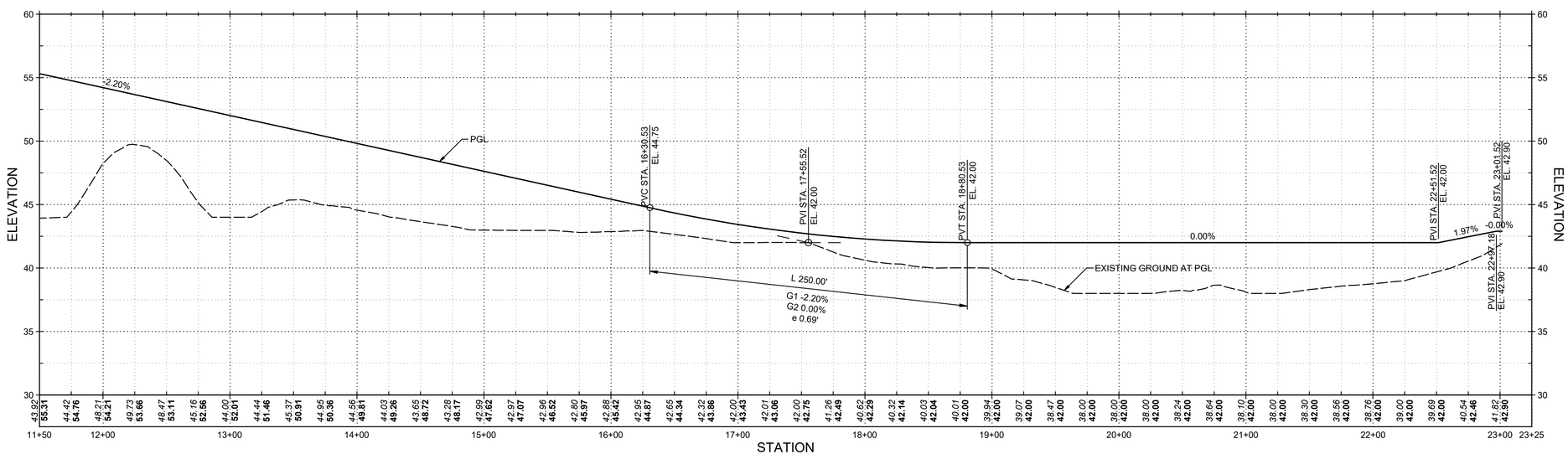
CLAIBORNE BYPASS CHANNEL
ACCESS ROAD PROFILES

SHEET ID
CG201

PROFILE VIEW OF CLAIBORNE WEST ACCESS ROAD CENTERLINE



PROFILE VIEW OF CLAIBORNE WEST ACCESS ROAD CENTERLINE



GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
6. FOR CLAIBORNE FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG303-CG304.
7. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.

VERTICAL SCALE: 1"=10'

HORIZONTAL SCALE: 1"=50'

US Army Corps of Engineers®

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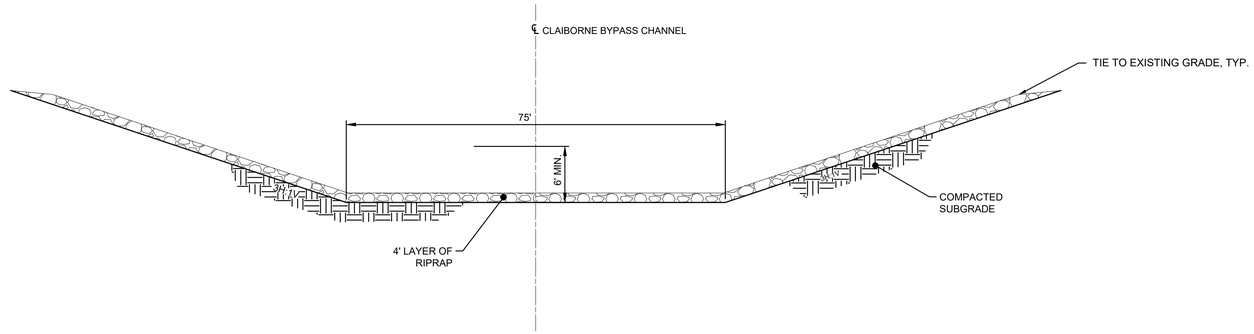
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

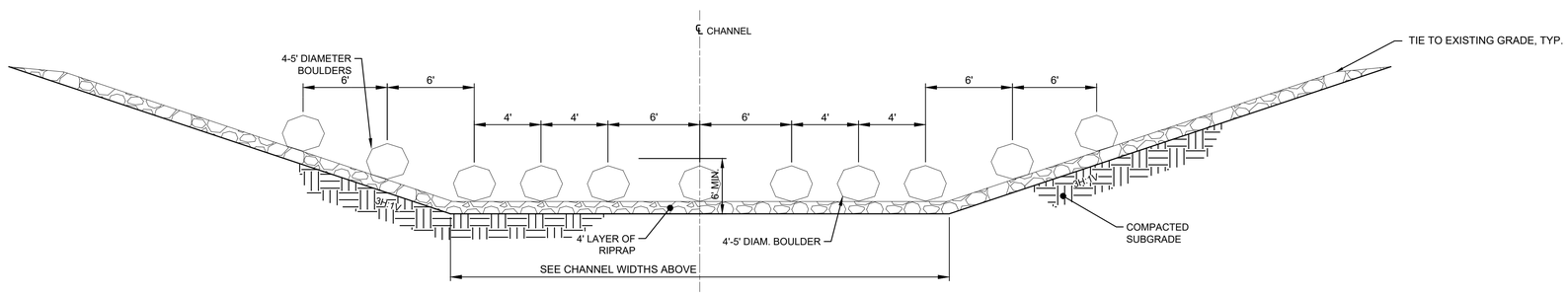
CLAIBORNE BYPASS CHANNEL
ACCESS ROAD PROFILES

SHEET ID
CG202



F1 CLAIRBORNE BYPASS CHANNEL TYPICAL SECTION STA. 0+00 TO STA. 20+98.17

SCALE: N.T.S.



A1 POOL RIFFLE TYPICAL SECTION

SCALE: N.T.S.

GENERAL SHEET NOTES

1. BOULDERS SHALL BE PLACED INTO THE TOP OF EACH RIFFLE AND ON THE DOWNSTREAM SLOPE OF EACH RIFFLE AS SHOWN.
2. A 4 FOOT BLANKET OF RIPRAP IS REQUIRED FOR THE ROCK RAMP STRUCTURE ITSELF. ADDITIONAL RIPRAP WILL BE PLACED ALONG EACH RIFFLE TO PROVIDE APPROPRIATE HEIGHT. SLOPES AND LOCATIONS FOR THE BOULDERS TO BE PLACED.
3. POOLS BETWEEN THE RIFFLES SHALL EXTEND APPROXIMATELY 80 FEET FOR CLAIBORNE FISH PASSAGE AND 200 FEET FOR MILLERS FERRY FISH PASSAGE AS A RESTING AREA FOR FISH. SOME EXTRA BOULDERS MAY BE PLACED IN SOME OF THE POOLS TO MANIPULATE VELOCITIES.
4. THE POOLS BETWEEN THE RIFFLES SHALL BE SHALLOWEST ALONG THE EDGES OF THE POOLS, WHILE DROPPING UP TO 1 FOOT WITHIN THE CENTER OF EACH POOL.
5. THE TYPICAL BOULDER PLACEMENT DETAILS SHOWS AN EXAMPLE FOR BOULDER PLACEMENT. IN FINAL DESIGN, FURTHER CALCULATIONS INTO APPROPRIATE BOULDER PLACEMENT WILL BE CONDUCTED TO ENSURE THAT THERE IS A DIVERSITY OF FLOW FOR NUMEROUS FISH SPECIES. AT A MINIMUM, TWO ROWS OF BOULDER OR CLOSER SPACING MAY BE EMPLOYED.
6. LARGE BOULDERS ARE SHOWN IN DRAWING. THESE BOULDERS WILL HAVE APPROXIMATELY A 4-5 FOOT DIAMETER.
7. LARGE RIP RAP (UNDERLYING THE BOULDERS) WILL BE MANIPULATED DURING CONSTRUCTION TO ENSURE THAT THE APPROPRIATE DIVERSITIES OF FLOW ARE AVAILABLE FOR FISH SPECIES.

US Army Corps of Engineers®

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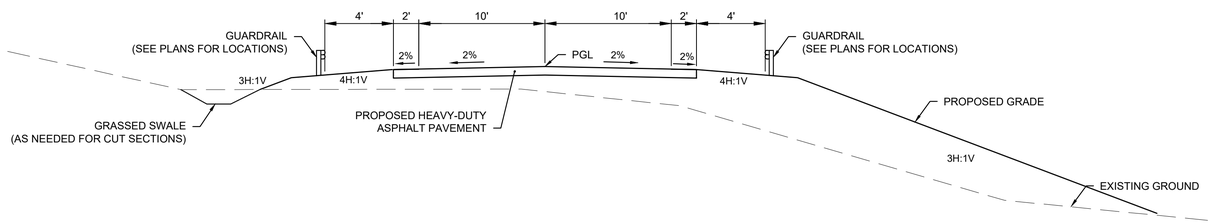
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

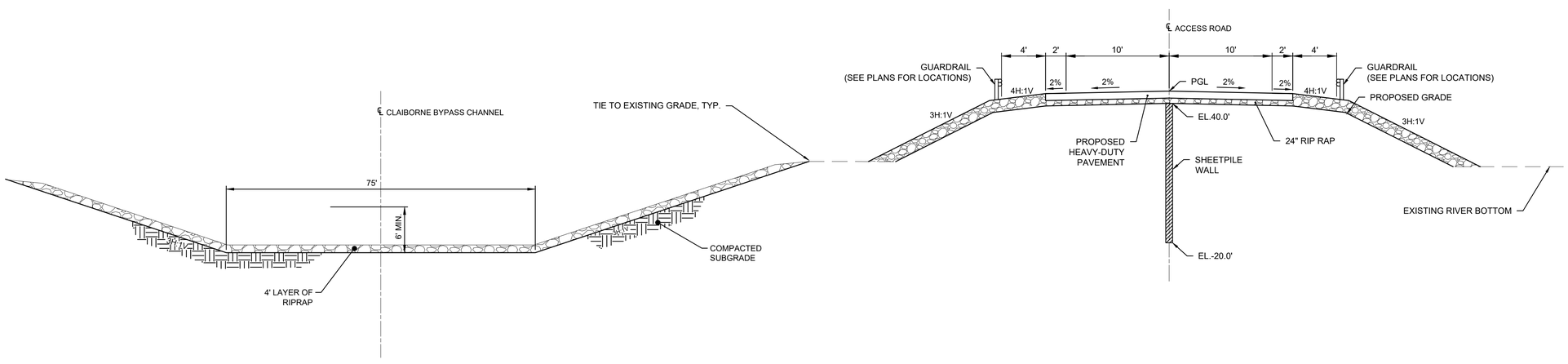
TYPICAL SECTIONS

SHEET ID
CG301



D1 ACCESS ROAD TYPICAL SECTION

SCALE: N.T.S.



A1 ACCESS ROAD TYPICAL SECTION WITH SHEETPILE WALL

SCALE: N.T.S.

US Army Corps of Engineers®

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CHECKED BY:
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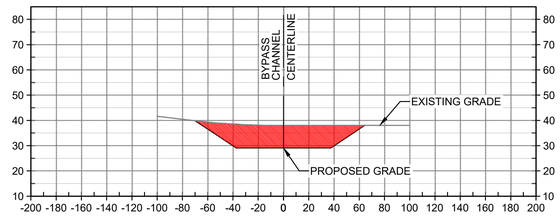
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

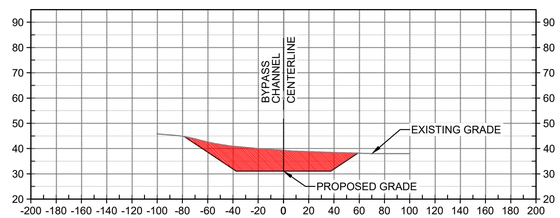
TYPICAL SECTIONS
ACCESS ROADS

SHEET ID
CG302



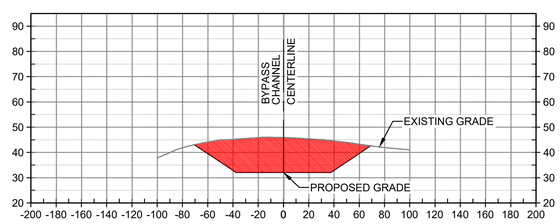
3+00

TOTAL VOLUME STATION 3+00.00	
CUT AREA	940.53 SF
CUMULATIVE CUT VOL	10876.01 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	3390.56 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	6996.37 CY



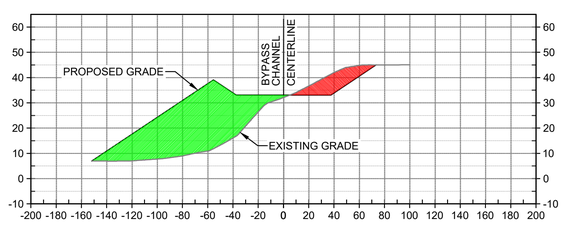
2+00

TOTAL VOLUME STATION 2+00.00	
CUT AREA	890.38 SF
CUMULATIVE CUT VOL	7485.45 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	4248.77 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	3605.81 CY



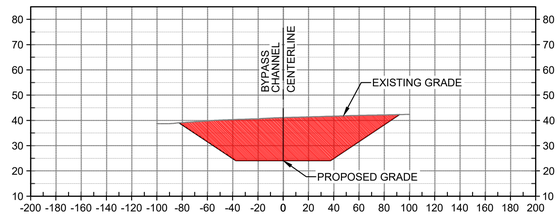
1+00

TOTAL VOLUME STATION 1+00.00	
CUT AREA	1439.35 SF
CUMULATIVE CUT VOL	3236.68 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	3236.68 CY
FILL AREA	0.00 SF
FILL VOL	3879.64 CY
NET VOL	-642.96 CY



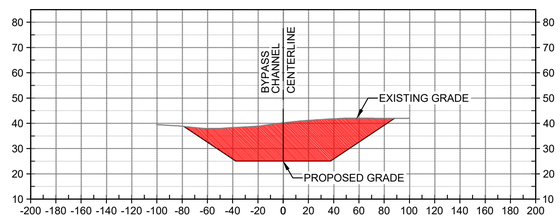
0+00

TOTAL VOLUME STATION 0+00.00	
CUT AREA	308.46 SF
CUMULATIVE CUT VOL	0.00 CY
CUMULATIVE FILL VOL	0.00 CY
CUT VOL	0.00 CY
FILL AREA	2095.00 SF
FILL VOL	0.00 CY
NET VOL	0.00 CY



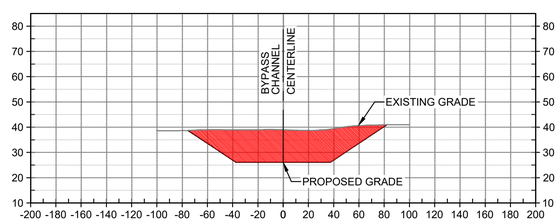
7+00

TOTAL VOLUME STATION 7+00.00	
CUT AREA	2117.75 SF
CUMULATIVE CUT VOL	32716.76 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	7265.05 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	28837.12 CY



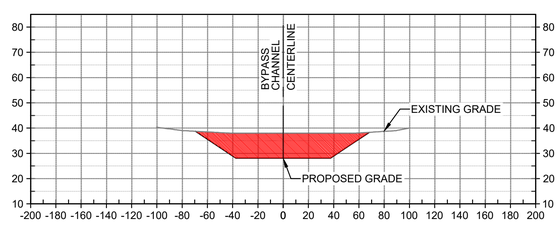
6+00

TOTAL VOLUME STATION 6+00.00	
CUT AREA	1805.38 SF
CUMULATIVE CUT VOL	25451.71 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	6154.97 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	21572.08 CY



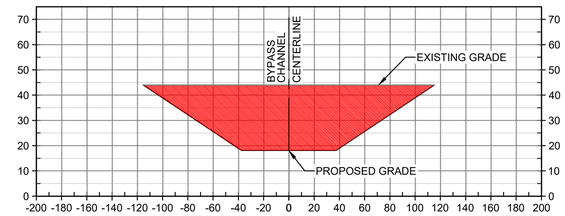
5+00

TOTAL VOLUME STATION 5+00.00	
CUT AREA	1518.31 SF
CUMULATIVE CUT VOL	19296.74 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	4751.99 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	15417.10 CY



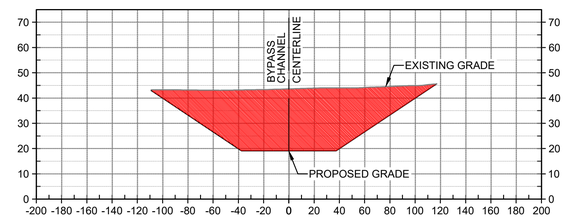
4+00

TOTAL VOLUME STATION 4+00.00	
CUT AREA	1047.77 SF
CUMULATIVE CUT VOL	14544.75 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	3668.74 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	10665.11 CY



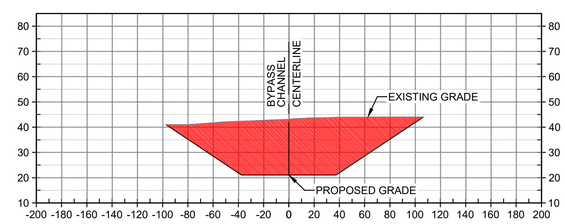
11+00

TOTAL VOLUME STATION 11+00.00	
CUT AREA	3952.63 SF
CUMULATIVE CUT VOL	78703.38 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	14132.88 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	74823.74 CY



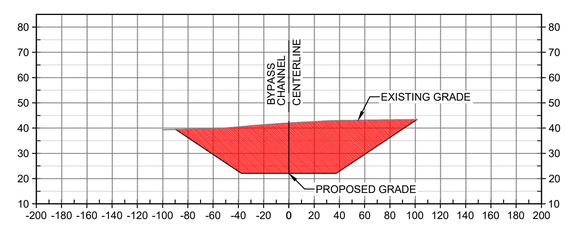
10+00

TOTAL VOLUME STATION 10+00.00	
CUT AREA	3679.12 SF
CUMULATIVE CUT VOL	64570.50 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	12478.80 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	60690.86 CY



9+00

TOTAL VOLUME STATION 9+00.00	
CUT AREA	3059.43 SF
CUMULATIVE CUT VOL	52091.69 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	10531.39 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	48212.05 CY



8+00

TOTAL VOLUME STATION 8+00.00	
CUT AREA	2627.52 SF
CUMULATIVE CUT VOL	41560.30 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	8843.54 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	37680.67 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-CG303A
ISSUE DATE: MMM YYYY
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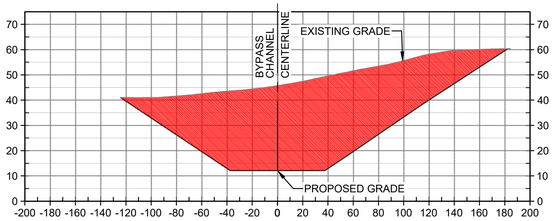
CONTRACT NO.:
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

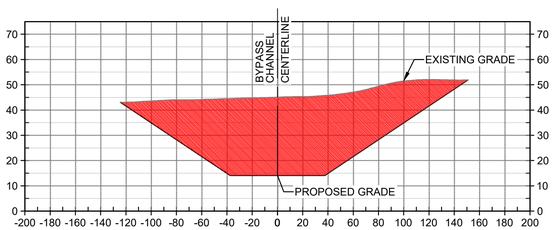
CLAIBORNE BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG303



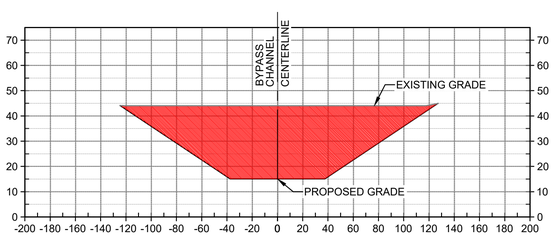
15+00

TOTAL VOLUME STATION 15+00.00	
CUT AREA	6707.12 SF
CUMULATIVE CUT VOL	153114.42 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	23353.72 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	149234.79 CY



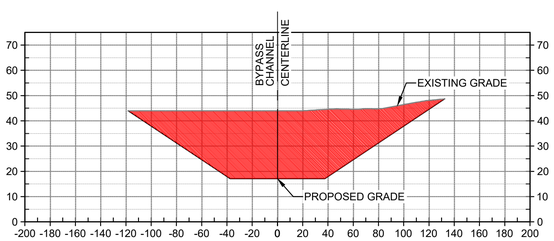
14+00

TOTAL VOLUME STATION 14+00.00	
CUT AREA	5562.52 SF
CUMULATIVE CUT VOL	129760.71 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	18966.52 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	125881.07 CY



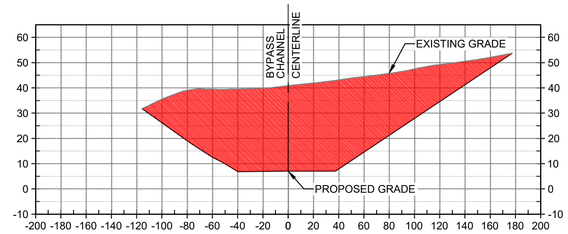
13+00

TOTAL VOLUME STATION 13+00.00	
CUT AREA	4679.40 SF
CUMULATIVE CUT VOL	110794.19 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	16701.85 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	106914.55 CY



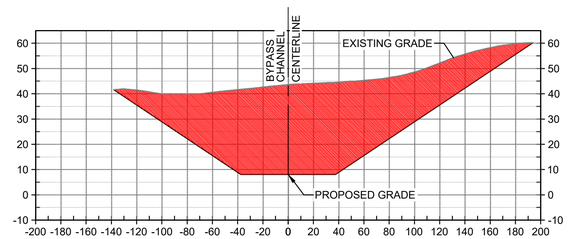
12+00

TOTAL VOLUME STATION 12+00.00	
CUT AREA	4339.60 SF
CUMULATIVE CUT VOL	94092.34 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	15388.96 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	90212.70 CY



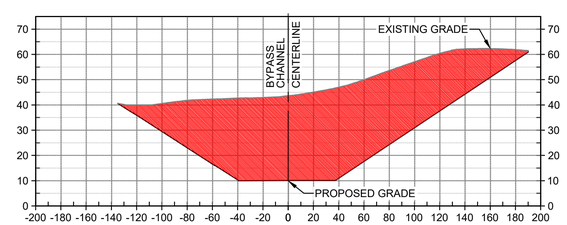
19+00

TOTAL VOLUME STATION 19+00.00	
CUT AREA	6519.86 SF
CUMULATIVE CUT VOL	260550.24 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	25077.98 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	256670.60 CY



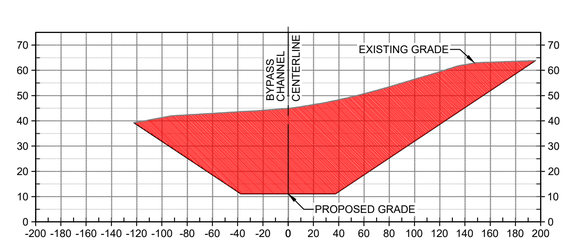
18+00

TOTAL VOLUME STATION 18+00.00	
CUT AREA	7022.25 SF
CUMULATIVE CUT VOL	235472.26 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	29409.25 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	231592.63 CY



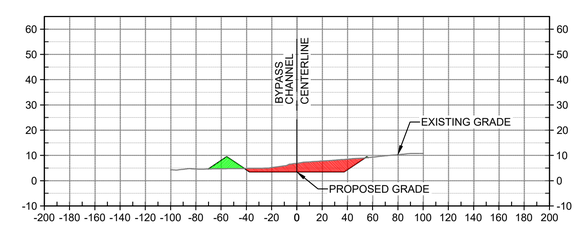
17+00

TOTAL VOLUME STATION 17+00.00	
CUT AREA	7445.75 SF
CUMULATIVE CUT VOL	206063.01 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	27158.22 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	202183.37 CY



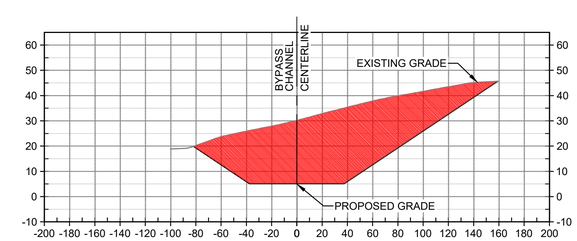
16+00

TOTAL VOLUME STATION 16+00.00	
CUT AREA	7219.68 SF
CUMULATIVE CUT VOL	178904.80 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	25790.37 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	175025.16 CY



20+98.17

TOTAL VOLUME STATION 20+98.17	
CUT AREA	279.71 SF
CUMULATIVE CUT VOL	292436.00 CY
CUMULATIVE FILL VOL	3966.68 CY
CUT VOL	9718.29 CY
FILL AREA	68.58 SF
FILL VOL	87.04 CY
NET VOL	288469.32 CY



20+00

TOTAL VOLUME STATION 20+00.00	
CUT AREA	4315.74 SF
CUMULATIVE CUT VOL	282717.71 CY
CUMULATIVE FILL VOL	3879.64 CY
CUT VOL	22167.47 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	278838.07 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

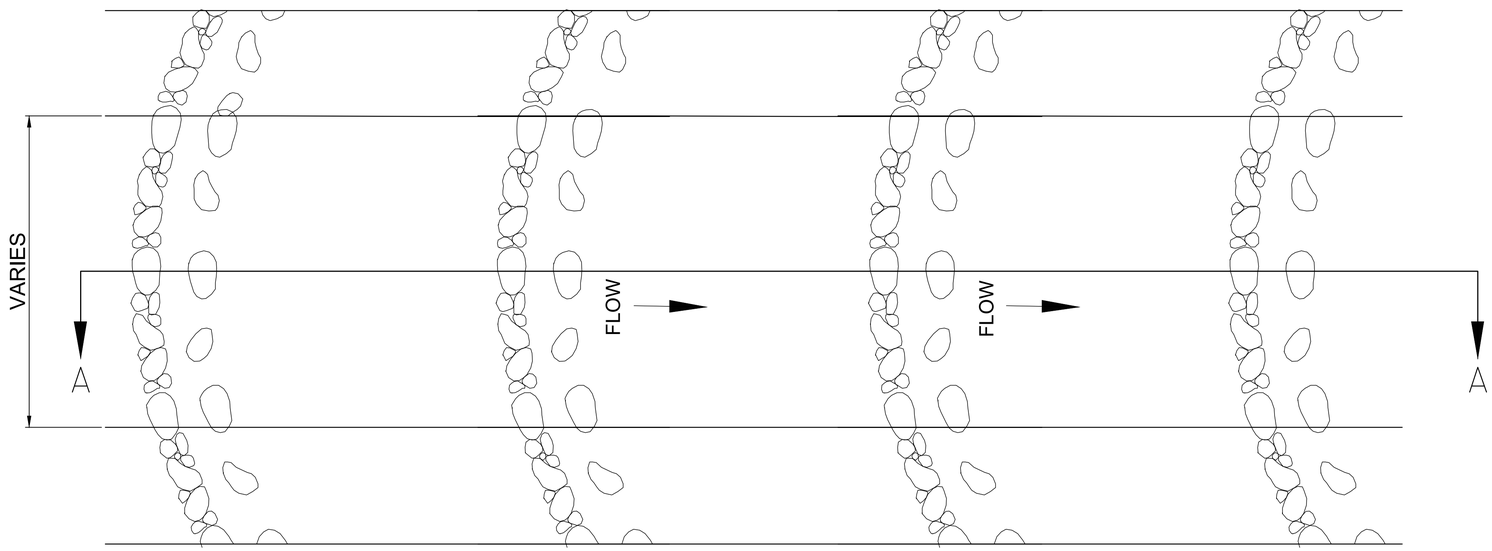
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22/001-CG304A
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

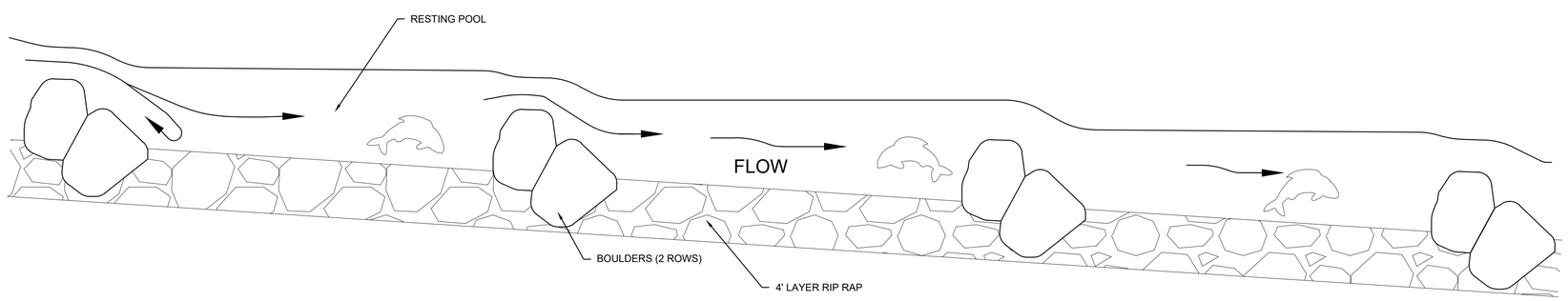
CLAIBORNE BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG304



TYPICAL PLAN VIEW

SCALE: N.T.S.



TYPICAL SECTION A-A

SCALE: N.T.S.

NOTES

1. BOULDERS SHALL BE PLACED INTO THE TOP OF EACH RIFFLE AND ON THE DOWNSTREAM SLOPE OF EACH RIFFLE AS SHOWN.
2. A 4 FOOT BLANKET OF RIPRAP IS REQUIRED FOR THE ROCK RAMP STRUCTURE ITSELF. ADDITIONAL RIPRAP WILL BE PLACED ALONG EACH RIFFLE TO PROVIDE APPROPRIATE HEIGHT. SLOPES AND LOCATIONS FOR THE BOULDERS TO BE PLACED.
3. POOLS BETWEEN THE RIFFLES SHALL EXTEND AS SHOWN ON CG SHEET PROFILES AS A RESTING AREA FOR FISH. SOME EXTRA BOULDERS MAY BE PLACED IN SOME OF THE POOLS TO MANIPULATE VELOCITIES.
4. THE POOLS BETWEEN THE RIFFLES SHALL BE SHALLOWEST ALONG THE EDGES OF THE POOLS, WHILE DROPPING UP TO 1 FOOT WITHIN THE CENTER OF EACH POOL.
5. THE TYPICAL BOULDER PLACEMENT DETAILS SHOWS AN EXAMPLE FOR BOULDER PLACEMENT. IN FINAL DESIGN, FURTHER CALCULATIONS INTO APPROPRIATE BOULDER PLACEMENT WILL BE CONDUCTED TO ENSURE THAT THERE IS A DIVERSITY OF FLOW FOR NUMEROUS FISH SPECIES. AT A MINIMUM, TWO ROWS OF BOULDER OR CLOSER SPACING MAY BE EMPLOYED.
6. LARGE BOULDERS ARE SHOWN IN DRAWING. THESE BOULDERS WILL HAVE APPROXIMATELY A 4-5 FOOT DIAMETER.
7. LARGE RIP RAP (UNDERLYING THE BOULDERS) WILL BE MANIPULATED DURING CONSTRUCTION TO ENSURE THAT THE APPROPRIATE DIVERSITIES OF FLOW ARE AVAILABLE FOR FISH SPECIES.

US Army Corps of Engineers®

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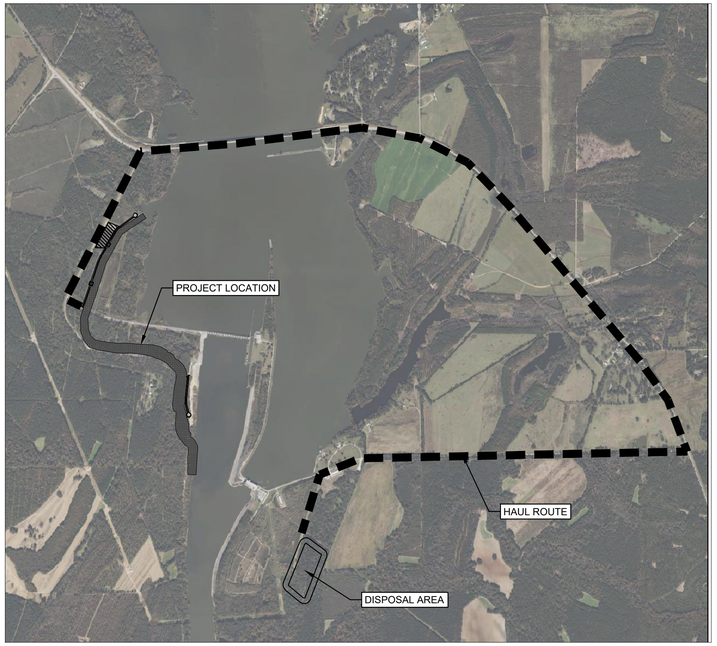
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.: -
PROJECT NUMBER: CHB22001
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

RIFFLE POOL DETAILS

SHEET ID
CG501

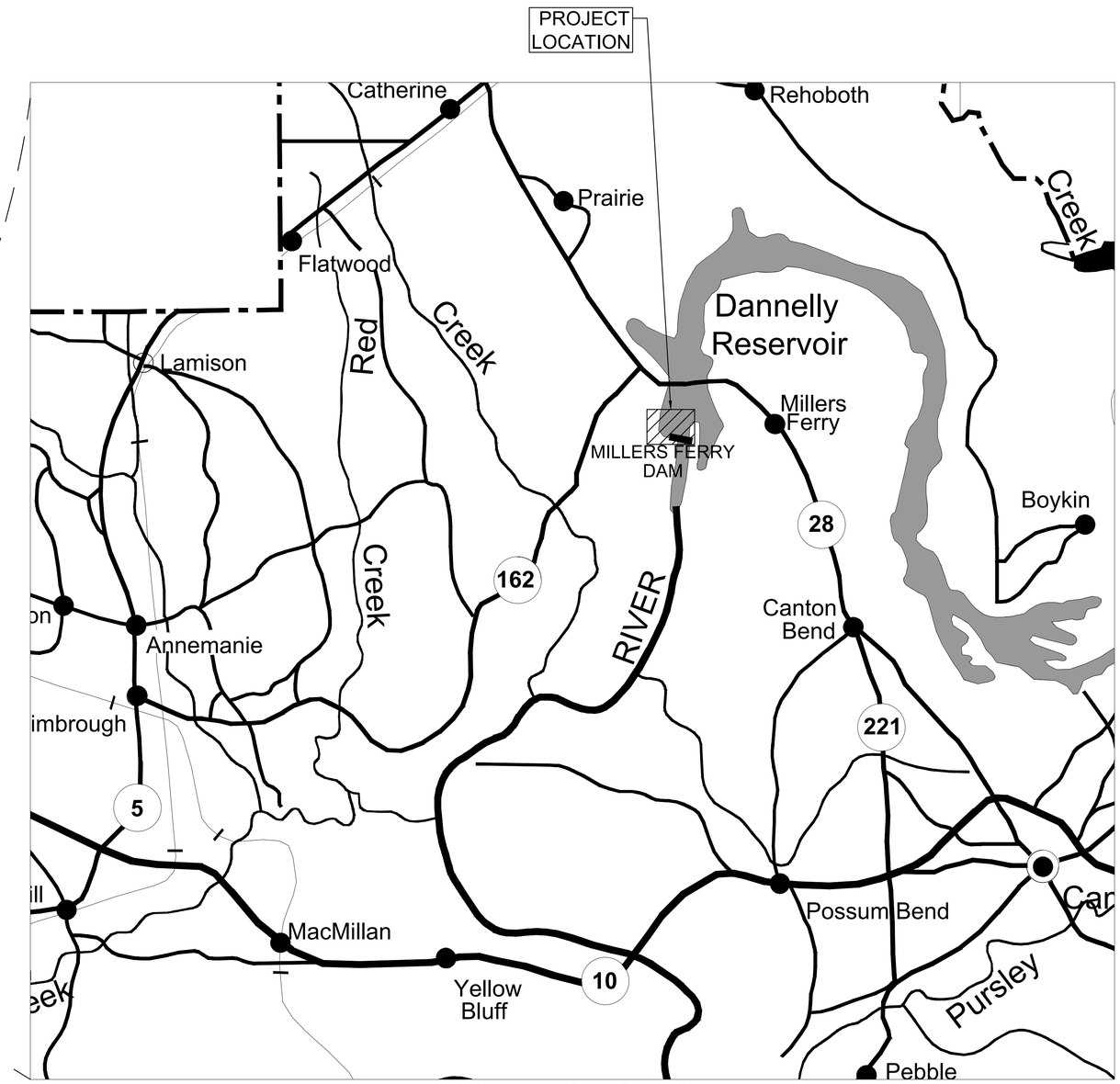


PROJECT LIMITS

NOT TO SCALE

ALABAMA COUNTIES
(VICINITY MAP)

N.T.S.



MILLER'S FERRY LOCK AND DAM PROJECT LOCATION MAP

NOT TO SCALE

PLAN NORTH

US Army Corps of Engineers®

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SUBMITTED BY:
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ISSUE DATE: MMM YYYY
SOLICITATION NO.: -
CONTRACT NO.: -
PROJECT NUMBER: CHB22001
FILE NAME: CHB22001-C-001B.dwg

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

LOCATION AND VICINITY MAP

SHEET ID
C-001

A

@	AT
A/C	AMPS INTERRUPTING CAPACITY (SYM RMS)
AB	ANCHOR BOLT
ABT	ABOUT
AC	ASPHALT CEMENT
ACSR	ALUMINUM CONDUCTOR STEEL REINFORCED
ACST	ACOUSTIC
ADEM	ALABAMA DEPT OF ENVIRONMENTAL MANAGEMENT
AFF	ABOVE FINISH FLOOR
AFFF	AQUEOUS FILM-FORMING FOAM
AFG	ABOVE FINISH GRADE
AGG	AGGREGATE
AHU	AIR HANDLING UNIT
AI	AREA INLET
AIC	AMPS INTERRUPTING CAPACITY (SYM RMS)
AL	ALUMINUM
ALDOT	ALABAMA DEPARTMENT OF TRANSPORTATION
ALT	ALTERNATE
AMP	AMPERE
AP	ACCESS PANEL
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
ATC	ACOUSTICAL TILE CEILING
AUTO	AUTOMATIC
AVE	AVENUE
AVG	AVERAGE

B

B & B	BALL AND BURLAP
BM	BEGIN BENCH MARK
BATT	BATTEN INSULATION
BCE	BASE CIVIL ENGINEER
BDRY	BOUNDARY
BIT	BITUMINOUS
BL	BUILDING LINE
BLDG	BUILDING
BLDG. DIR	BUILDING DIRECTORY
BLK	BLOCK
BLKG	BLOCKING
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BOC	BACK OF CURB
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRG	BEARING
BRKT	BRACKET
BT	BENT
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BWF	BARBED WIRE FENCE

C

CL	CENTER LINE
C TO C	CENTER TO CENTER
C&G	CURB & GUTTER
COE	CORPS OF ENGINEERS
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CADD	COMPUTER AIDED DRAFTING AND DESIGN
CAP	CAPACITY
CB	CATCH BASIN
CC	CENTER TO CENTER
CEM	CEMENT
CFM	CUBIC FEET PER MINUTE
CG	CORNER GUARD
CI	CURB INLET
CIR	CIRCULAR
CJ	CONSTRUCTION JOINT
CKD	CHECKED
CKT	CIRCUIT
CL	CENTER LINE
CL	CLEARANCE
CLG	CEILING
CLKG	CAULKING
CLR	CRUSHED LIMEROCK BASE
CLOS	CLOSED
CMP	CORRIGATED METAL PIPE
CMT	CERAMIC MOSAIC TILE
CMU	CONCRETE MASONRY UNITS
CNTR	COUNTER
CO	CLEANOUT
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMB.	COMBUSTION
COMM	COMMUNICATIONS
COMP	COMPRESSIBLE
CONC	CONCRETE
CONN	CONNECTOR
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COR	CONTRACTING OFFICERS REPRESENTATIVE
CORR	CORRIDOR
COV	COVERED
CP	CONCRETE PIPE
CPL	CEMENT PLASTER
CPS or	CYCLES PER SECOND
CRES	CORROSIVE RESISTANT STEEL
CRG	CARRIAGE
CRS	COURSE
CSK	COUNTERSUNK
CSO	COMBINATION SEWER OUTFLOW
CTB	CEMENT TREATED BASE
CTR	CENTER
CTRL	CONTROL
CTU	CERAMIC TILE UNGLAZED
CU	CONDENSING UNIT
CU YD	CUBIC YARDS
CUH	CABINET UNIT HEATER
CV	CEILING VENT
CW	COLD WATER
CWR	CHILLED WATER RETURN
CWRR	CHILLED WATER REVERSE RETURN
CWS	CHILLED WATER SUPPLY
CYL	CYLINDER

D

d	PENNY (as in nail-10d)
DIA	DIAMETER
DBL	DOUBLE
DCJ	DOWELED CONTROL JOINT
D.I.	DUCTILE IRON
DA	DOUBLE ACTING
DB	DRY BULB
DC	DIRECT CURRENT
DCJT	DUMMY CONTROL JOINT
DCL	DOOR CLOSER
DDESB	DEPT DEFENSE EXPLOSIVE SAFTETY BOARD
DEG	DEGREE
DEPR	DEPRESSION
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DHWR	DOMESTIC HOT WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DIA or ~	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DIST	DISTRIBUTION
DN STR	DOWN STREAM
DO	DOOR OPENING
DOIM	DIVISION OF INFORMATION MANAGEMENT
DOM	DOOR OPERATOR MOTOR
DP	DAMPPROOFING
DPST	DOUBLE POLE SNGL THROW
DR	DRAIN
DS	DOWN SPOUT
DTL	DETAIL
DWD	DRINKING WATER DISPENSER
DWG	DRAWING
DWLS	DOWELS

E

E	EAST
EA	EACH
EF	EXHAUST FAN
EOC	EDGE OF CURB
EOP	EDGE OF PAVEMENT
EL	ELEVATION (GRADE or BLDG)
ELEC	ELECTRICAL OR ELECTRIC
EM	EMERGENCY
ENG	ENGINEER
ENVIR	ENVIROMENT/ENVIROMENTAL
ENT	ENTRANCE
EOC	EDGE OF CURB
EOD	EXPLOSIVE ORDINANCE DISPOSAL
EP / EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ERP	ENVIRONMENTAL RESOURCE PERMIT
EST	ESTIMATE
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXC	EXCAVATE
EXIST	EXISTING
EXP	EXPOSED
EXPN	EXPANSION
EXT	EXTERIOR
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION

F

F	FAHRENHEIT
FPM	FEET PER MINUTE
FS	FAR SIDE OR FULL SIZE
FA	FRESH AIR
FCU	FAN COIL UNIT
FC	FOOT CANDLE
FCG	FACING
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIG	FIGURE
FIN	FINISH
FIX	FIXTURE
FL	FLOOR
FLASH	FLASHING
FLG	FLOORING
FLUOR	FLUORESCENT
FOC	FIBER OPTIC CABLE
FP	FIRE PROTECTION
FPRF	FIRE PROOF
FR	FRAME OR FIRE RATED
FT	FEET OR FINNED TUBE
FTG	FOOTING
FURR'G	FURRING

G

G	GAS
GCO	GROUND CLEANOUT
GV	GATE VALVE
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GCAB	GRADED CRUSHED AGGREGATE BASE / SURFACE
GEN	GENERAL
GI	GALVANIZED IRON
GL	GLASS
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTES
GR	GRADE
GRND	GROUND
GRTG	GRATING
GRVL	GRAVEL
GTD	GRADE TO DRAIN
GWB	GYPSUM WALLBOARD
GWT	GLAZED WALL TILE
GYP	GYPSUM

H

H.PT	HIGH POINT
H.S.	HIGH STRENGTH
HB	HOSE BIBB
HBD	HARDBOARD
HDW	HARDWARE
HDR	HEADER
HTR	HEATER
HEP	HORIZONTAL ELLIPTICAL PIPE
HMA	HOT MIX ASPHALT
HOA	HANDS OFF AUTO
HP	HORSE POWER
HPW	HIGH PRESSURE WASHER
HR	HOUR
HSB	HIGH STRENGTH BOLT
HSGYP	HIGH-STRENGTH GYPSUM PLASTER
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HW	HOT WATER
HWH	HOT WATER HEATER
HWR	HOT WATER RETURN
HWRR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HYD	HYDRAULIC

I

I OR FE	IRON
I.D.	INSIDE DIAMETER
I.P.	IRON PIPE
IAW	IN ACCORDANCE WITH
IBC	INTERNATIONAL BUILDING CODE
IC	INTERCOM
IE	INVERT ELEVATION
IES	ILLUMINATING ENG. SOCIETY
IESCR	INTERUPTING ELECTRICAL SHORT CIRCUIT RATING
IN	INCH
INSUL.	INSULATION
INT	INTERIOR
INV	INVERT
IRH	INFRA-RED HEATER
IS	INDUSTRIAL SEWER

J

JB	JUNCTION BOX
JC	JANITOR CLOSET
JCT	JUNCTION
JST	JOIST
JT	JOINT

K

K	ALGEBRAIC DIFFERENCE IN GRADE / LENGTH VERTICAL CURVE
KIT	KITCHEN
KL	KEY LOCK
KP	KICK PLATE
KSF	KIPS/SQUARE FOOT
KSI	KIPS/SQUARE INCH
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KW	KILOWATTS
KWH	KILOWATT HOUR METER

L

L	LUMEN
LAU	LAUNDRY
LAV	LAVATORY
LBR	LUMBER
LBS	POUND
LD	LOAD
LDG	LOADING
LG	LENGTH
LIN	LINEAR
LIS	LAWN IRRIGATION SYSTEM
LLH	LONG - LEG HORIZONTAL
LLV	LONG - LEG VERTICAL
LNDG	LANDING
LNTL	LINTEL
LONG	LONGITUDINAL
LP	LOW POINT
LPS	LIGHT PROOF SHADE
LT	LIGHT
LT. WT.	LIGHT WEIGHT
LVC	LENGTH VERTICAL CURVE

M

M	THOUSAND
M & B	MATCHED & BEADED
MACH	MACHINE
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MC	MEDICINE CABINET
MDEQ	MISSISSIPPI DEPT ENVIR QUALITY
MECH	MATCH EXISTING
MET.	MECHANICAL
	METAL
MFG	MANUFACTURING
MFR	MANUFACTURE
MG	MOTOR GENERATOR
MH	MANHOLE
MHGY	MAHOGANY
MIN	MINIMUM
ML	METAL LATH
MLDG	MOULDING
MO	MASONRY OPENING
MON	MONUMENT
MONO	MONOLITHIC
MOT	MOTOR
MSTC	MASTIC
MT	METAL THRESHOLD
MTD	MOUNTED
MTN	MOUNTAIN
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
MW	MONITORING WELL

N

N	NORTH
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCATION
NIC	NOT IN CONTRACT
NOI	NOTICE OF INTENT
NTP	NOTICE TO PROCEED

O

OA	OUTSIDE AIR
OB WG	OBSCURE WIRE GLASS
OBGL	OBSCURE GLASS
OBSC	OBSCURE
OC	ON CENTERS
OD	OUTSIDE DIMENSION
OFF.	OFFICE
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPP. HD.	OPPOSITE HAND
OPS	OPERATIONS
OSP	OUTSIDE PLANT CABLE
OVSCP	OVERFLOW SCUPPER
OWS	OIL WATER SEPARATOR

P

P	POLE
P. LAM.	PLASTIC LAMINATE
P/S	PRESTRESSED
PA	PUBLIC ADDRESS
PAN. B	PANIC BOLT
PBS	PUSH BUTTON STATION
PCC	PORTLAND CEMENT CONCRETE
PD	PAVEMENT DRAIN
PERF	PERFORATED
PH or 0	PHASE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL	PLATE
PLAS	PLASTER
PLATF	PLATFORM
PLBG	PLUMBING
PLG	PILING
PLY WD	PLYWOOD
PNL	PANEL
PNL BD	PANEL BOARD
POL	POLISH
PORC	PORCELAIN
POB	POINT OF BEGINNING
PP	POWER POLE
PR	PAIR
PREFAB	PREFABRICATED
PROJ	PROJECTION
PROP	PROPOSED
PRPT	PARAPET
PRV	PRESSURE REGULATING VALVE
PSF	POUNDS/SQUARE FOOT
PSI	POUNDS/SQUARE INCH
PT	POINT
PTD	PAINTED
PVMT	PAVEMENT

Q

QD	QUANTITY DISTANCE
1/4 RD	QUARTER ROUND
Q.T.	QUARRY TILE
QT	QUART
QTERS	QUARTERS

R

R	RISER
R.D.	ROOF DRAIN
R.S.	ROOF SCUTTLE
RA	RETURN AIR
RAD or R	RADIUS
RB	RUBBER BASE
RC	RADIATOR CONVECTOR
RC	REMOTE CONTROL
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCVR	RECEIVER
RD	ROAD
RD OR ~	ROUND
RECP	RECEPTACLE
RECR	RECREATION
REF or RE:	REFERENCE
REFR	REFRIGERATOR
REG	REGISTER OR REGULAR
REINF	REINFORCEMENT
REM	REMOVABLE
REQ'D	REQUIRED
REQMTS	REQUIREMENTS
REV	REVISIONS
RGE	RANGE
RGH	ROUGH
RM	ROOM
ROW	RIGHT OF WAY
RUB	RUBBER

S

S	SOUTH
S.D.	SUPPLY DIFFUSER
S.ST.	STAINLESS STEEL
S/W	SIDEWALK
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SB	SPLASH BLOCK
SCHD	SCHEDULE
SCP	SCUPPER
SCR	SCREW
SCUT	SCUTTLE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SEC	SECTION
SECY	SECRETARY
SEQ	SEQUENCE
SFU	STRUCTURAL FACING UNIT
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SM	SAND SILTY SAND POORLY GRADED
SPA	SPACING
SPDT	SINGLE POLE DBL THROW
SPEC	SPECIFICATIONS
SPF	SOUNDPROOF
SPH	SPACE HEATER
SPKR	SPEAKER
SPL	SPECIAL
SQ	SQUARE
SQUAD	SQUADRON
SR	SUPPLY REGISTER
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSMR	STRUCTURAL STANDING SEAM METAL ROOF PANELS
ST	STRAND
STA	STATION
STD	STANDARD
STF	STIFFENER
STGR	STRINGER
STL	STEEL
STN	STONE
STOR	STORAGE
STR	STRUCTURAL
STWY	STAIRWAY
SU	SPARE UNIT
SUB FL	SUB FLOOR
SUSP	SUSPENDED
SW	SWITCH
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
SYMM	SYMMETRICAL

T

T	TREAD
T.O.	TOP OF
TA	TRAINING AREA
TAB	TOP AND BOTTOM
TAN.	TANGENT
TAP	WATTAGE TAP
TBD	TO BE DETERMINED
TBR&R	TO BE REMOVED AND REPLACED
TCP	TRAFFIC CONTROL PLAN
TEL	TELEPHONE
TEMP	TEMPERATURE
TER	TERRAZZO
TERM	TERMINAL
TGL	TOGGLE
TH	THRESHOLD
THERMO	THERMOSTAT
THK	THICK
TOC	TOP OF CONCRETE
TOIL.	TOILET
TOPO	TOPOGRAPHY
TOS	TOP OF STEEL
TP	TEST PIT
TTB	TELE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL

U

U.S.	UNITED STATES
UC	UNIT COOLER
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UH	UNIT HEATER
UIP	USE IN PLACE
UL	UNDERWRITERS' LABORATORIES
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPSTR	UPSTREAM
UT	UTILITY
UV	UNIT VENTILATOR

V

V	VOLT
VB	VINYL BASE
VC	VINYL-WALL COVERING
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE
VENT	VENTILATION or VENTILATOR
VERT	VERTICAL
VFDU	VARIABLE FREQUENCY DRIVE UNIT
VOL	VOLUME
VS	VENT STACK
VTR	VENT THRU ROOF

W

W	WEST
W.E.	WATER ELEVATION
W.I.	WROUGHT IRON
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WD	WOOD
WF	WIDE FLANGE
WH	WALL HYDRANT
WHM	WATT HOUR METER
WKS	WORK SHOP
WL	WATER LINE
WP	WEATHER PROOF
WPF	WATER PROOF
WPFG	WATER PROOFING
WRB	WARDROBE
WS	WASTE STACK OR WEATHER STRIPPING
WSA	WEAPON STORAGE AREA
WT	WEIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC

X

XFMR	TRANSFORMER

Y

Y.D.	YARD DRAIN
YD	YARD

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
DESIGNED BY: J. CAPPS
DRAWN BY:
CHECKED BY: S. TURNER
J. LONG
SUBMITTED BY: J. O'CONNELL
SIZE: ANSI D
FILE NAME: CHB22001-C-002B.dwg

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

ABBREVIATIONS

SHEET ID
C-002

CIVIL LEGEND

PROPOSED

HOT MIX ASPHALT (HMA)
FLEXIBLE PAVEMENT

RIPRAP

GUARDRAIL

5+00 6+00 PROJECT CENTERLINE WITH STATIONING

40 PROPOSED CONTOURS

DEMOLITION / REMOVAL LEGEND

SURVEY/EXISTING CONDITIONS LEGEND

40 EXISTING CONTOURS

C/E PROPERTY EASEMENT

PROPERTY LINES

SYMBOL IDENTIFICATION

A1 / CS501

DETAIL IDENTIFICATION

SHEET NUMBER OF DWG. WHERE DETAIL IS SHOWN

NOTE: SHEET GRID COLUMN AND ROW LOCATION REFER TO THE LETTERS AND NUMBER WHICH OCCUR ON LEFT SIDE AND TOP OF BORDER.

G7 DETAIL/SECTION / ELEVATION TITLE

SCALE:

SHEET NAMING LEGEND

SAMPLE SHEET NAME: CS101

DISCIPLINE DESIGNATOR

SHEET TYPE DESIGNATOR

SHEET SEQUENTIAL NUMBER

TABLE 1: DISCIPLINE DESIGNATOR

GI	INDEX/LEGEND SHEETS
G-	LOCATION/VICINITY MAP
VF	SURVEY EXISTING CONDITIONS
V-	SURVEY MONUMENTATION
C-	CIVIL GENERAL
CD	CIVIL DEMOLITION
CS	CIVIL SITE
CT	CIVIL TRANSPORTATION
CG	CIVIL GRADING
CU	CIVIL SITE UTILITY

GENERAL NOTES

1. THESE LEGENDS ARE COMPOSED OF STANDARD SYMBOLS AND ARE PERTINENT TO THE CONDITIONS ON THIS SET OF DRAWINGS TO THE EXTENT APPLICABLE.
2. ADDITIONAL LEGENDS AND/OR ANOTHER LEGEND SHEET MAY APPEAR IN THIS SET OF DRAWINGS TO INDICATE SPECIFIC CONDITIONS IN LIEU OF SYMBOLS SHOWN ON THIS SHEET.

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DESIGNED BY: J. CAPE
DRAWN BY: S. TURNER
CHECKED BY: J. LONG
SUBMITTED BY: J. O'CONNELL
SIZE: ANSI D
FILE NAME: CHB22001-C-003B.dwg
ISSUE DATE: MMM YYYY
SOLICITATION NO.: -
CONTRACT NO.: -
PROJECT NUMBER: CHK271009

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

HOLT LOCK AND DAM
HOLT LOCK AND DAM
ROADWAY IMPROVEMENTS

LEGEND

SHEET ID

C-003

100% SUBMITTAL

GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. HORIZONTAL DATUM NAD83 STATE PLANE ALABAMA WEST. VERTICAL DATUM NAVD 88.
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8. FOR MILLER'S FERRY FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
9. FOR MILLER'S FERRY FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG305-CG310.
10. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
11. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.

SHEET KEYNOTES

1. PROPOSED COFFER DAM. SEE SHEET S-100.
2. PROPOSED GATED BYPASS STRUCTURE. SEE SHEET S-100.
3. PROPOSED COFFERDAM FOR CONSTRUCTION OF BYPASS STRUCTURE. SEE SHEET S-100.
4. PROPOSED PUBLIC BRIDGE. SEE SHEET S-100.
5. CONTRACTOR STAGING AND LAY DOWN AREA.
6. PROPOSED RIP RAP.
7. PROPOSED ACCESS ROAD.
8. PROPOSED DISPOSAL SITE.
9. FEDERAL LANDS PROPERTY LINE.
10. PROPOSED NEW ELECTRICAL SERVICE FOR GATED BYPASS STRUCTURE. CONNECT TO EXISTING OVERHEAD PRIMARY LINE.

PLAN NORTH

400' 0 400 800'

SCALE: 1"=400'

US Army Corps of Engineers®

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DESIGNED BY: J. CAPE
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SUBMITTED BY: J. O'CONNELL
SIZE: ANSI D
FILE NAME: CHB22001-GC101B.DWG
ISSUE DATE: MMM.YYYY
SOLICITATION NO.: -
CONTRACT NO.: -
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GENERAL SITE OVERVIEW PLAN

SHEET ID
GC101

GENERAL SHEET NOTES

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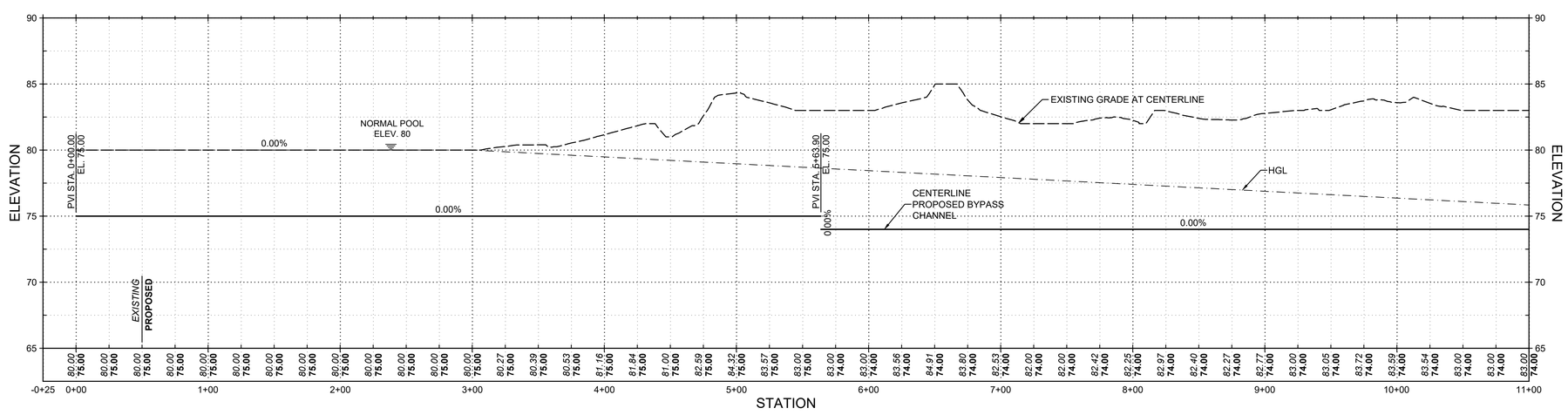
PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



VERTICAL SCALE: 1"=5'

HORIZONTAL SCALE: 1"=50'

US Army Corps of Engineers®

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DESIGNED BY: J. CAPE
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SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
FILE NAME:

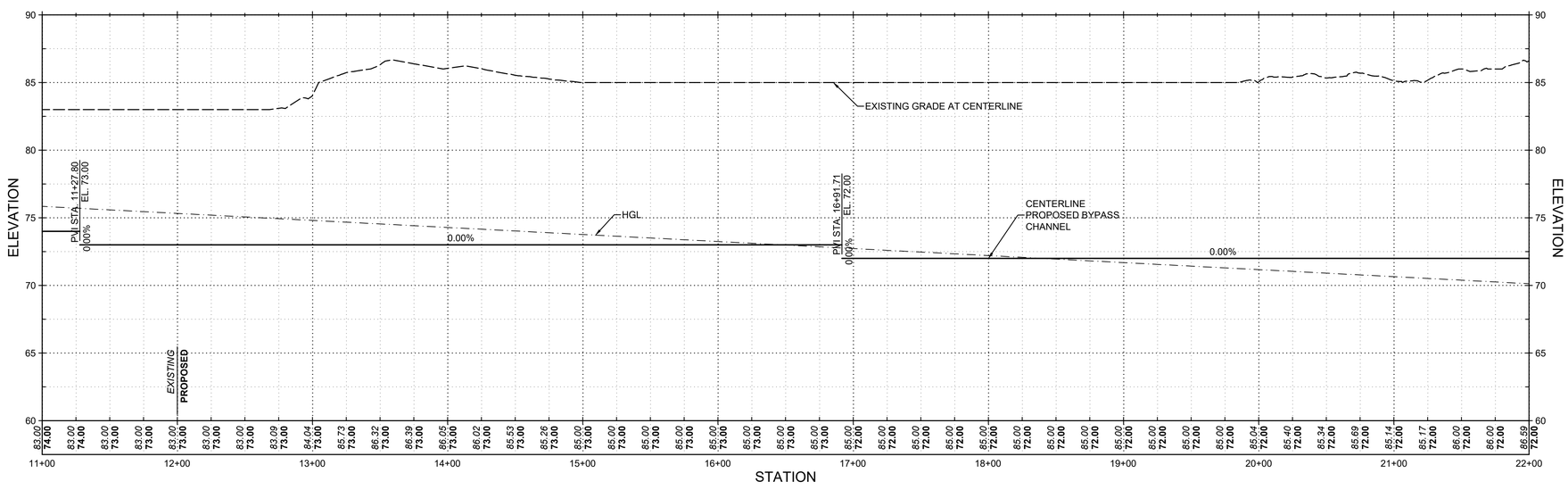
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG101

PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



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US Army Corps of Engineers®

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ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
FILE NAME:

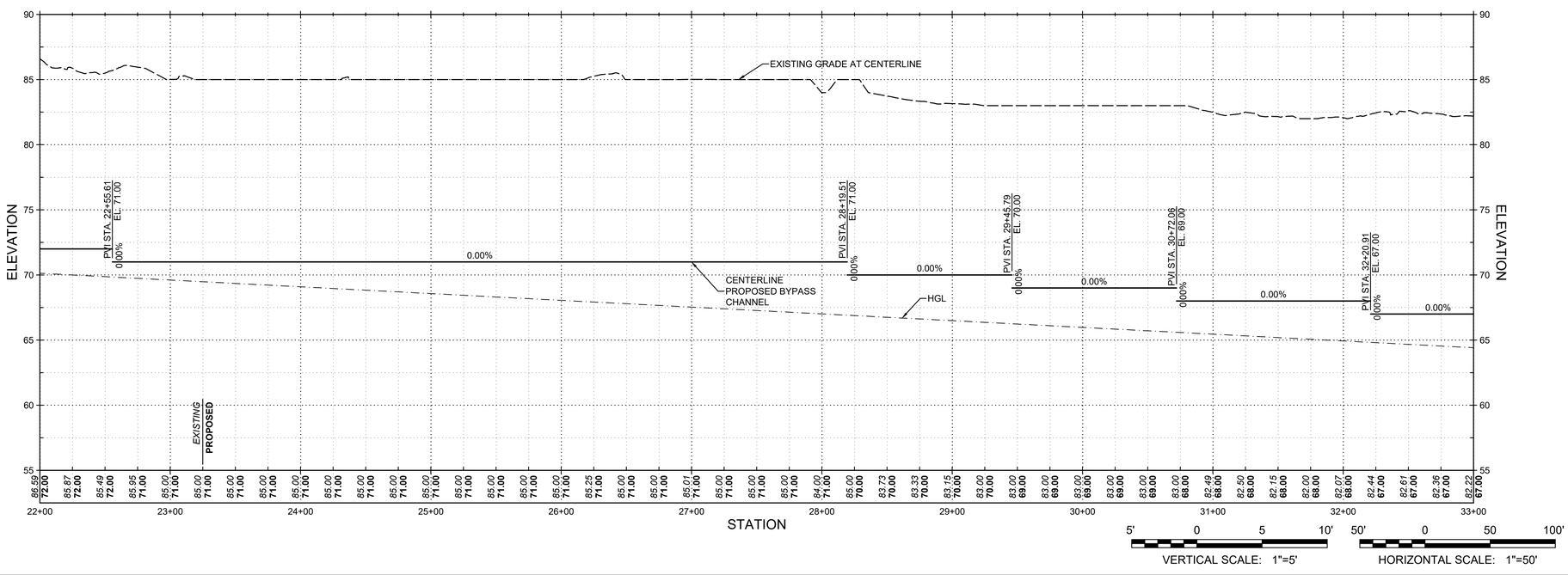
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG102

PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



GENERAL SHEET NOTES

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2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
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8. PROPOSED DISPOSAL SITE.
9. FEDERAL LANDS PROPERTY LINE.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
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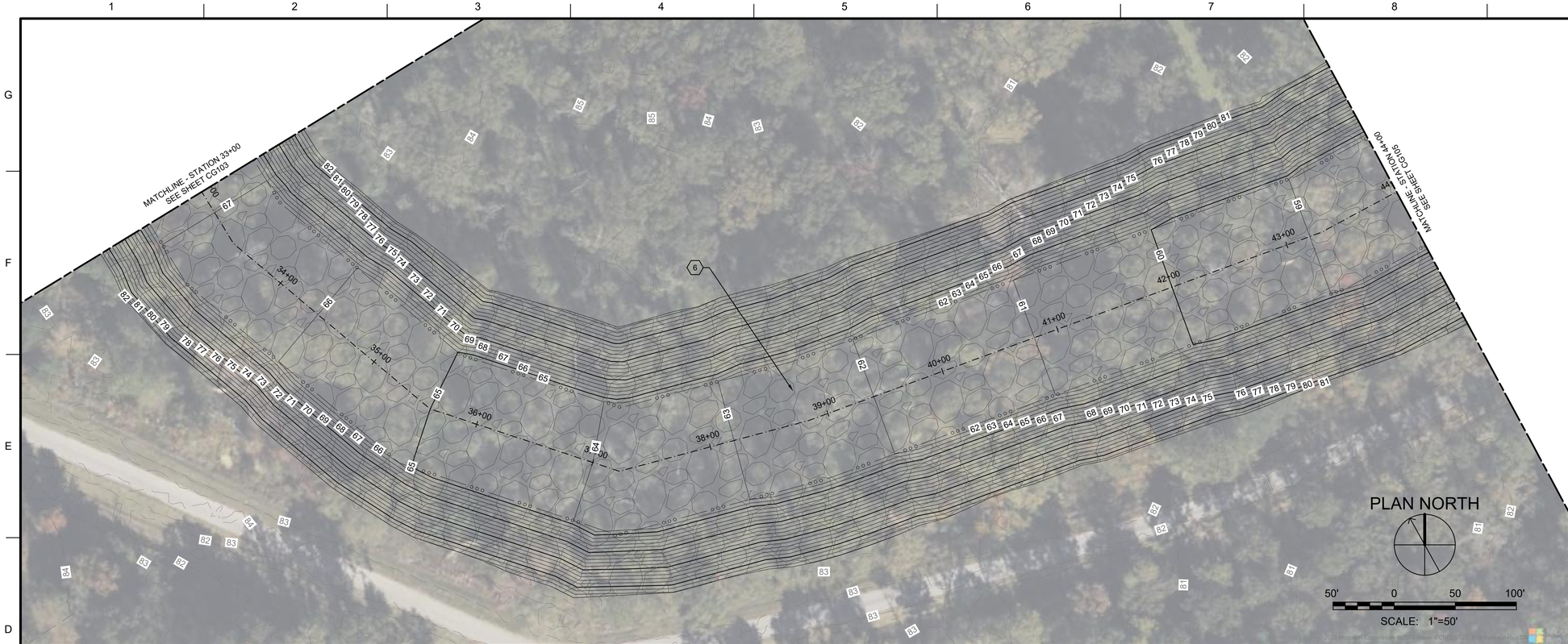
PROJECT NUMBER: CHB22001
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

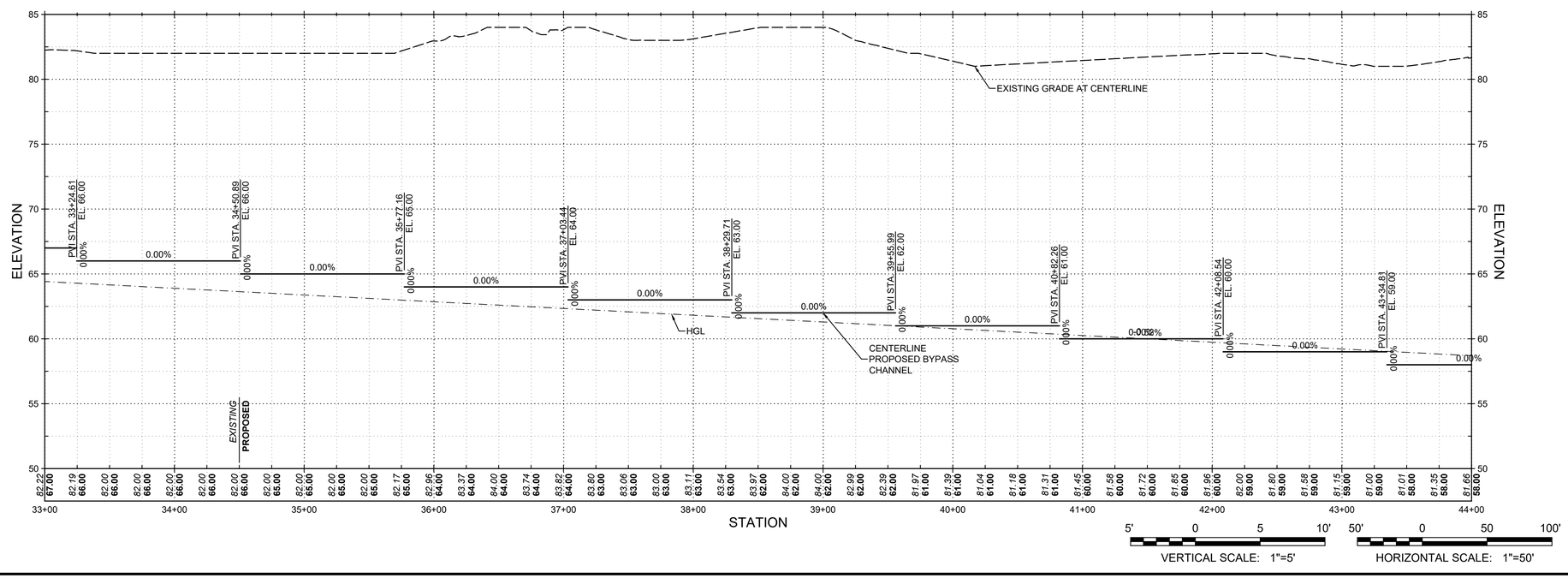
FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG103



PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



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US Army Corps of Engineers®

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DESIGNED BY: J. CAPE
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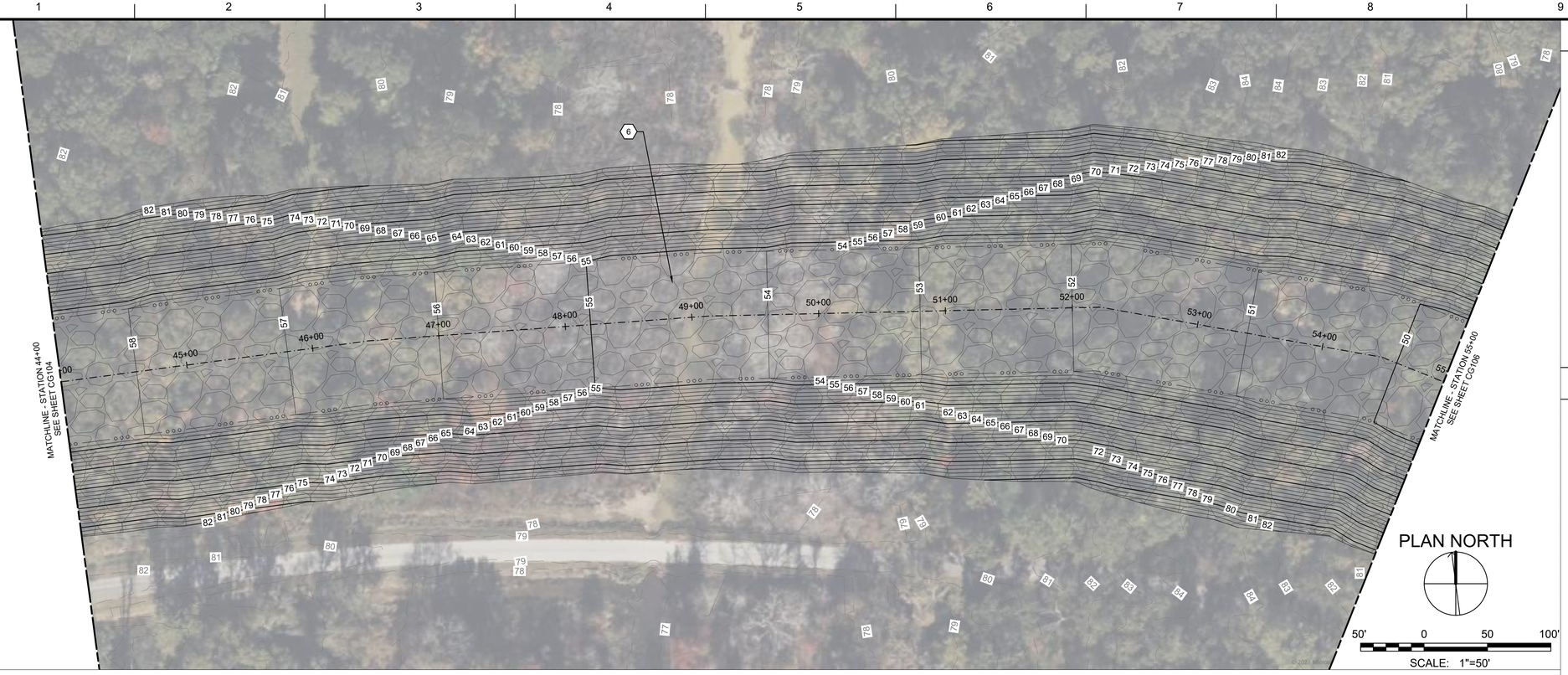
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG104



GENERAL SHEET NOTES

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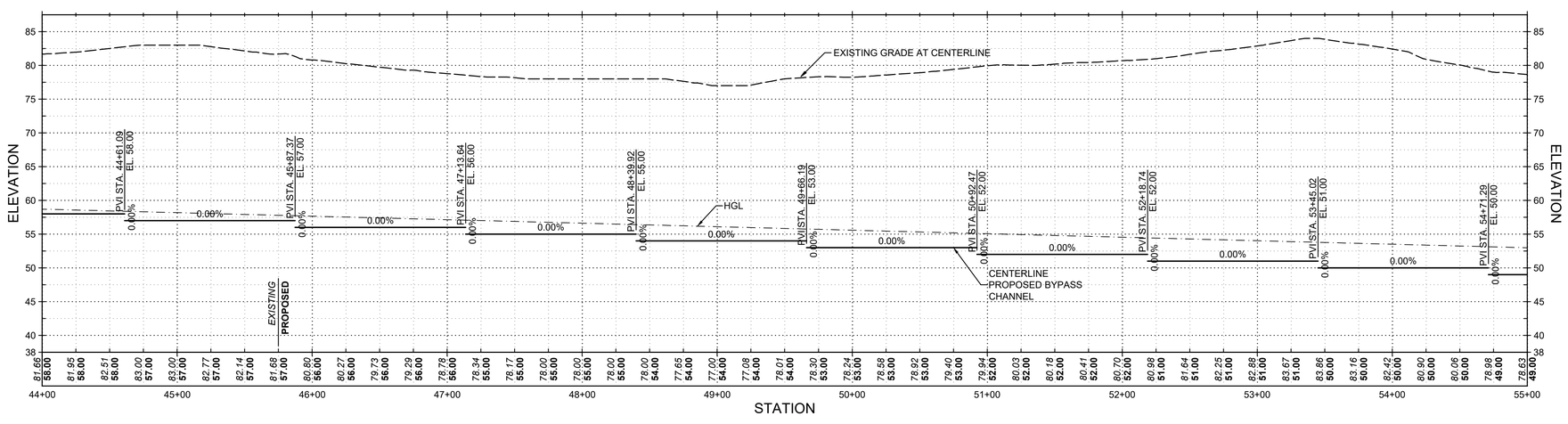
PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



5' 0 5 10'
VERTICAL SCALE: 1"=5'

50' 0 50 100'
HORIZONTAL SCALE: 1"=50'

US Army Corps of Engineers®

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U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG105

GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
5. HORIZONTAL DATUM NAD83 STATE PLANE ALABAMA WEST. VERTICAL DATUM NAVD 88.
6. SURVEY WAS NOT PERFORMED. TOPOGRAPHY AND ELEVATIONS SHOWN ARE BASED ON AUTODESK AND GIS DATA. ACTUAL GEOLOCATED CONDITIONS MAY DIFFER.
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8. FOR MILLER'S FERRY FISH PASSAGE BYPASS CHANNEL TYPICAL SECTIONS, SEE SHEET CG301.
9. FOR MILLER'S FERRY FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG303-CG308.
10. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
11. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.
12. POOL/RIFFLE CONSISTS OF A CONCEPTUAL LEVEL DESIGN USING STEPS IN PLACE OF EVERY ESTIMATED WEIR. THE BED PROFILE FOR EACH POOL IS PLANNED TO BE SLOPED. FURTHER DESIGN OF THE POOL/WEIR DESIGN WILL BE COMPLETED IN THE PRE-ENGINEERING DESIGN PHASE INCLUDING WEIR SIZING, BED SLOPE BETWEEN WEIRS, NUMBER OF WEIRS, ETC.

SHEET KEYNOTES

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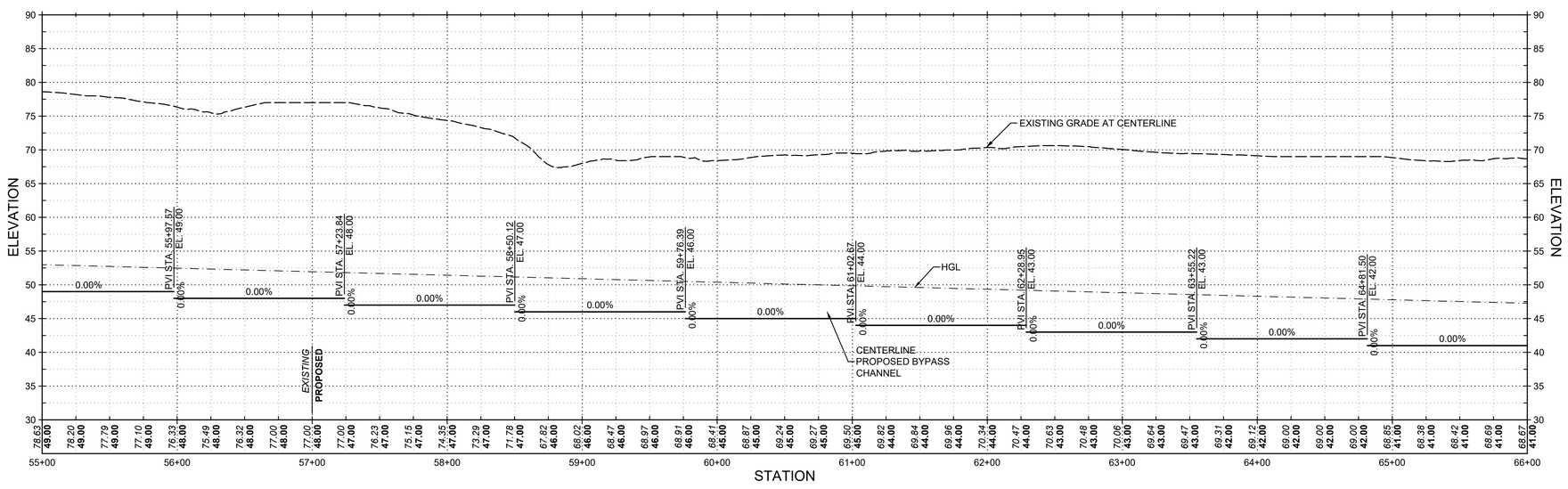
2. PROPOSED GATED BYPASS STRUCTURE. SEE SHEET S-100.
3. PROPOSED COFFERDAM FOR CONSTRUCTION OF BYPASS STRUCTURE. SEE SHEET S-100.
4. PROPOSED PUBLIC BRIDGE. SEE SHEET S-100.
5. CONTRACTOR STAGING AND LAY DOWN AREA.
6. PROPOSED RIP RAP.
7. PROPOSED ACCESS ROAD.
8. PROPOSED DISPOSAL SITE.
9. FEDERAL LANDS PROPERTY LINE.

PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



10' 0 10 20'
VERTICAL SCALE: 1"=10'

50' 0 50 100'
HORIZONTAL SCALE: 1"=50'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG106

PLAN NORTH

50' 0 50 100'

SCALE: 1"=50'

GENERAL SHEET NOTES

1. FOR LOCATION AND VICINITY MAP, SEE SHEET C-001.
2. FOR PROJECT ABBREVIATIONS, SEE SHEET C-002.
3. FOR PROJECT LEGEND, SEE SHEET C-003.
4. FOR PROJECT NOTES, SEE SHEET C-004.
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8. PROPOSED DISPOSAL SITE.
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PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL

10' 0 10 20'

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50' 0 50 100'

HORIZONTAL SCALE: 1"=50'

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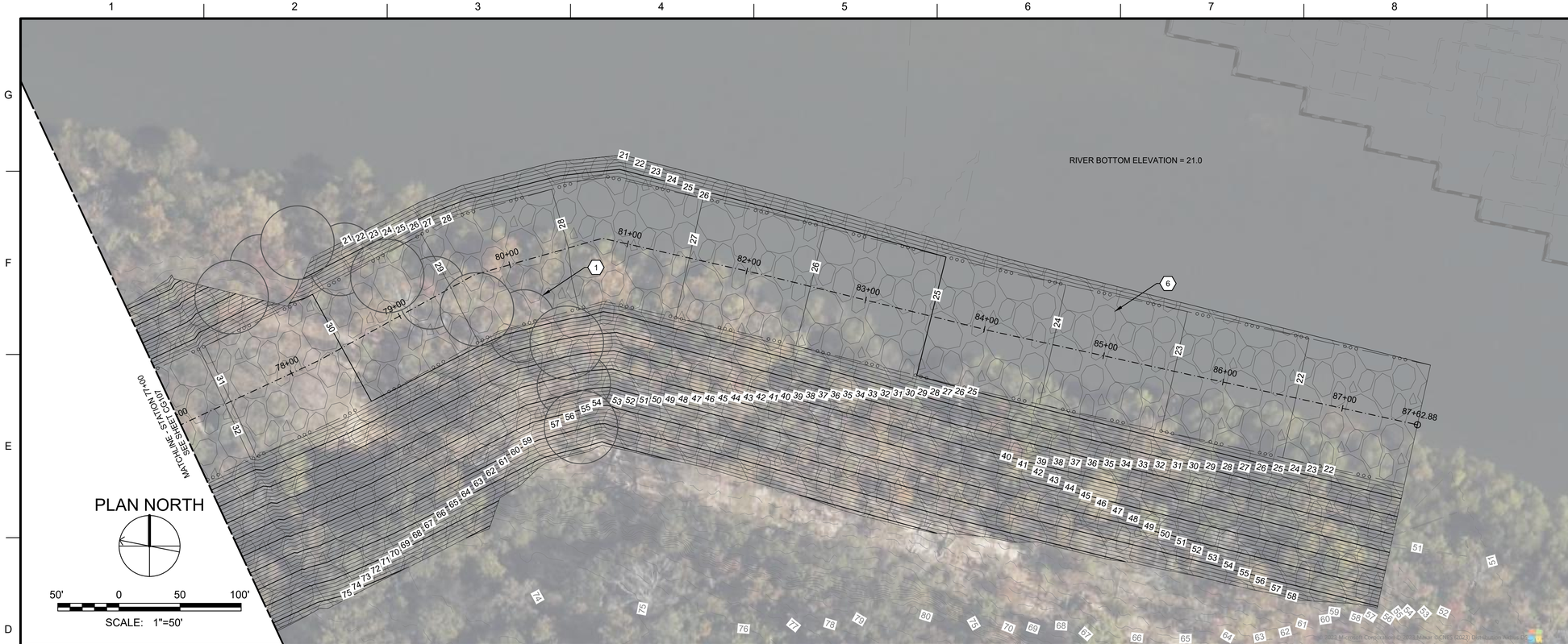
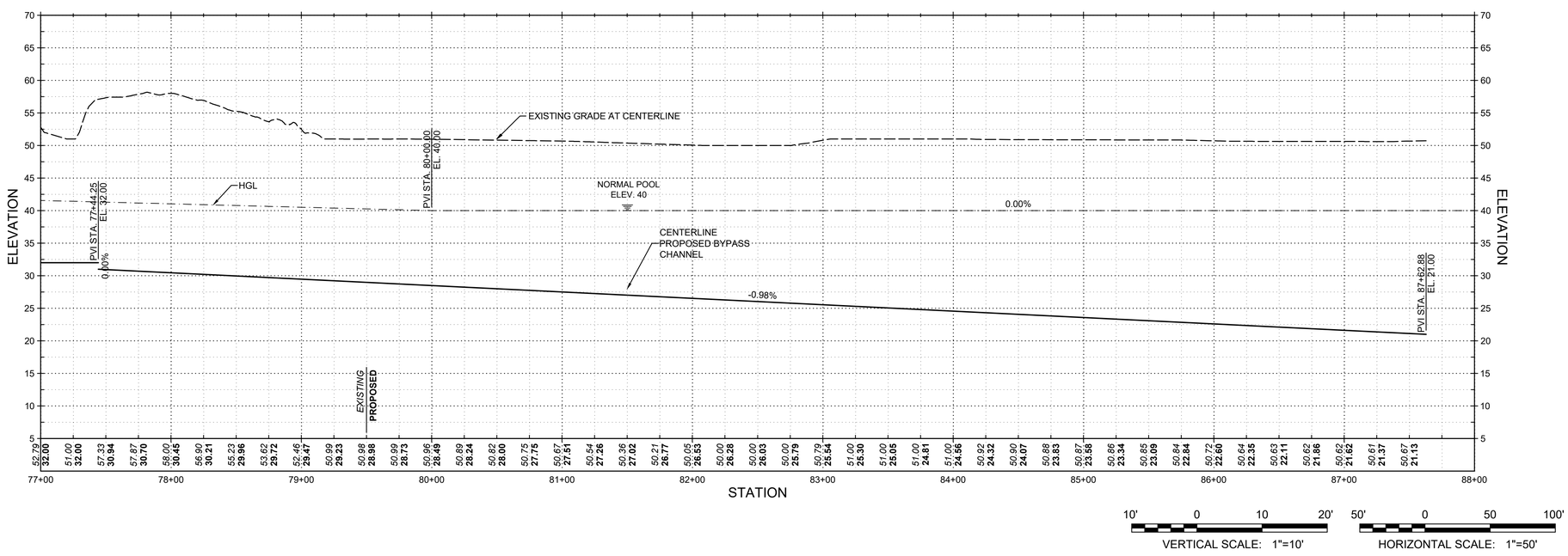
FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG107



PROFILE VIEW OF MILLERS FERRY BYPASS CHANNEL



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9. FOR MILLER'S FERRY FISH PASSAGE BYPASS CHANNEL CROSS SECTIONS, SEE SHEETS CG305-CG310.
10. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
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US Army Corps of Engineers®

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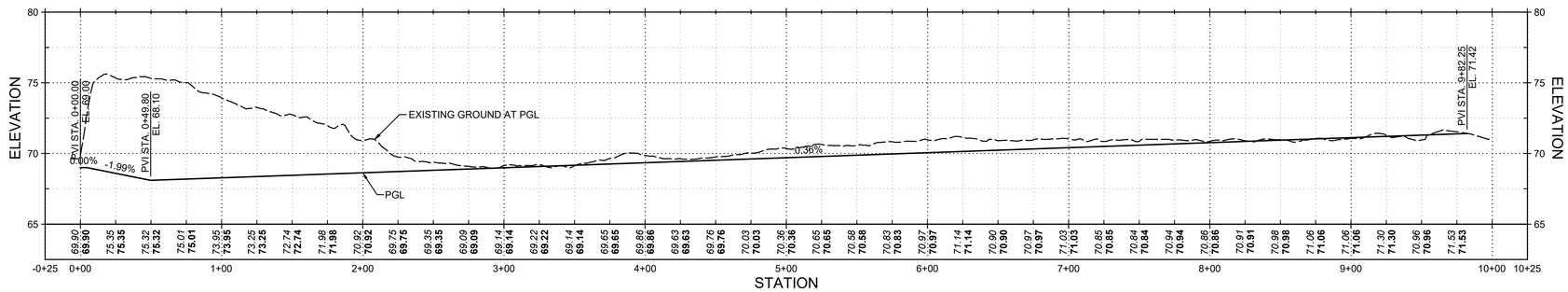
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

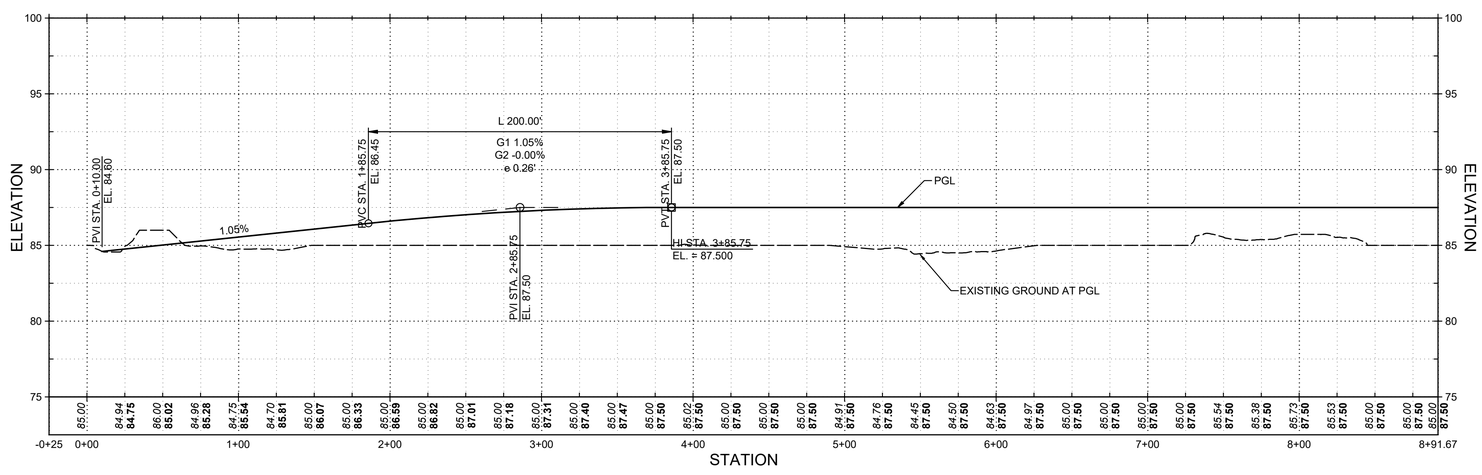
MILLERS FERRY BYPASS CHANNEL
GRADING PLAN AND PROFILE

SHEET ID
CG108

PROFILE VIEW OF MILLERS FERRY EAST ACCESS ROAD CENTERLINE



PROFILE VIEW OF MILLERS FERRY WEST ACCESS ROAD CENTERLINE



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7. FOR ACCESS ROAD PROFILES, SEE SHEETS CG201-CG202.
8. FOR ACCESS ROAD TYPICAL SECTIONS, SEE SHEET CG302.

10' 0 10 20'
VERTICAL SCALE: 1"=10'

50' 0 50 100'
HORIZONTAL SCALE: 1"=50'

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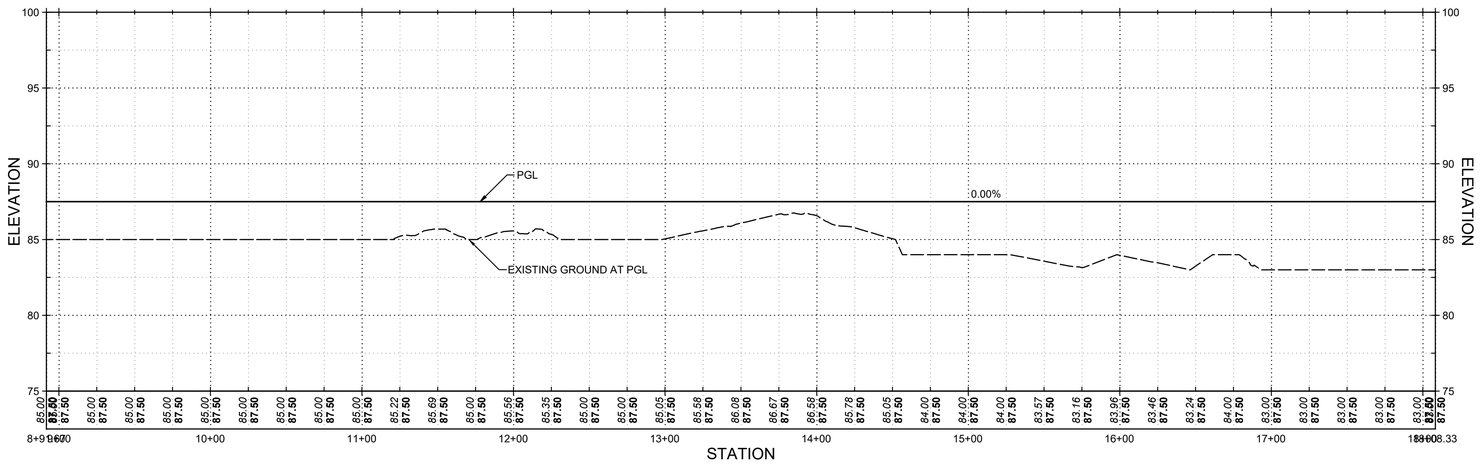
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

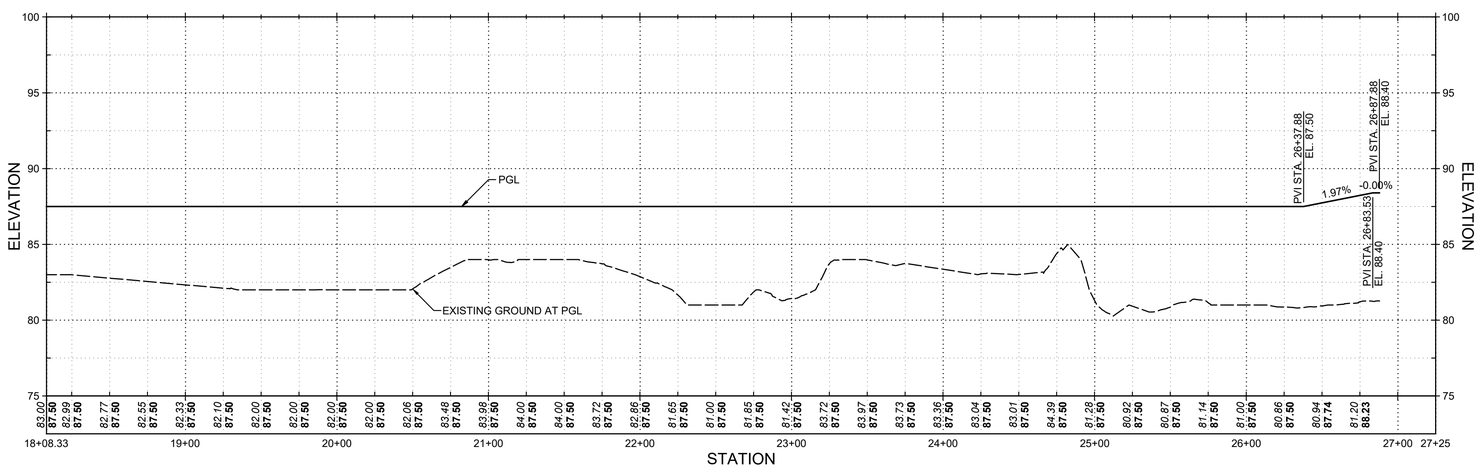
MILLERS FERRY BYPASS CHANNEL
ACCESS ROAD PROFILES

SHEET ID
CG201

PROFILE VIEW OF MILLERS FERRY WEST ACCESS ROAD CENTERLINE



PROFILE VIEW OF MILLERS FERRY WEST ACCESS ROAD CENTERLINE



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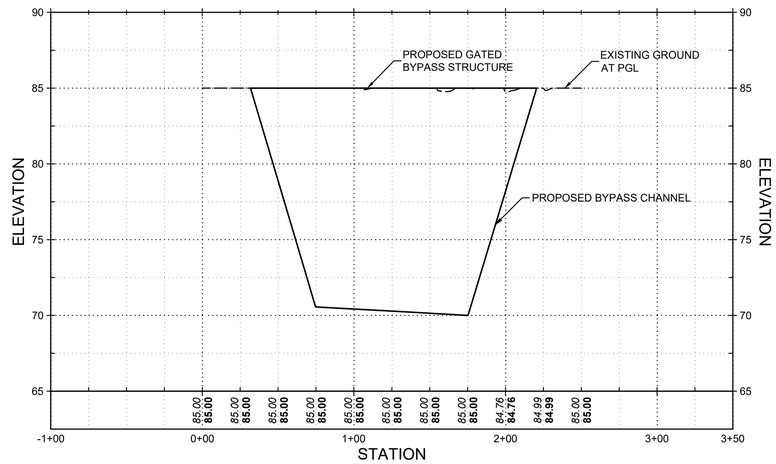
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

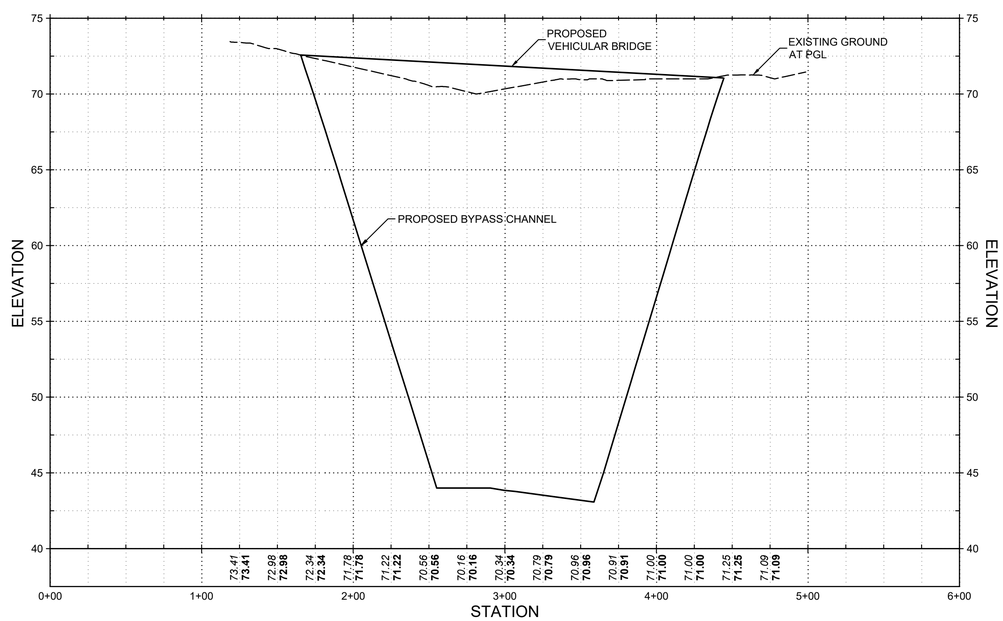
MILLERS FERRY BYPASS CHANNEL
ACCESS ROAD PROFILES

SHEET ID
CG202

PROFILE VIEW OF NORTH BRIDGE



PROFILE VIEW OF SOUTH BRIDGE



GENERAL SHEET NOTES

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10' 0 10 20'
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50' 0 50 100'
HORIZONTAL SCALE: 1"=50'

US Army Corps of Engineers®

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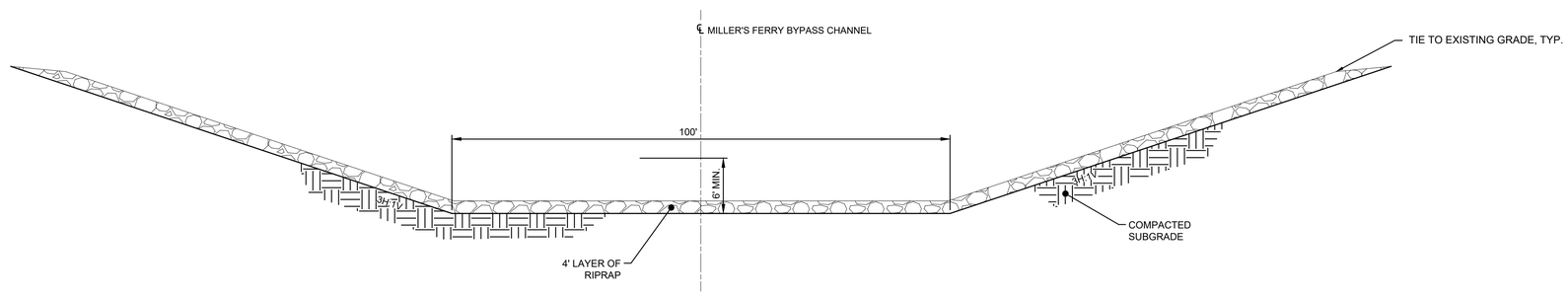
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

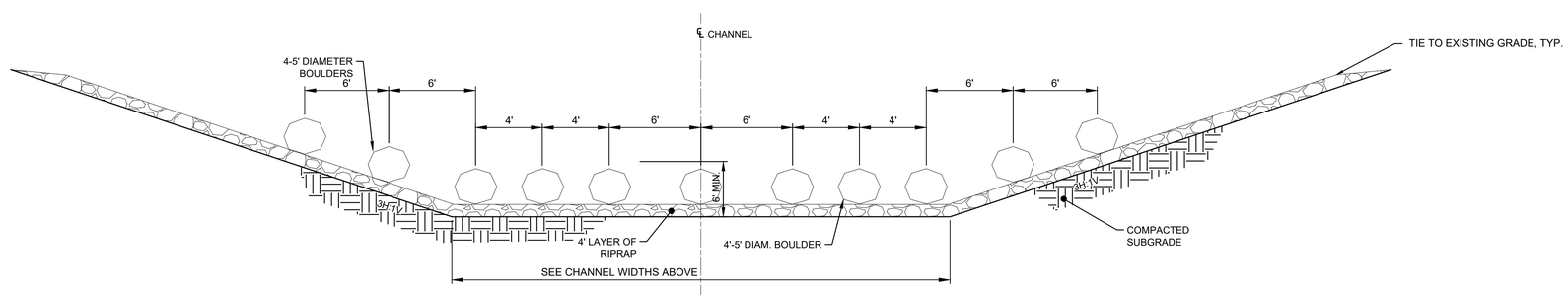
MILLERS FERRY BYPASS CHANNEL
BRIDGE PROFILES

SHEET ID
CG203



C1 MILLER'S FERRY BYPASS CHANNEL TYPICAL SECTION STA. 0+00 TO STA. 87+62.88

SCALE: N.T.S.



A1 POOL RIFFLE TYPICAL SECTION

SCALE: N.T.S.

GENERAL SHEET NOTES

1. BOULDERS SHALL BE PLACED INTO THE TOP OF EACH RIFFLE AND ON THE DOWNSTREAM SLOPE OF EACH RIFFLE AS SHOWN.
2. A 4 FOOT BLANKET OF RIPRAP IS REQUIRED FOR THE ROCK RAMP STRUCTURE ITSELF. ADDITIONAL RIPRAP WILL BE PLACED ALONG EACH RIFFLE TO PROVIDE APPROPRIATE HEIGHT. SLOPES AND LOCATIONS FOR THE BOULDERS TO BE PLACED.
3. POOLS BETWEEN THE RIFFLES SHALL EXTEND APPROXIMATELY 80 FEET FOR CLAIBORNE FISH PASSAGE AND 200 FEET FOR MILLERS FERRY FISH PASSAGE AS A RESTING AREA FOR FISH. SOME EXTRA BOULDERS MAY BE PLACED IN SOME OF THE POOLS TO MANIPULATE VELOCITIES.
4. THE POOLS BETWEEN THE RIFFLES SHALL BE SHALLOWEST ALONG THE EDGES OF THE POOLS, WHILE DROPPING UP TO 1 FOOT WITHIN THE CENTER OF EACH POOL.
5. THE TYPICAL BOULDER PLACEMENT DETAILS SHOWS AN EXAMPLE FOR BOULDER PLACEMENT. IN FINAL DESIGN, FURTHER CALCULATIONS INTO APPROPRIATE BOULDER PLACEMENT WILL BE CONDUCTED TO ENSURE THAT THERE IS A DIVERSITY OF FLOW FOR NUMEROUS FISH SPECIES. AT A MINIMUM, TWO ROWS OF BOULDER OR CLOSER SPACING MAY BE EMPLOYED.
6. LARGE BOULDERS ARE SHOWN IN DRAWING. THESE BOULDERS WILL HAVE APPROXIMATELY A 4-5 FOOT DIAMETER.
7. LARGE RIP RAP (UNDERLYING THE BOULDERS) WILL BE MANIPULATED DURING CONSTRUCTION TO ENSURE THAT THE APPROPRIATE DIVERSITIES OF FLOW ARE AVAILABLE FOR FISH SPECIES.

US Army Corps of Engineers®

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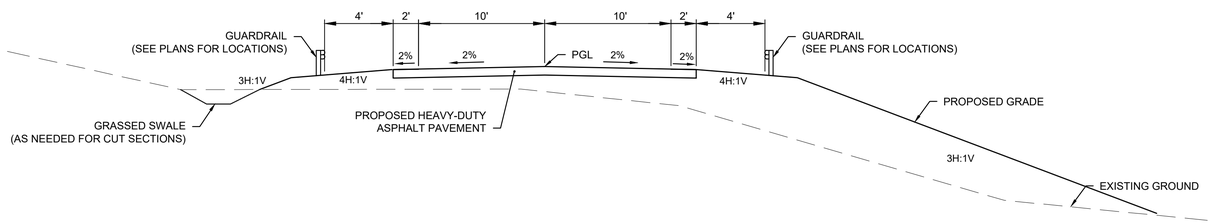
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

TYPICAL SECTIONS

SHEET ID
CG301



D1 ACCESS ROAD TYPICAL SECTION

SCALE: N.T.S.

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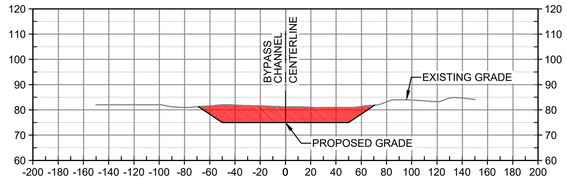
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

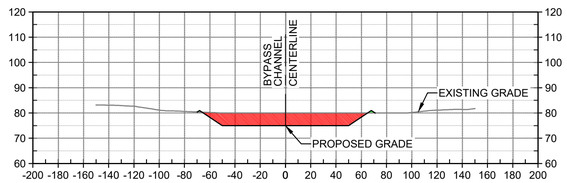
TYPICAL SECTIONS
ACCESS ROADS

SHEET ID
CG302



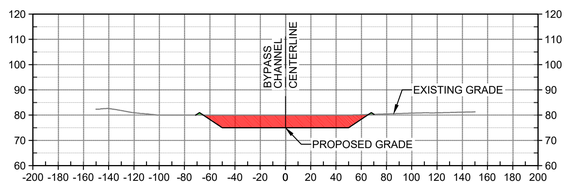
4+00

TOTAL VOLUME STATION 4+00.00	
CUT AREA	761.38 SF
CUMULATIVE CUT VOL	8965.96 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	2479.40 CY
FILL AREA	0.00 SF
FILL VOL	7.79 CY
NET VOL	8911.30 CY



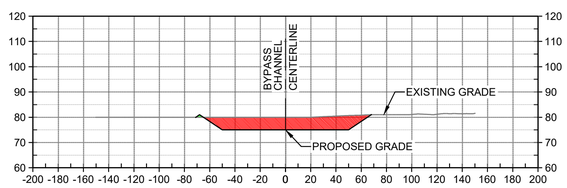
3+00

TOTAL VOLUME STATION 3+00.00	
CUT AREA	577.49 SF
CUMULATIVE CUT VOL	6486.56 CY
CUMULATIVE FILL VOL	46.87 CY
CUT VOL	2137.58 CY
FILL AREA	4.20 SF
FILL VOL	16.22 CY
NET VOL	6439.69 CY



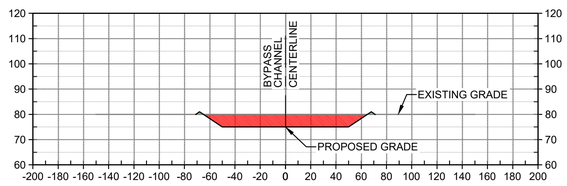
2+00

TOTAL VOLUME STATION 2+00.00	
CUT AREA	576.80 SF
CUMULATIVE CUT VOL	4348.98 CY
CUMULATIVE FILL VOL	30.65 CY
CUT VOL	2176.16 CY
FILL AREA	4.55 SF
FILL VOL	13.99 CY
NET VOL	4318.33 CY



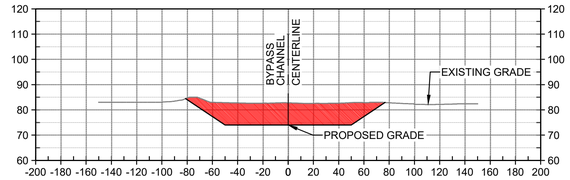
1+00

TOTAL VOLUME STATION 1+00.00	
CUT AREA	598.32 SF
CUMULATIVE CUT VOL	2172.82 CY
CUMULATIVE FILL VOL	16.67 CY
CUT VOL	2172.82 CY
FILL AREA	3.00 SF
FILL VOL	16.67 CY
NET VOL	2156.16 CY



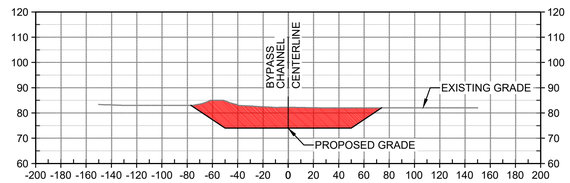
0+00

TOTAL VOLUME STATION 0+00.00	
CUT AREA	575.00 SF
CUMULATIVE CUT VOL	0.00 CY
CUMULATIVE FILL VOL	0.00 CY
CUT VOL	0.00 CY
FILL AREA	6.00 SF
FILL VOL	0.00 CY
NET VOL	0.00 CY



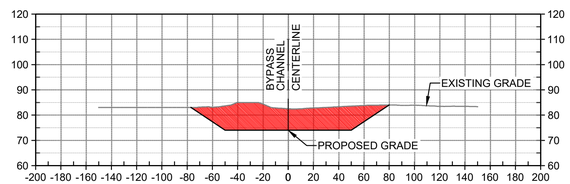
9+00

TOTAL VOLUME STATION 9+00.00	
CUT AREA	1132.75 SF
CUMULATIVE CUT VOL	29154.56 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4128.82 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	29099.91 CY



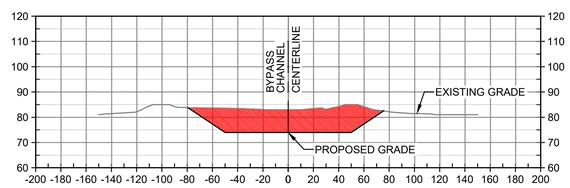
8+00

TOTAL VOLUME STATION 8+00.00	
CUT AREA	1096.82 SF
CUMULATIVE CUT VOL	25025.74 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4248.18 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	24971.08 CY



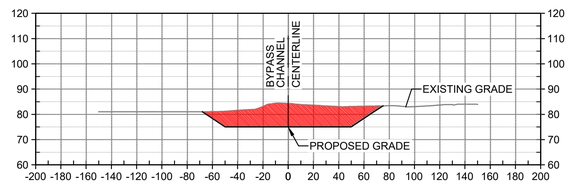
7+00

TOTAL VOLUME STATION 7+00.00	
CUT AREA	1222.45 SF
CUMULATIVE CUT VOL	20777.56 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4531.15 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	20722.90 CY



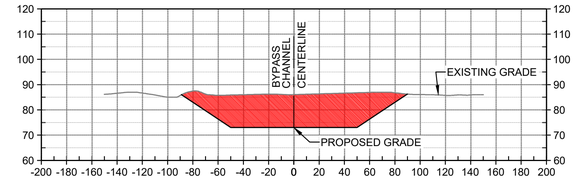
6+00

TOTAL VOLUME STATION 6+00.00	
CUT AREA	1224.37 SF
CUMULATIVE CUT VOL	16246.41 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4068.92 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	16191.75 CY



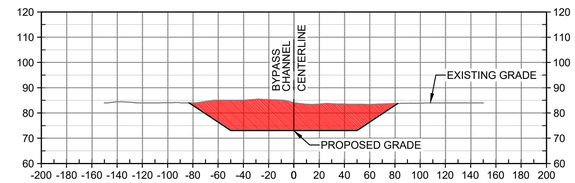
5+00

TOTAL VOLUME STATION 5+00.00	
CUT AREA	972.85 SF
CUMULATIVE CUT VOL	12177.49 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	3211.54 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	12122.84 CY



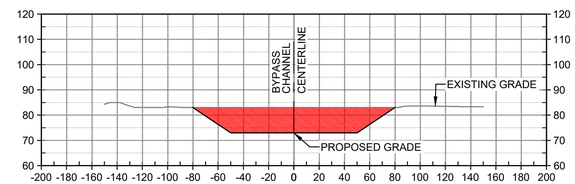
14+00

TOTAL VOLUME STATION 14+00.00	
CUT AREA	1880.05 SF
CUMULATIVE CUT VOL	53874.74 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6262.47 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	53820.08 CY



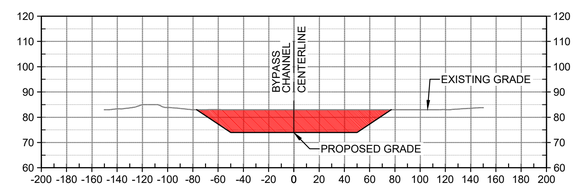
13+00

TOTAL VOLUME STATION 13+00.00	
CUT AREA	1501.68 SF
CUMULATIVE CUT VOL	47612.27 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	5188.30 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	47557.61 CY



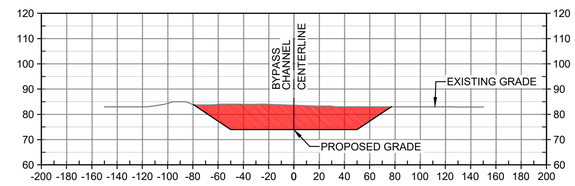
12+00

TOTAL VOLUME STATION 12+00.00	
CUT AREA	1300.00 SF
CUMULATIVE CUT VOL	42423.97 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4524.09 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	42369.32 CY



11+00

TOTAL VOLUME STATION 11+00.00	
CUT AREA	1143.01 SF
CUMULATIVE CUT VOL	37899.88 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4382.16 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	37845.22 CY



10+00

TOTAL VOLUME STATION 10+00.00	
CUT AREA	1223.36 SF
CUMULATIVE CUT VOL	33517.72 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	4363.16 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	33463.06 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

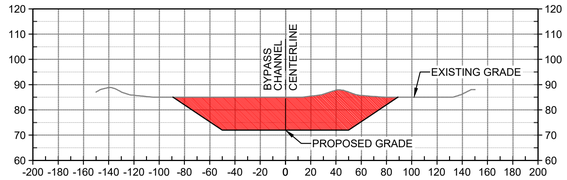
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
SUBMITTED BY:
PROJECT NUMBER: CHB22001
SIZE: ANSI D
FILE NAME: CHB22001-CG303B

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

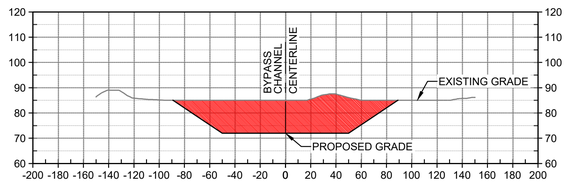
MILLERS FERRY BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG303



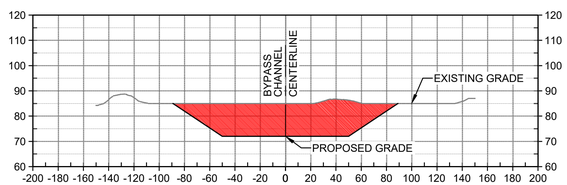
19+00

TOTAL VOLUME STATION 19+00.00	
CUT AREA	1882.35 SF
CUMULATIVE CUT VOL	86825.23 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6948.34 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	86770.58 CY



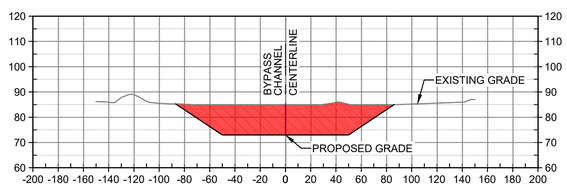
18+00

TOTAL VOLUME STATION 18+00.00	
CUT AREA	1869.76 SF
CUMULATIVE CUT VOL	79876.90 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6885.60 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	79822.24 CY



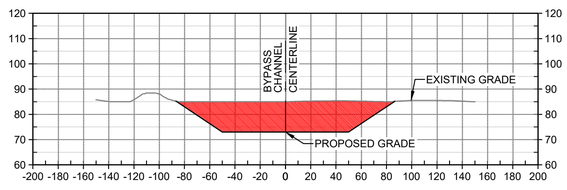
17+00

TOTAL VOLUME STATION 17+00.00	
CUT AREA	1848.47 SF
CUMULATIVE CUT VOL	72991.30 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6471.25 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	72936.64 CY



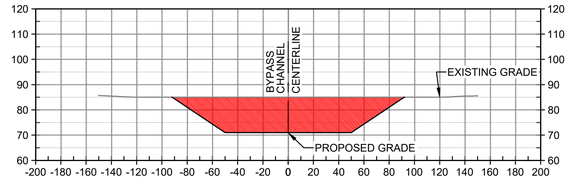
16+00

TOTAL VOLUME STATION 16+00.00	
CUT AREA	1646.01 SF
CUMULATIVE CUT VOL	66520.05 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6107.86 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	66465.39 CY



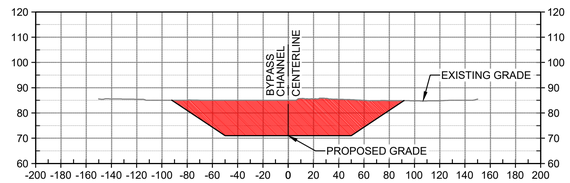
15+00

TOTAL VOLUME STATION 15+00.00	
CUT AREA	1650.17 SF
CUMULATIVE CUT VOL	60412.19 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6537.45 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	60357.53 CY



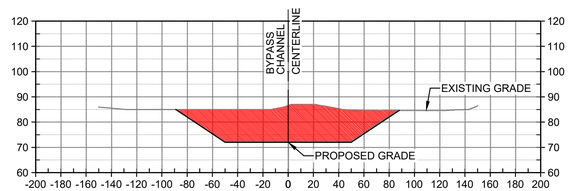
24+00

TOTAL VOLUME STATION 24+00.00	
CUT AREA	1988.00 SF
CUMULATIVE CUT VOL	122049.13 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7408.71 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	121994.48 CY



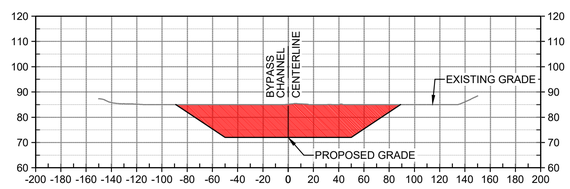
23+00

TOTAL VOLUME STATION 23+00.00	
CUT AREA	2012.71 SF
CUMULATIVE CUT VOL	114640.42 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7186.37 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	114585.76 CY



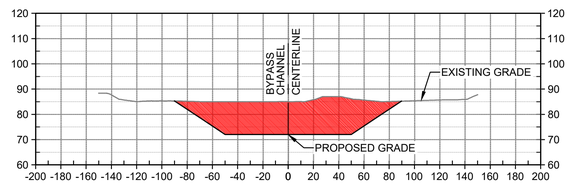
22+00

TOTAL VOLUME STATION 22+00.00	
CUT AREA	1867.93 SF
CUMULATIVE CUT VOL	107454.05 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6815.84 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	107399.39 CY



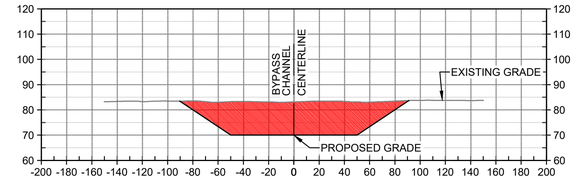
21+00

TOTAL VOLUME STATION 21+00.00	
CUT AREA	1812.62 SF
CUMULATIVE CUT VOL	100638.21 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6841.93 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	100583.55 CY



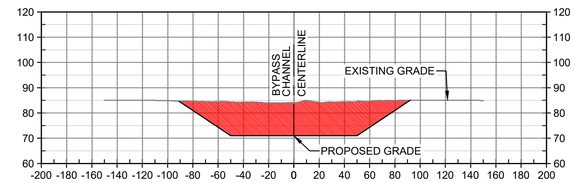
20+00

TOTAL VOLUME STATION 20+00.00	
CUT AREA	1882.02 SF
CUMULATIVE CUT VOL	93796.28 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6971.04 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	93741.62 CY



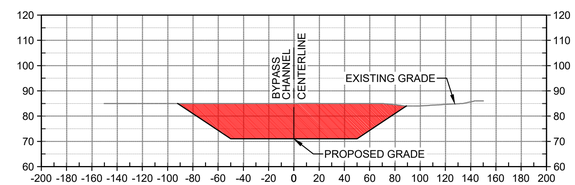
29+00

TOTAL VOLUME STATION 29+00.00	
CUT AREA	1854.38 SF
CUMULATIVE CUT VOL	158228.28 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	6941.10 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	158173.62 CY



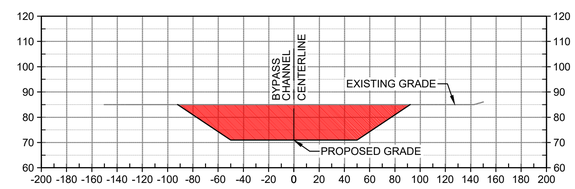
28+00

TOTAL VOLUME STATION 28+00.00	
CUT AREA	1893.31 SF
CUMULATIVE CUT VOL	151287.18 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7168.39 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	151232.52 CY



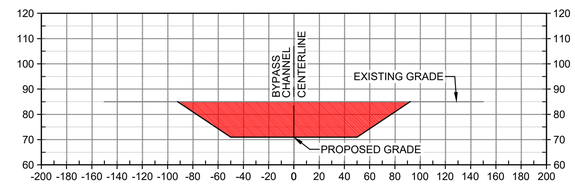
27+00

TOTAL VOLUME STATION 27+00.00	
CUT AREA	1977.62 SF
CUMULATIVE CUT VOL	144118.79 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7343.73 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	144064.14 CY



26+00

TOTAL VOLUME STATION 26+00.00	
CUT AREA	1988.00 SF
CUMULATIVE CUT VOL	136775.06 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7362.96 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	136720.40 CY



25+00

TOTAL VOLUME STATION 25+00.00	
CUT AREA	1988.00 SF
CUMULATIVE CUT VOL	129412.10 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7362.96 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	129357.44 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

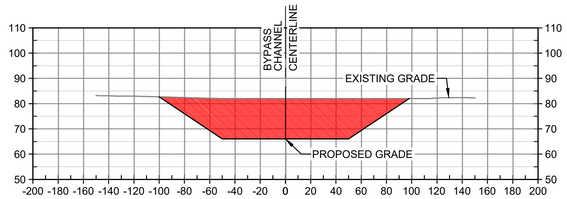
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001
FILE NAME: CHB22001-CG304B

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

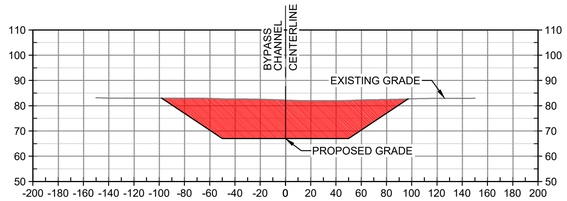
MILLERS FERRY BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG304



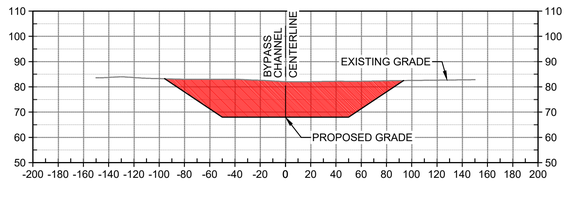
34+00

TOTAL VOLUME STATION 34+00.00	
CUT AREA	2383.93 SF
CUMULATIVE CUT VOL	197436.02 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	8590.17 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	197381.36 CY



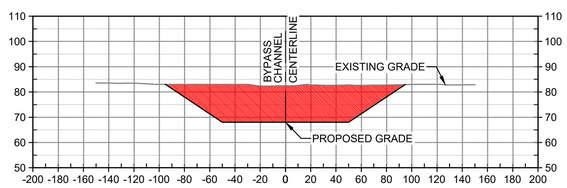
33+00

TOTAL VOLUME STATION 33+00.00	
CUT AREA	2267.47 SF
CUMULATIVE CUT VOL	188845.85 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	8060.85 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	188791.20 CY



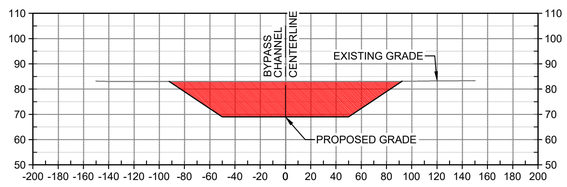
32+00

TOTAL VOLUME STATION 32+00.00	
CUT AREA	2085.39 SF
CUMULATIVE CUT VOL	180785.01 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7811.39 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	180730.35 CY



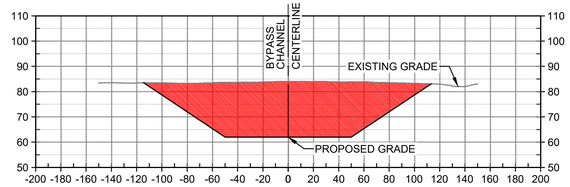
31+00

TOTAL VOLUME STATION 31+00.00	
CUT AREA	2132.76 SF
CUMULATIVE CUT VOL	172973.62 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7627.64 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	172918.96 CY



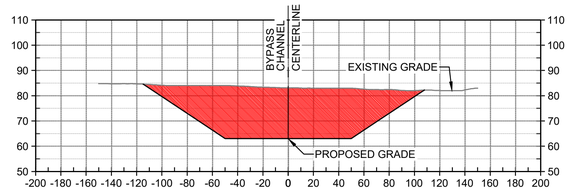
30+00

TOTAL VOLUME STATION 30+00.00	
CUT AREA	1989.18 SF
CUMULATIVE CUT VOL	165345.98 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	7117.70 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	165291.32 CY



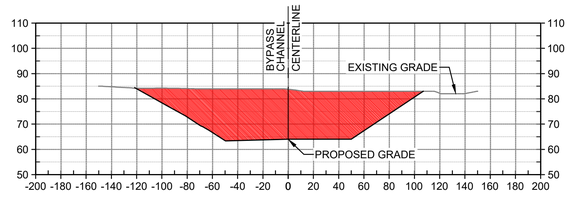
39+00

TOTAL VOLUME STATION 39+00.00	
CUT AREA	3568.57 SF
CUMULATIVE CUT VOL	252631.23 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	12627.03 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	252576.48 CY



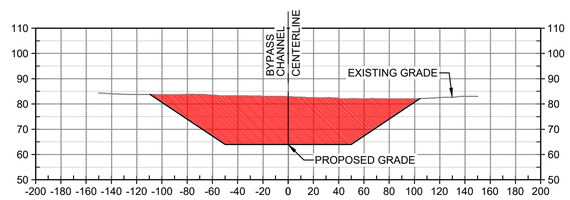
38+00

TOTAL VOLUME STATION 38+00.00	
CUT AREA	3258.26 SF
CUMULATIVE CUT VOL	240004.21 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	11716.75 CY
FILL AREA	0.00 SF
FILL VOL	0.02 CY
NET VOL	239949.45 CY



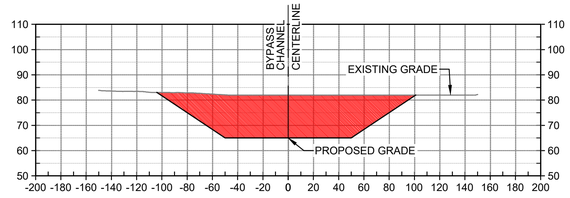
37+00

TOTAL VOLUME STATION 37+00.00	
CUT AREA	3219.25 SF
CUMULATIVE CUT VOL	228287.46 CY
CUMULATIVE FILL VOL	54.74 CY
CUT VOL	11416.09 CY
FILL AREA	0.04 SF
FILL VOL	0.08 CY
NET VOL	228232.72 CY



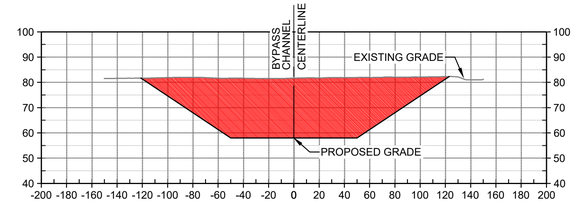
36+00

TOTAL VOLUME STATION 36+00.00	
CUT AREA	2945.44 SF
CUMULATIVE CUT VOL	216871.37 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	10197.15 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	216816.71 CY



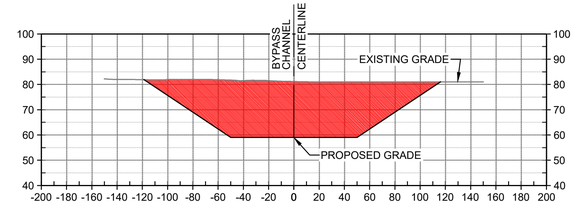
35+00

TOTAL VOLUME STATION 35+00.00	
CUT AREA	2604.70 SF
CUMULATIVE CUT VOL	206674.22 CY
CUMULATIVE FILL VOL	54.66 CY
CUT VOL	9238.20 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	206619.56 CY



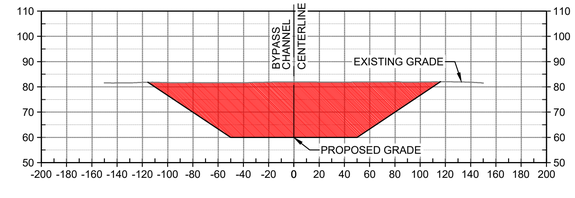
44+00

TOTAL VOLUME STATION 44+00.00	
CUT AREA	4091.51 SF
CUMULATIVE CUT VOL	319111.65 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	14491.40 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	319056.89 CY



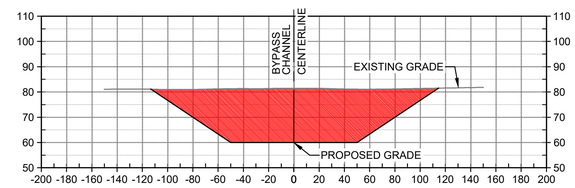
43+00

TOTAL VOLUME STATION 43+00.00	
CUT AREA	3739.34 SF
CUMULATIVE CUT VOL	304620.25 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	13616.16 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	304565.49 CY



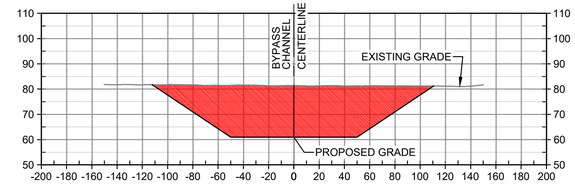
42+00

TOTAL VOLUME STATION 42+00.00	
CUT AREA	3613.39 SF
CUMULATIVE CUT VOL	291004.09 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	13130.62 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	290949.33 CY



41+00

TOTAL VOLUME STATION 41+00.00	
CUT AREA	3477.14 SF
CUMULATIVE CUT VOL	277873.47 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	12536.46 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	277818.71 CY



40+00

TOTAL VOLUME STATION 40+00.00	
CUT AREA	3292.55 SF
CUMULATIVE CUT VOL	265337.01 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	12705.77 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	265282.25 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

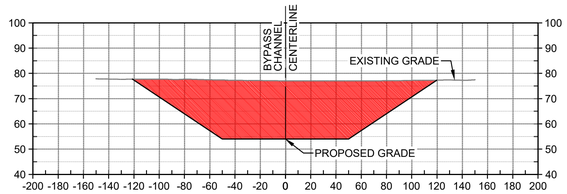
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-CG305B
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

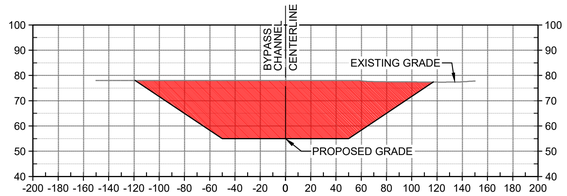
MILLERS FERRY BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG305



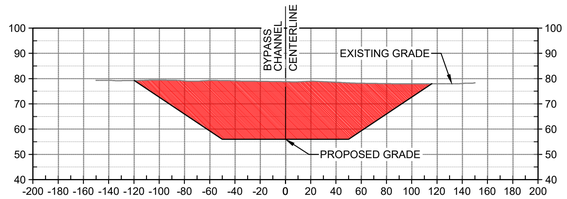
49+00

TOTAL VOLUME STATION 49+00.00	
CUT AREA	3944.93 SF
CUMULATIVE CUT VOL	395258.37 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	14450.48 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	395203.61 CY



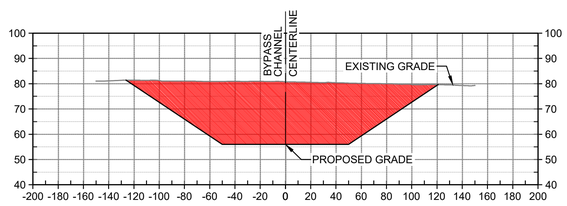
48+00

TOTAL VOLUME STATION 48+00.00	
CUT AREA	3858.33 SF
CUMULATIVE CUT VOL	380807.89 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	14227.48 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	380753.13 CY



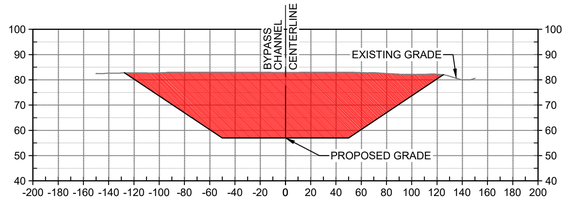
47+00

TOTAL VOLUME STATION 47+00.00	
CUT AREA	3824.51 SF
CUMULATIVE CUT VOL	366580.40 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15017.24 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	366525.64 CY



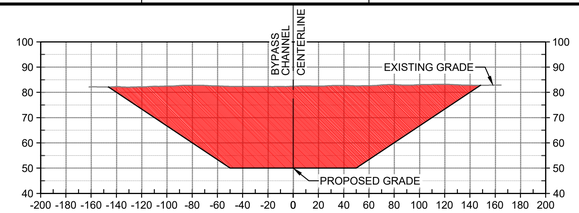
46+00

TOTAL VOLUME STATION 46+00.00	
CUT AREA	4274.89 SF
CUMULATIVE CUT VOL	351563.16 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	16395.55 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	351508.40 CY



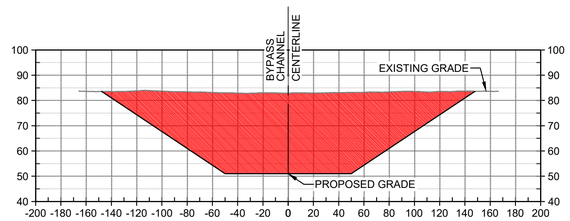
45+00

TOTAL VOLUME STATION 45+00.00	
CUT AREA	4578.71 SF
CUMULATIVE CUT VOL	335167.61 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	16055.96 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	335112.85 CY



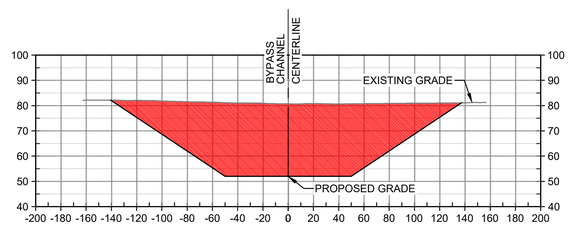
54+00

TOTAL VOLUME STATION 54+00.00	
CUT AREA	6452.24 SF
CUMULATIVE CUT VOL	493879.14 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	23738.13 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	493824.38 CY



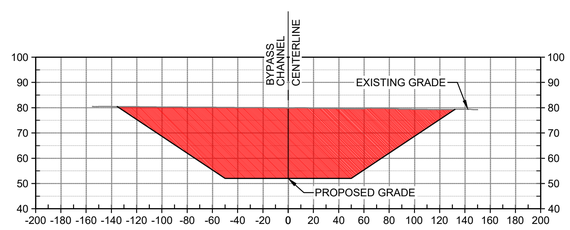
53+00

TOTAL VOLUME STATION 53+00.00	
CUT AREA	6366.35 SF
CUMULATIVE CUT VOL	470141.01 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	21928.40 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	470086.25 CY



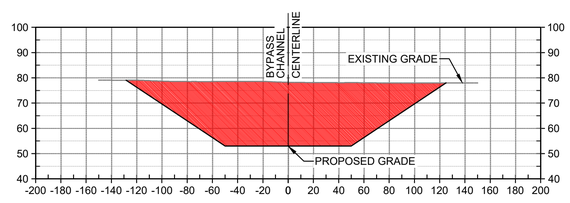
52+00

TOTAL VOLUME STATION 52+00.00	
CUT AREA	5458.71 SF
CUMULATIVE CUT VOL	448212.61 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	19611.58 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	448157.85 CY



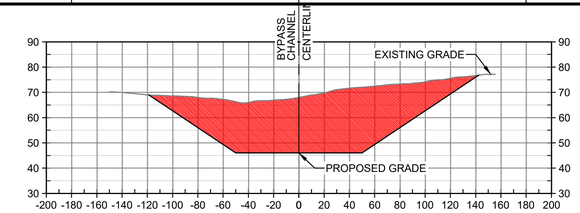
51+00

TOTAL VOLUME STATION 51+00.00	
CUT AREA	5131.54 SF
CUMULATIVE CUT VOL	428601.03 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	17766.02 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	428546.27 CY



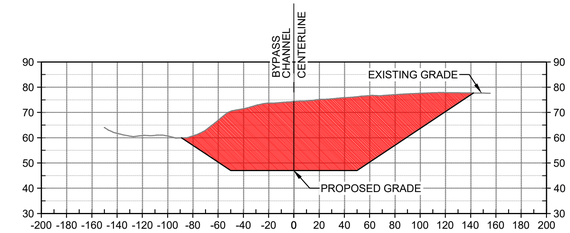
50+00

TOTAL VOLUME STATION 50+00.00	
CUT AREA	4462.11 SF
CUMULATIVE CUT VOL	410835.01 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15576.64 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	410780.25 CY



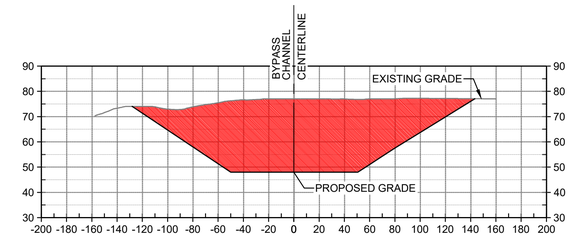
59+00

TOTAL VOLUME STATION 59+00.00	
CUT AREA	4163.14 SF
CUMULATIVE CUT VOL	589079.16 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15869.37 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	589024.40 CY



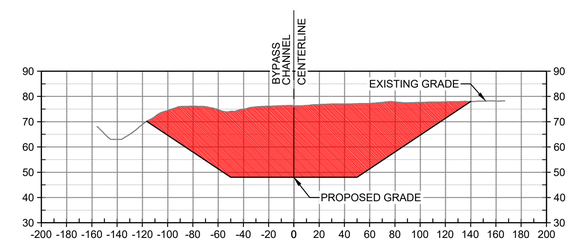
58+00

TOTAL VOLUME STATION 58+00.00	
CUT AREA	4497.00 SF
CUMULATIVE CUT VOL	573209.79 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	17477.79 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	573155.03 CY



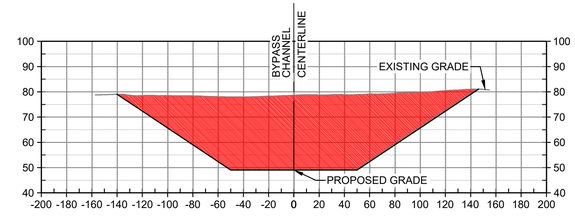
57+00

TOTAL VOLUME STATION 57+00.00	
CUT AREA	5265.41 SF
CUMULATIVE CUT VOL	555732.00 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	19351.50 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	555677.24 CY



56+00

TOTAL VOLUME STATION 56+00.00	
CUT AREA	5184.40 SF
CUMULATIVE CUT VOL	536380.50 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	20115.30 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	536325.74 CY



55+00

TOTAL VOLUME STATION 55+00.00	
CUT AREA	5677.86 SF
CUMULATIVE CUT VOL	516265.20 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	22386.06 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	516210.44 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

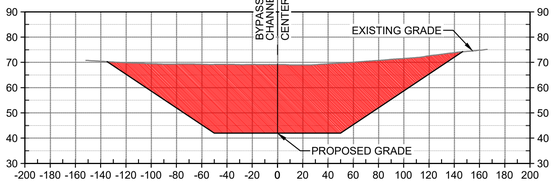
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-CG306B
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

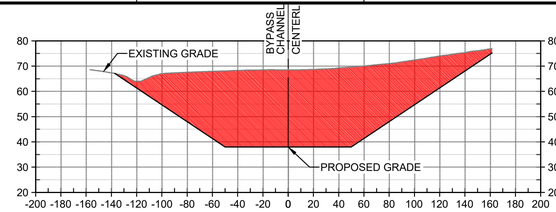
MILLERS FERRY BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG306



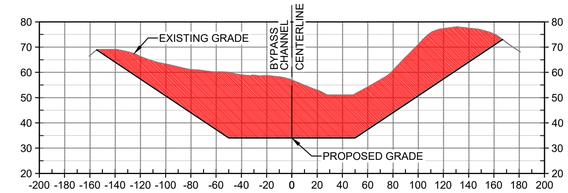
64+00

TOTAL VOLUME STATION 64+00.00	
CUT AREA	5159.90 SF
CUMULATIVE CUT VOL	674940.63 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	18792.16 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	674885.87 CY



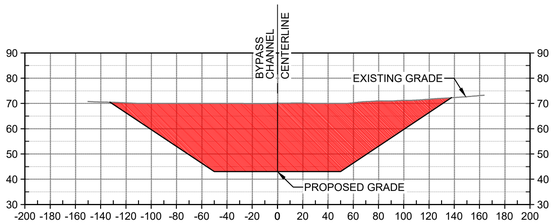
69+00

TOTAL VOLUME STATION 69+00.00	
CUT AREA	6127.64 SF
CUMULATIVE CUT VOL	779018.52 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	22257.58 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	778963.76 CY



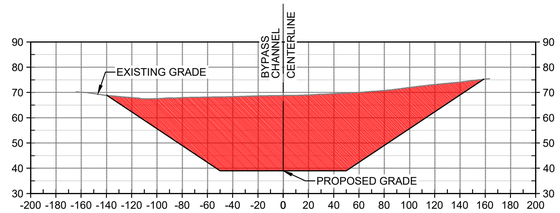
74+00

TOTAL VOLUME STATION 74+00.00	
CUT AREA	5338.46 SF
CUMULATIVE CUT VOL	866543.48 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	18101.39 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	866488.72 CY



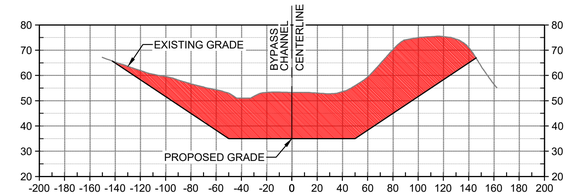
63+00

TOTAL VOLUME STATION 63+00.00	
CUT AREA	4987.87 SF
CUMULATIVE CUT VOL	656148.47 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	18176.14 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	656093.71 CY



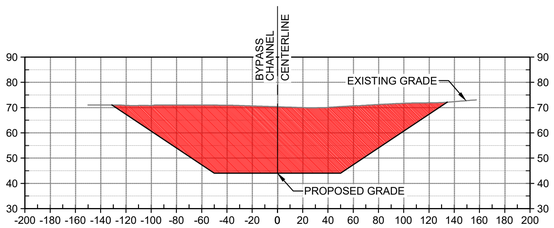
68+00

TOTAL VOLUME STATION 68+00.00	
CUT AREA	5891.45 SF
CUMULATIVE CUT VOL	756760.94 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	21486.09 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	756706.18 CY



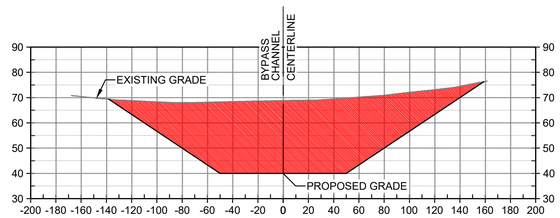
73+00

TOTAL VOLUME STATION 73+00.00	
CUT AREA	4436.29 SF
CUMULATIVE CUT VOL	848442.09 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	14107.87 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	848387.33 CY



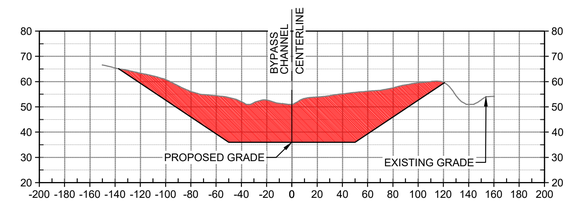
62+00

TOTAL VOLUME STATION 62+00.00	
CUT AREA	4857.01 SF
CUMULATIVE CUT VOL	637972.33 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	17093.91 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	637917.57 CY



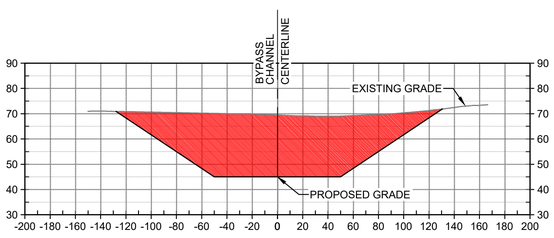
67+00

TOTAL VOLUME STATION 67+00.00	
CUT AREA	5653.25 SF
CUMULATIVE CUT VOL	735274.85 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	20478.47 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	735220.09 CY



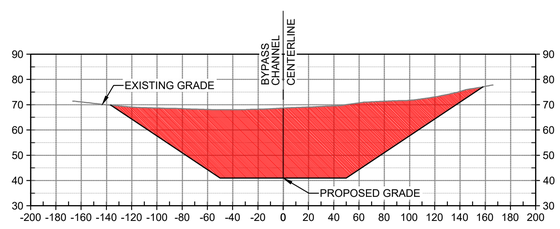
72+00

TOTAL VOLUME STATION 72+00.00	
CUT AREA	3181.96 SF
CUMULATIVE CUT VOL	834334.22 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	13642.32 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	834279.46 CY



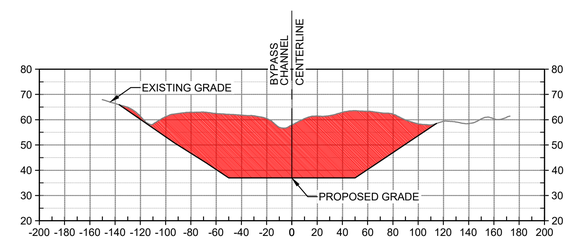
61+00

TOTAL VOLUME STATION 61+00.00	
CUT AREA	4374.76 SF
CUMULATIVE CUT VOL	620878.42 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	16079.42 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	620823.66 CY



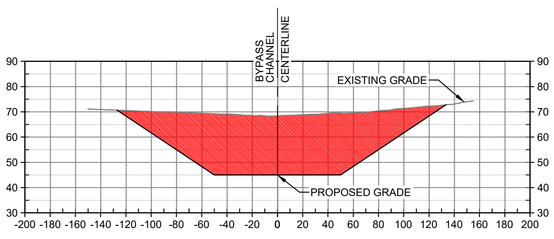
66+00

TOTAL VOLUME STATION 66+00.00	
CUT AREA	5405.12 SF
CUMULATIVE CUT VOL	714796.38 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	20141.06 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	714741.62 CY



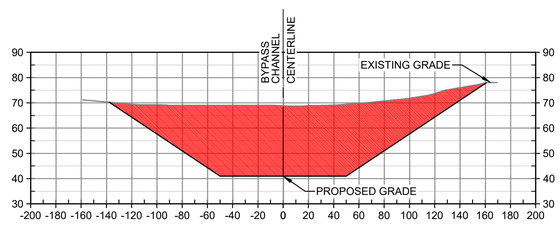
71+00

TOTAL VOLUME STATION 71+00.00	
CUT AREA	4184.90 SF
CUMULATIVE CUT VOL	820691.90 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	18812.83 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	820637.14 CY



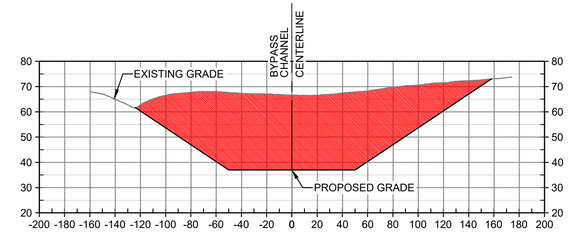
60+00

TOTAL VOLUME STATION 60+00.00	
CUT AREA	4325.58 SF
CUMULATIVE CUT VOL	604799.00 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15719.84 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	604744.24 CY



65+00

TOTAL VOLUME STATION 65+00.00	
CUT AREA	5486.04 SF
CUMULATIVE CUT VOL	694655.33 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	19714.70 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	694600.57 CY



70+00

TOTAL VOLUME STATION 70+00.00	
CUT AREA	5974.03 SF
CUMULATIVE CUT VOL	801879.07 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	22860.56 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	801824.31 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

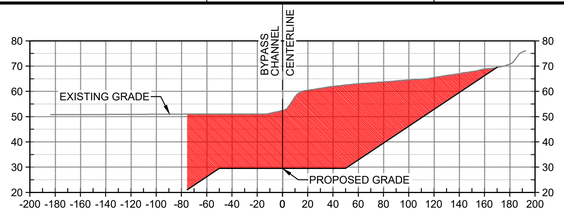
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-CG307B
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

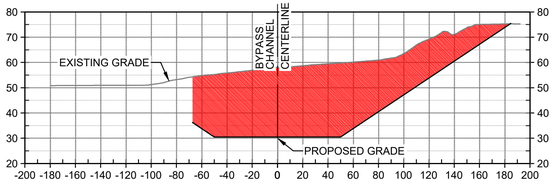
MILLERS FERRY BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG307



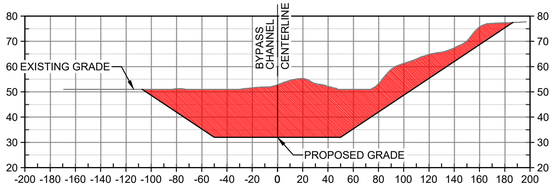
79+00

TOTAL VOLUME STATION 79+00.00	
CUT AREA	5166.77 SF
CUMULATIVE CUT VOL	960502.09 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	19421.68 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	960447.33 CY



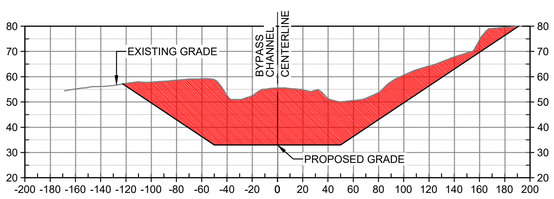
78+00

TOTAL VOLUME STATION 78+00.00	
CUT AREA	5102.02 SF
CUMULATIVE CUT VOL	941080.41 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	16587.74 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	941025.65 CY



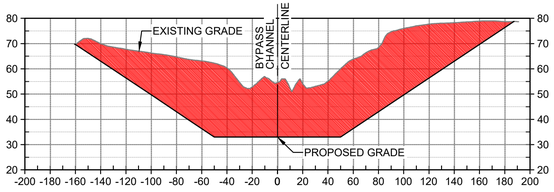
77+00

TOTAL VOLUME STATION 77+00.00	
CUT AREA	3855.36 SF
CUMULATIVE CUT VOL	924492.68 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15570.78 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	924437.92 CY



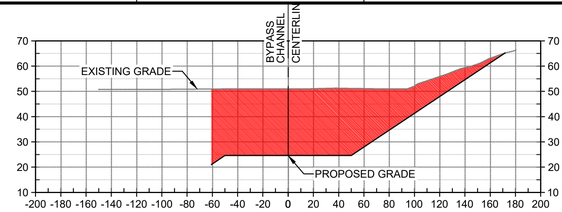
76+00

TOTAL VOLUME STATION 76+00.00	
CUT AREA	4183.41 SF
CUMULATIVE CUT VOL	908921.90 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	19836.16 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	908867.14 CY



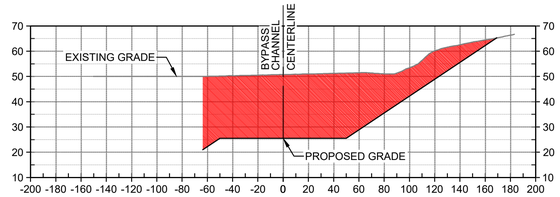
75+00

TOTAL VOLUME STATION 75+00.00	
CUT AREA	6528.12 SF
CUMULATIVE CUT VOL	889085.74 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	22542.26 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	889030.98 CY



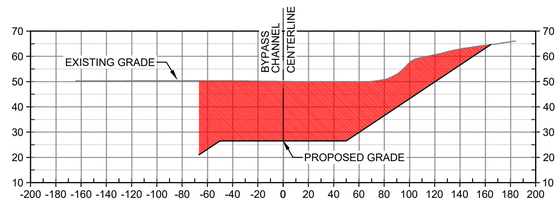
84+00

TOTAL VOLUME STATION 84+00.00	
CUT AREA	4255.87 SF
CUMULATIVE CUT VOL	1038358.70 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15805.59 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1038303.94 CY



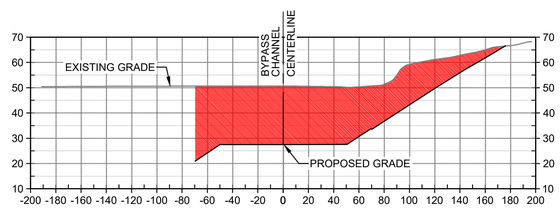
83+00

TOTAL VOLUME STATION 83+00.00	
CUT AREA	4279.14 SF
CUMULATIVE CUT VOL	1022553.11 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15515.59 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1022498.35 CY



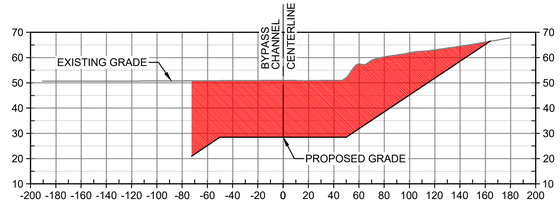
82+00

TOTAL VOLUME STATION 82+00.00	
CUT AREA	4137.26 SF
CUMULATIVE CUT VOL	1007037.52 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15565.54 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1006982.76 CY



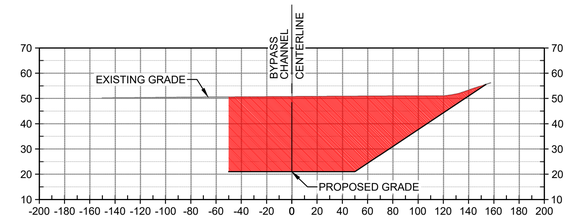
81+00

TOTAL VOLUME STATION 81+00.00	
CUT AREA	4268.13 SF
CUMULATIVE CUT VOL	991471.98 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	14184.20 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	991417.23 CY



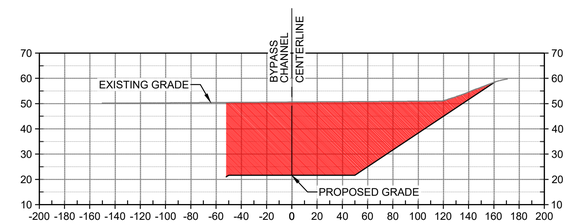
80+00

TOTAL VOLUME STATION 80+00.00	
CUT AREA	4462.40 SF
CUMULATIVE CUT VOL	977287.79 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	16785.70 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	977233.03 CY



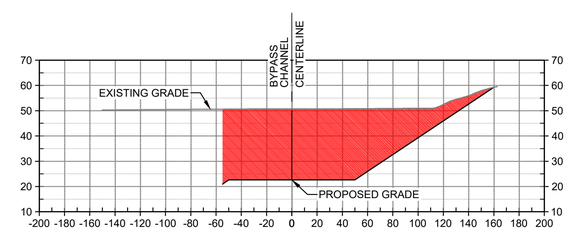
87+62.81

TOTAL VOLUME STATION 87+62.81	
CUT AREA	4354.68 SF
CUMULATIVE CUT VOL	1096044.32 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	10075.87 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1095989.56 CY



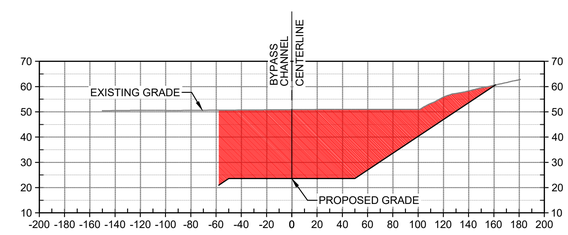
87+00

TOTAL VOLUME STATION 87+00.00	
CUT AREA	4307.28 SF
CUMULATIVE CUT VOL	1085968.45 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15866.80 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1085913.69 CY



86+00

TOTAL VOLUME STATION 86+00.00	
CUT AREA	4260.80 SF
CUMULATIVE CUT VOL	1070101.65 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15828.78 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1070046.89 CY



85+00

TOTAL VOLUME STATION 85+00.00	
CUT AREA	4286.74 SF
CUMULATIVE CUT VOL	1054272.87 CY
CUMULATIVE FILL VOL	54.76 CY
CUT VOL	15914.18 CY
FILL AREA	0.00 SF
FILL VOL	0.00 CY
NET VOL	1054218.11 CY

30' 0 30 60'

VERTICAL SCALE: 1"=30'

60' 0 60 120'

HORIZONTAL SCALE: 1"=60'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

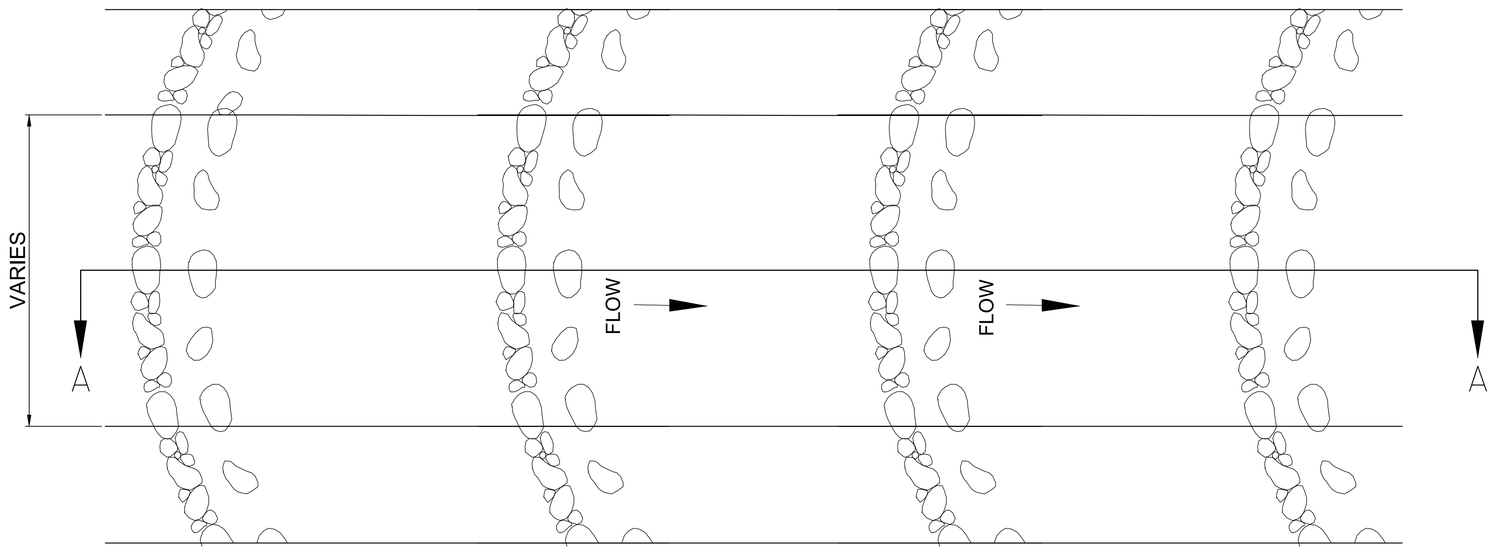
DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: CHB22001-CG308B
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.:
PROJECT NUMBER: CHB22001

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

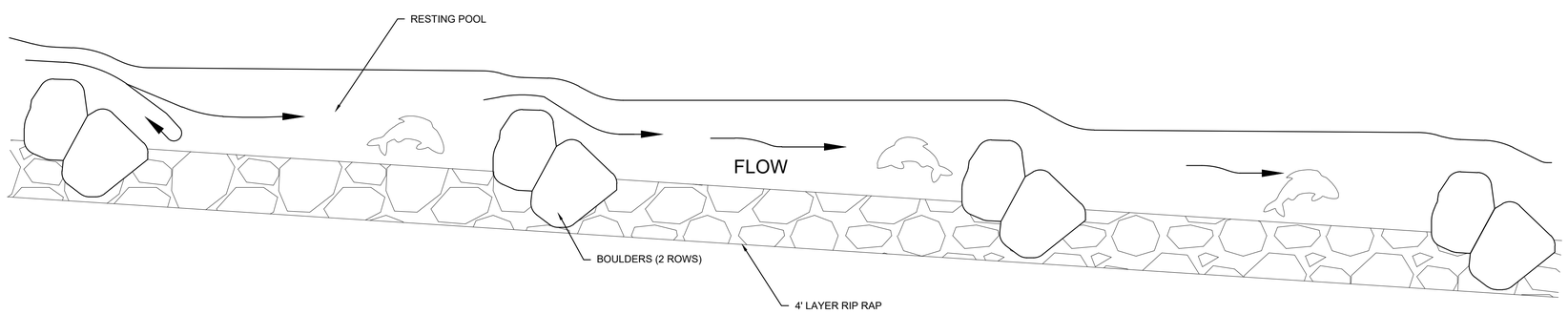
MILLERS FERRY BYPASS CHANNEL
CROSS SECTIONS

SHEET ID
CG308



TYPICAL PLAN VIEW

SCALE: N.T.S.



TYPICAL SECTION A-A

SCALE: N.T.S.

NOTES

1. BOULDERS SHALL BE PLACED INTO THE TOP OF EACH RIFFLE AND ON THE DOWNSTREAM SLOPE OF EACH RIFFLE AS SHOWN.
2. A 4 FOOT BLANKET OF RIPRAP IS REQUIRED FOR THE ROCK RAMP STRUCTURE ITSELF. ADDITIONAL RIPRAP WILL BE PLACED ALONG EACH RIFFLE TO PROVIDE APPROPRIATE HEIGHT. SLOPES AND LOCATIONS FOR THE BOULDERS TO BE PLACED.
3. POOLS BETWEEN THE RIFFLES SHALL EXTEND AS SHOWN ON CG SHEET PROFILES AS A RESTING AREA FOR FISH. SOME EXTRA BOULDERS MAY BE PLACED IN SOME OF THE POOLS TO MANIPULATE VELOCITIES.
4. THE POOLS BETWEEN THE RIFFLES SHALL BE SHALLOWEST ALONG THE EDGES OF THE POOLS, WHILE DROPPING UP TO 1 FOOT WITHIN THE CENTER OF EACH POOL.
5. THE TYPICAL BOULDER PLACEMENT DETAILS SHOWS AN EXAMPLE FOR BOULDER PLACEMENT. IN FINAL DESIGN, FURTHER CALCULATIONS INTO APPROPRIATE BOULDER PLACEMENT WILL BE CONDUCTED TO ENSURE THAT THERE IS A DIVERSITY OF FLOW FOR NUMEROUS FISH SPECIES. AT A MINIMUM, TWO ROWS OF BOULDER OR CLOSER SPACING MAY BE EMPLOYED.
6. LARGE BOULDERS ARE SHOWN IN DRAWING. THESE BOULDERS WILL HAVE APPROXIMATELY A 4-5 FOOT DIAMETER.
7. LARGE RIP RAP (UNDERLYING THE BOULDERS) WILL BE MANIPULATED DURING CONSTRUCTION TO ENSURE THAT THE APPROPRIATE DIVERSITIES OF FLOW ARE AVAILABLE FOR FISH SPECIES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. CAPE
DRAWN BY: J. CAPE
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.: -
PROJECT NUMBER: CHB22001
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

RIFFLE POOL DETAILS

SHEET ID
CG501

GENERAL NOTES:

G-1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER DRAWINGS. COORDINATE THE WORK OF OTHER TRADES INCLUDING, BUT NOT LIMITED TO, THE REQUIREMENTS FOR SLEEVES, INSERTS, HOLES, HANGERS, AND ANCHORS.

G-2. REPORT DISCREPANCIES IN DIMENSIONS BETWEEN DIFFERENT DRAWINGS TO OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK IN AREAS THAT WILL BE AFFECTED.

G-3. DETAILS TITLED OR NOTED AS "TYPICAL" APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OR REFERENCED.

G-4. PROVIDE TEMPORARY BRACING AND SHORING OF THE STRUCTURE AND COMPONENTS UNTIL ALL COMPONENTS ARE ERECTED AND ALL CONNECTIONS ARE FULLY MADE, AS NECESSARY, TO ENSURE STABILITY DURING CONSTRUCTION. BRACE ALL WALLS DURING CONSTRUCTION AGAINST WIND AND/OR CONSTRUCTION LOADS.

G-5. ELEVATIONS ON THE STRUCTURAL DRAWINGS ARE DENOTED AS [± X'-X"] REFERENCED TO THE NGVD29 VERTICAL DATUM.

G-6. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE.

G-7. WATER ELEVATIONS AT THE SITE AND WITHIN THE WORK AREA ARE WEATHER DEPENDENT AND UPREDICTABLE. CONTRACTOR IS TO CLOSELY COORDINATE WORK WITH THE CONTRACTING OFFICE, OP PERSONNEL, AND WEATHER REPORTS TO PLAN WORK.

DESIGN CRITERIA:

D-1. DESIGN STANDARDS

PRINCIPAL CODE OF RECORD: INTERNATIONAL BUILDING CODE (IBC) 2021 AS MODIFIED

ASCE 7-16	MINIMUM DESIGN LOADS FOR BUILDINGS AND STRUCTURES
ACI 318-14	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AISC 325-17	MANUAL OF STEEL CONSTRUCTION, 15th EDITION
EM1110-2-2502	FLOODWALLS AND OTHER HYDRAULIC RETAINING WALLS 1 AUGUST, 2022
EM1110-2-2100	STABILITY ANALYSIS OF CONCRETE STRUCTURES 1-DEC 2005
ER1110-2-1806	EARTHQUAKE DESIGN AND EVALUATION FOR CIVIL WORKS PROJECTS 31-MAY 2016

DESIGN LOADS:

D-1. DEAD LOAD: SELF WEIGHT OF MATERIALS

D-2. SEISMIC

SOIL SITE CLASS	D
PGA	
MDE	0.11g
OBE	0.03g

D-3. HYDROSTATIC LOAD

HEAD WATER	74'-0" ELEV.
TAIL WATER	34'-0" ELEV.

CONCRETE CONSTRUCTION NOTES (SPEC SECTION 03 70 00):

C-1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. ALL CONCRETE DESIGN PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ACI 318.

C-2. ALL CAST-IN-PLACE CONCRETE SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI.

C-3. CONCRETE REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A615M, GRADE 60 AND SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 315. SHOP FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.

C-4. CONCRETE REINFORCING STEEL SHALL BE CONTINUOUS UNLESS OTHERWISE INDICATED. CONTINUOUS REINFORCING STEEL SHALL BE LAPPED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318. REINFORCING STEEL SHALL BE PLACED SO THAT SPACING IS GREATER THAN OR EQUAL TO 2X BAR DIAMETER. MINIMUM LAP SPLICE FOR #6 BARS SHALL BE 30"

C-5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS INDICATED.

A.	CONCRETE DEPOSITED AGAINST THE GROUND	6 INCH
B.	CONCRETE EXPOSED TO EARTH OR WEATHER	6 INCH

C-6. CONCRETE REINFORCING STEEL STANDARD HOOKS, SHALL HAVE A 90 DEGREE HOOK A MINIMUM OF 12 BAR DIAMETERS IN LENGTH, UNLESS OTHERWISE NOTED. STIRRUPS, TIES, AND 180 DEGREE HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.

C-7. ALL EMBEDDED ITEMS SHALL BE PROPERLY PLACED, ACCURATELY POSITIONED AND MAINTAINED SECURELY IN PLACE PRIOR TO AND DURING CONCRETE PLACEMENT.

C-8. REINFORCING STEEL SHALL BE SPREAD AT SLEEVES, ANCHORS, RECESSES AND OTHER EMBEDDED ITEMS UNLESS OTHERWISE INDICATED. REINFORCEMENT SHALL NOT BE CUT TO FACILITATE PLACEMENT OF EMBEDDED ITEMS, UNLESS INDICATED.

C-9. NO CONCRETE SHALL BE PLACED UNTIL THE OWNER OR THE OWNER'S DESIGNATED REPRESENTATIVE HAS INSPECTED ALL EMBEDDED WORK, INCLUDING REINFORCEMENT.

C-10. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4 INCH UON.

C-11. ALUMINUM SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

STEEL CONSTRUCTION NOTES:

S-1. FABRICATION AND ERECTION OF STRUCTURAL STEEL AND DESIGN OF CONNECTIONS SHALL BE IN ACCORDANCE WITH THE AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND THE AISC 303 "CODE OF STANDARD PRACTICE FOR BUILDING AND BRIDGES".

S-2. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE ABOVE-LISTED AISC SPECIFICATION AND THE FOLLOWING:

A. WIDE FLANGE SHAPES (50 KSI)	ASTM A992, GRADE B
B. HSS HOLLOW SHAPES (46 KSI)	ASTM A500, GRADE B
B. PLATES AND ANGLES	ASTM A36
C. HIGH STRENGTH BOLTS	ASTM F3125, GRADE A325
D. ANCHOR RODS W/ NUT AND WASHER	ASTM F1554, GRADE 36

S-3. ALL SHOP AND FIELD WELDING SHALL BE BY CERTIFIED WELDERS AND SHALL CONFORM TO AWS D1.1 STANDARDS. USE E70XX ELECTRODES UNO. MINIMUM WELD SIZE FOR STRUCTURAL STEEL IS 3/16 INCH FILLET, UNO. CURRENT AWS CERTIFICATIONS SHALL BE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE OWNERS' REPRESENTATIVE.

S-4. ALL BOLTED CONNECTIONS, UNO, SHALL USE 3/4 INCH DIAMETER HIGH STRENGTH BOLTS WITH HARDENED CARBON STEEL WASHERS.

S-5. FIELD CUTTING OF STRUCTURAL STEEL MEMBERS BY ANY TRADE SHALL NOT BE PERMITTED. BOLT HOLES SHALL NOT BE CUT OR ENLARGED BY FLAME CUTTING IN THE FIELD.

S-6. ALL FIELD-BOLTED SHEAR CONNECTIONS SHALL BE SNUG TIGHT BEARING-TYPE CONNECTIONS, THREADS INCLUDED IN THE SHEAR PLANE, UNO.

S-7. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DRAWINGS AND DESIGN CALCULATIONS FOR ANY ALTERNATE DETAILS AND MEMBER SPLICES.

S-8. SHOP OR FIELD SPLICES OF STRUCTURAL STEEL MEMBERS ARE PROHIBITED EXCEPT AS DETAILED ON THE DRAWINGS, PERMITTED IN THE SPECIFICATIONS, AS INDICATED ON APPROVED SUBMITTALS, AND AS SPECIFICALLY APPROVED ON SHOP DRAWINGS PRIOR TO FABRICATION.

S-9 ALL EMBEDDED STEEL WILL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.

POST-INSTALLED ANCHORS

A-1. SUBMIT CURRENT MANUFACTURER'S DATA AND ICC-ES EVALUATION REPORT, OR THIRD PARTY EVALUATION REPORT IN CONFORMANCE WITH ACI 355.2 OR ACI 355.4 FOR APPROVAL. THIRD PARTY MUST BE ACCREDITED UNDER ISO/IEC 17025 BY A RECOGNIZED ACCREDITATION BODY CONFORMING TO THE REQUIREMENTS OF ISO/IEC 17011 IN ACCORDANCE WITH ACI 355.4.

A-2. EVALUATION REPORT MUST PROVIDE RELEVANT DESIGN VALUES NECESSARY TO VALIDATE THAT THE AVAILABLE STRENGTH EXCEEDS THE REQUIRED STRENGTH.

A-3. DATA MUST INCLUDE ANCHOR TYPE, EMBEDMENT, DIAMETER, MINIMUM SPACING, AND CONCRETE EDGE DISTANCE AS INDICATED ON THE CONTRACT DRAWINGS OR AS OTHERWISE APPROVED.

A-4. SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS.

A-5. EPOXY SHALL BE SUITABLE FOR UNDER WATER PLACEMENT.

A-6. AN INDEPENDENT QC INSPECTOR MUST PERFORM PROOF LOADING ON THE FIRST THREE ANCHORS OF EACH TYPE AND SIZE, FOR EACH INSTALLER, AND A MINIMUM OF 10% OF RANDOMLY SELECTED ANCHORS. PERFORM CONFINED TENSION PROOF LOAD TESTING IN ACCORDANCE WITH ASTM E488/ER88M. USE INCREMENTAL LOADING FOR TENSILE TEST. MAINTAIN PROOF LOAD FOR A MINIMUM OF 10 SECONDS. CONSIDER ANCHORS TO HAVE FAILED IF DISPLACEMENT EXCEEDS ONE TENTH OF THE ANCHOR DIAMETER, OR IF ANY OF THE FAILURE MODES LISTED IN ASTM E488/E488M OCCUR.

A-7. IMMEDIATELY REPORT FAILED ANCHOR LOCATIONS AND TEST RESULTS TO THE CONTRACTING OFFICER. ANCHORS THAT FAIL TO MEET PROOF LOAD OR INSTALLATION REQUIREMENTS MUST BE REGARDED AS MALFUNCTIONING. DO NOT RE-USE HOLES UNLESS SPECIFICALLY ALLOWED BY MANUFACTURER'S PUBLISHED INSTRUCTIONS AND APPROVED BY THE CONTRACTING OFFICER. TEST A MINIMUM OF TWO ADJACENT ANCHORS FOR EACH ANCHOR THAT FAILS. FILL UNUSED ANCHOR HOLES AND PATCH FAILED ANCHOR LOCATIONS. PRIOR TO PERFORMING THE REPAIR, THE CONTRACTOR MUST SUBMIT TO THE CONTRACTING OFFICER FOR APPROVAL, THE PROPOSED FILL AND PATCH MATERIALS. ADDITIONAL TESTS, REPAIRS, DELAYS, OR MODIFICATION OF WORK TO ACCOMMODATE FAILED TESTS WILL BE AT NO COST TO THE GOVERNMENT.

FIBER REINFORCED POLYMER (FRP)

F-1. ALL MEMBERS SHALL BE FABRICATED FROM PULTRUDED FRP COMPOSITE PROFILES AND STRUCTURAL SHAPES AS REQUIRED.

F-2. ENSURE THAT FIBERGLASS REINFORCEMENT IS A COMBINATION OF CONTINUOUS ROVING, CONTINUOUS STRAND MAT, BIDIRECTIONAL ROVING MAT, AND SURFACING VEIL IN SUFFICIENT QUANTITIES AS REQUIRED BY THE APPLICATION, THE PHYSICAL PROPERTIES, OR BOTH. CLEARLY IDENTIFY COMPONENTS AS SPECIFIED IN ASTM D4000. SUBMIT DOCUMENTATION VERIFYING STRUCTURAL INTEGRITY IN RELATION TO THERMAL EXPANSION.

F-3. ENSURE THAT ALL FINISHED SURFACES OF FRP ITEMS ARE SMOOTH, RESIN-RICH, AND FREE OF VOIDS, DRY SPOTS, CRACKS, CRAZES OR UNREINFORCED AREAS. PROVIDE A SYSTEM THAT IS COMPLETELY COVERED WITH RESIN PROTECTION AGAINST WEAR, WEATHERING, AND DAMAGE FROM ULTRAVIOLET LIGHT. PROVIDE ULTRAVIOLET PROTECTION (UV) WITH INTEGRAL UV INHIBITORS IN THE RESIN AND A SYNTHETIC, RESIN-RICH SURFACING VEIL.

F-4. COMPLY WITH ASTM E84 CLASS II AT A MINIMUM FOR FLAME RETARDANT RESINS.

F-5. ENSURE THAT ALL FIELD-FABRICATED AND SHOP-FABRICATED MEMBERS ARE COATED WITH VINYL ESTER RESIN TO PROVIDE MAXIMUM CORROSION RESISTANCE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SEAL COAT ALL CUT EDGES AND DRILLED HOLES WITH RESIN MATCHING ORIGINAL MATERIAL COMPOSITION. MEMBERS SHALL CONTAIN FIRE RETARDANT RESIN.

F-6. ENSURE THAT NO DRY GLASS FIBERS ARE VISIBLE ON ANY SURFACE OF FINISHED MEMBERS AND THAT ALL MEMBERS ARE SMOOTH AND UNIFORM, WITH NO EVIDENCE OF FIBER ORIENTATION IRREGULARITIES, INTERLAMINAR VOIDS, POROSITY, RESIN-RICH AREAS OR RESIN-STARVED AREAS.

F-7. FRP COMPONENTS SHALL BE FABRICATED FROM HIGH-STRENGTH E-GLASS AND ISOPHTHALIC POLYESTER RESIN UNLESS OTHERWISE SPECIFIED. WEATHERING AND ULTRAVIOLET LIGHT PROTECTION SHALL BE PROVIDED BY ADDITION OF A VEIL TO THE LAMINATE CONSTRUCTION.

F-8. COMPONENT COLOR SHALL BE MANUFACTURER'S STANDARD COLOR.

F-9. FABRICATION OF THE FRP MEMBERS SHALL BE PER ANSI/ACMA CODE OF STANDARD PRACTICE, INDUSTRY GUIDELINES FOR FABRICATION AND INSTALLATION OF PULTRUDED FRP STRUCTURES UNLESS OTHERWISE NOTED.

F-10. ALL CUTTING AND DRILLING FABRICATION TO BE DONE BY EXPERIENCED FIBERGLASS WORKERS USING CARBIDE OR DIAMOND-TIPPED TOOLING TO A TOLERANCE OF 1/16". NO MATERIAL DEVIATIONS BEYOND INDUSTRY STANDARDS ARE ACCEPTED. ALL CUT EDGES TO BE CLEANED AND SEALED.

F-11. PULTRUDED PROFILES SHALL BE MANUFACTURED TO THE DIMENSIONAL REQUIREMENTS AS SET FORTH IN ASTM D3917 AND THE VISUAL REQUIREMENTS AS SET FORTH IN ASTM D4385.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. LEE
DRAWN BY: T. SANDIFER
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.: -
PROJECT NUMBER: CHB22001
FILE NAME: CHB22001 - S001C.dwg

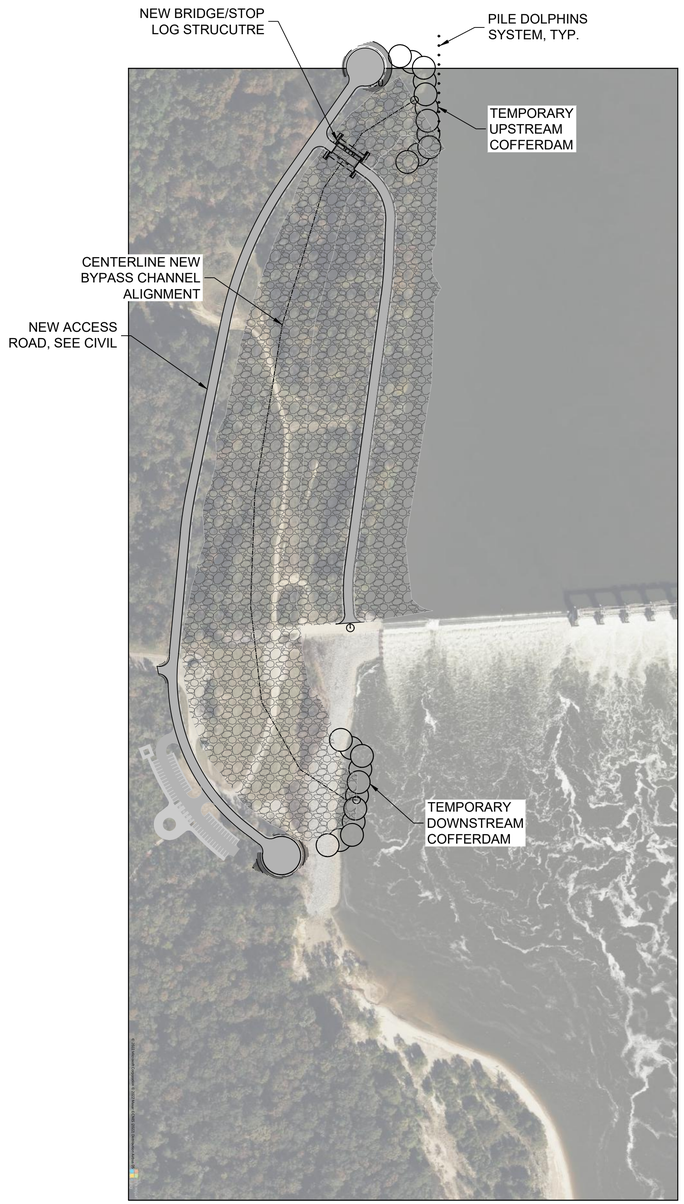
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

CLAIBORNE
STRUCTURAL GENERAL NOTES

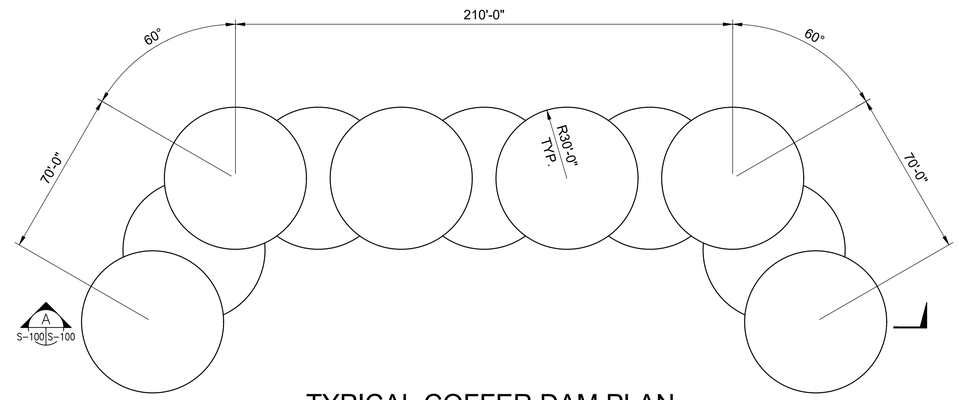
SHEET ID
S-001

2/21/24



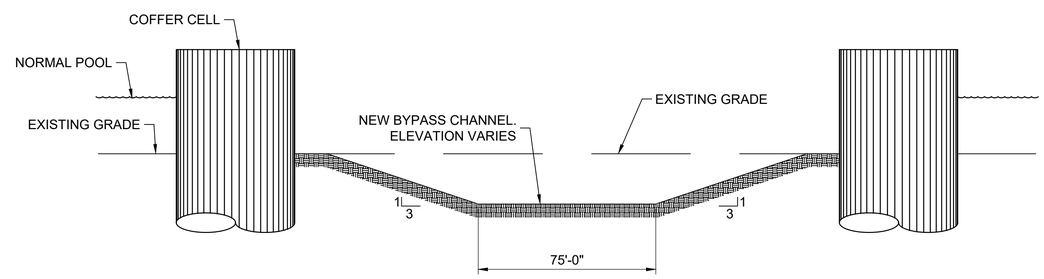
CLAIBORNE COFFER DAM PLAN

1" = 200'-0"



TYPICAL COFFER DAM PLAN

1/32" = 1'-0"



SECTION

SCALE: 1/32" = 1'-0" A S-100 S-100

25' 0 25' 50' 75'

1/32"=1'-0"

US Army Corps of Engineers®

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FILE NAME: CHB22001 - S100C.dwg

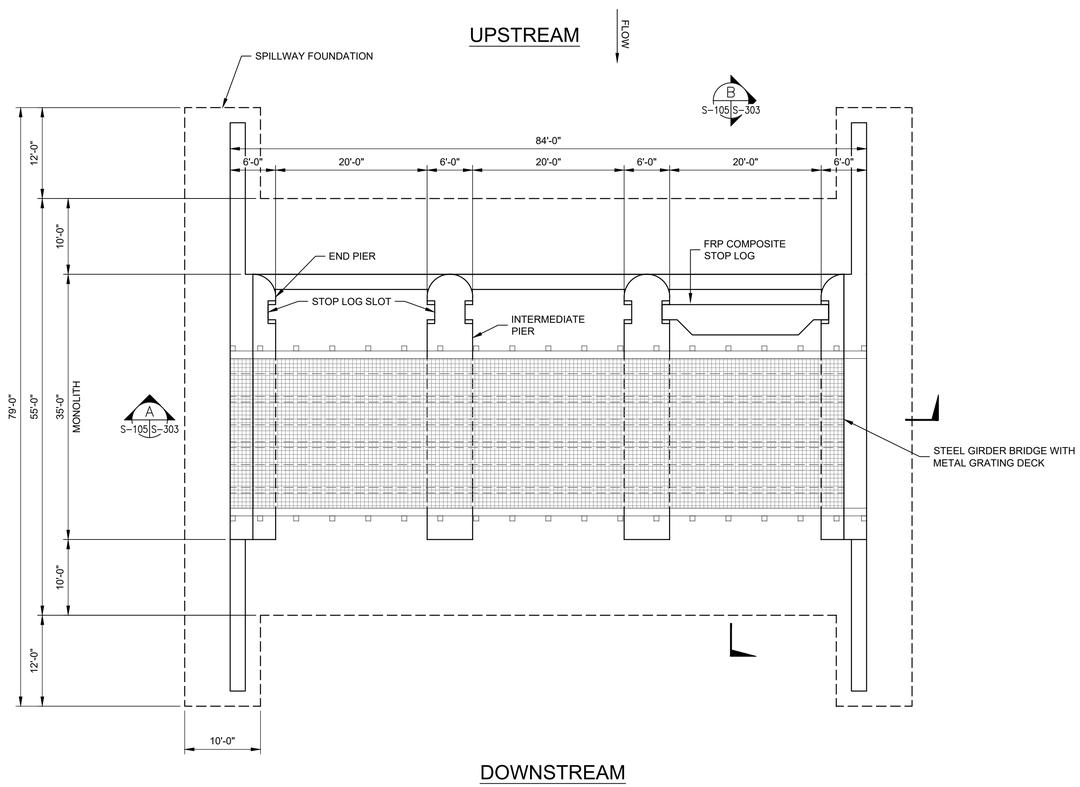
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH ST REET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

CLAIBORNE
OVERALL PLAN VIEW

SHEET ID
S-100

2/21/24



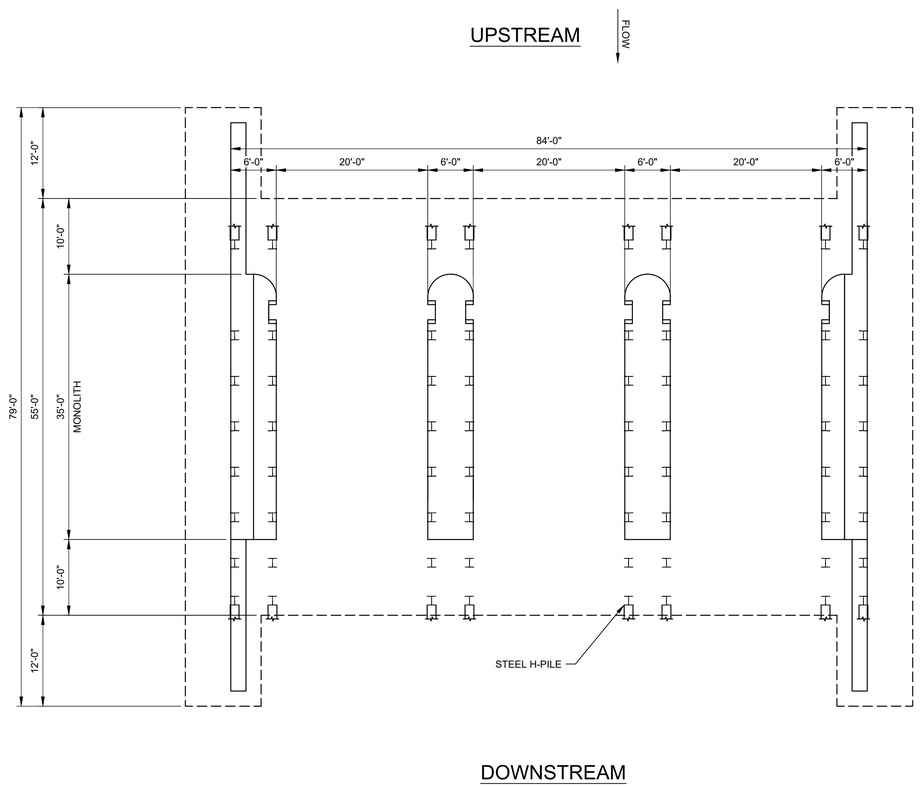
PLAN VIEW

1" = 10'-0"

10' 0 10 20'

SCALE: 1"=10'

PLAN NORTH



FOUNDATION PLAN VIEW

1" = 10'-0"

10' 0 10 20'

SCALE: 1"=10'

PLAN NORTH

US Army Corps of Engineers®

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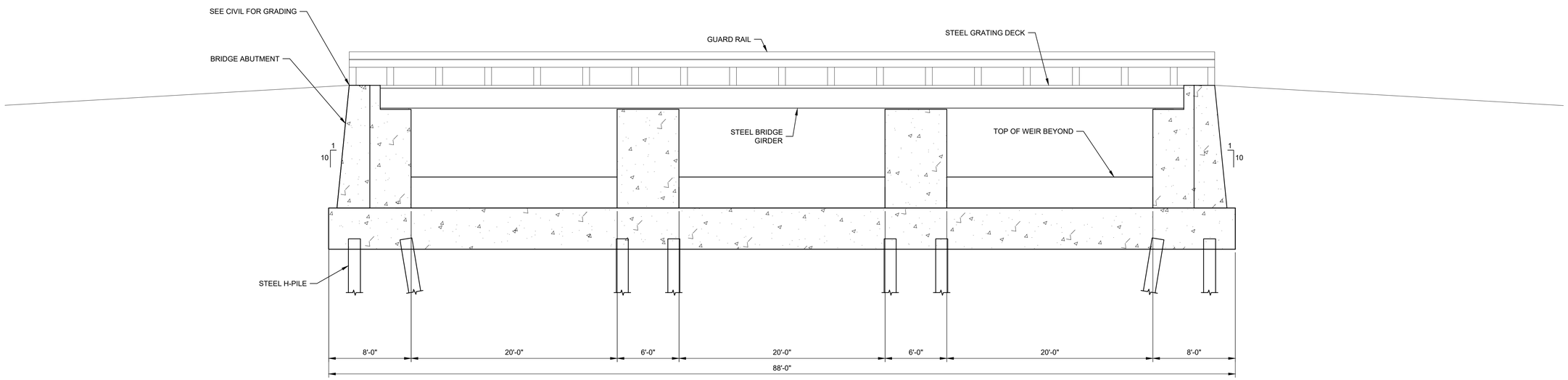
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

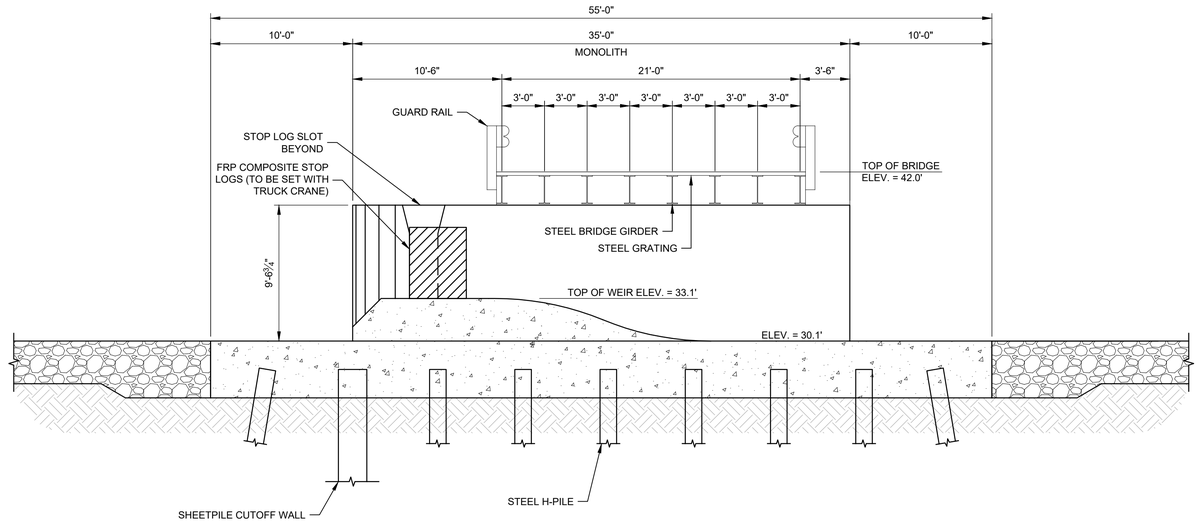
CLAIBORNE
BYPASS STRUCTURE PLAN

SHEET ID
S-105

2/21/24



SECTION A
SCALE: 3/16" = 1'-0" S-105 S-303



SECTION B
SCALE: 3/16" = 1'-0" S-105 S-303

US Army Corps of Engineers®

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CONTRACT NO.: -
PROJECT NUMBER: CHB22001
FILE NAME: CHB22001-S300C.dwg

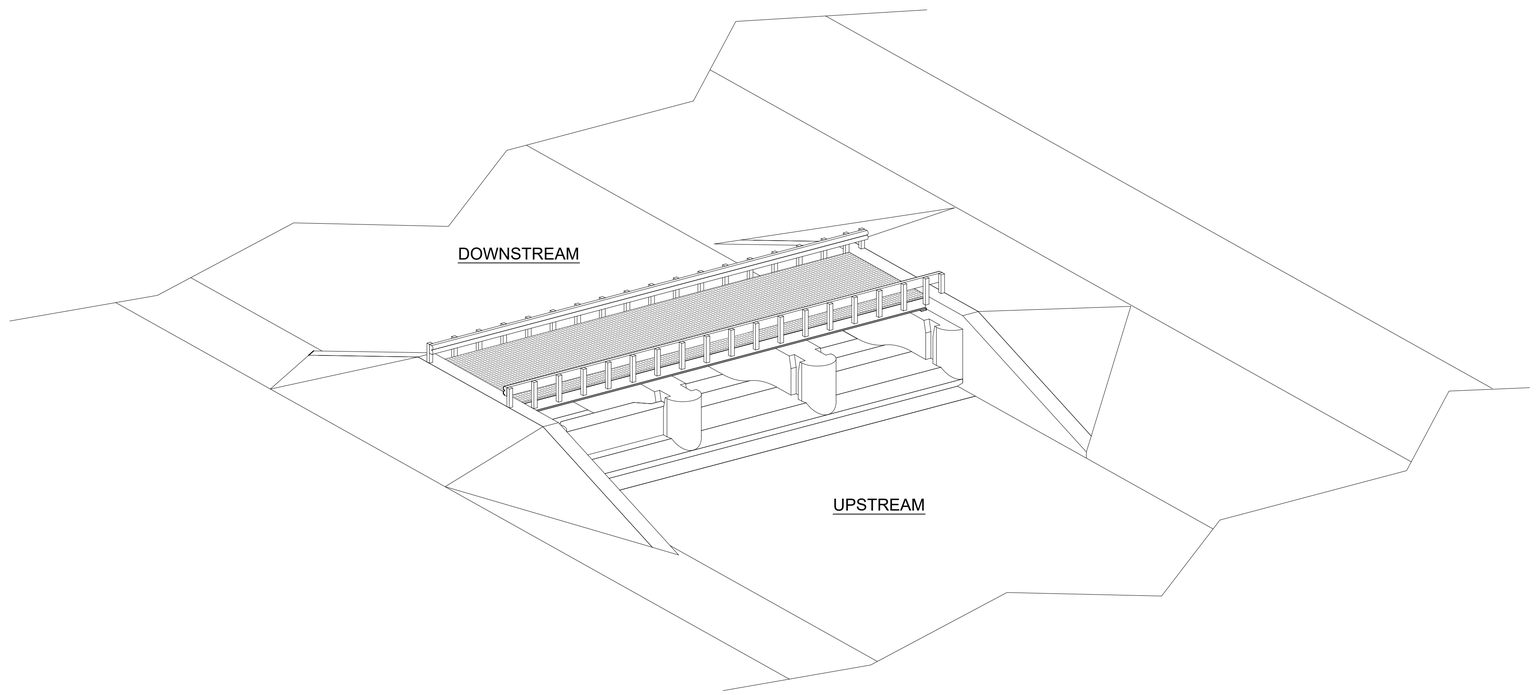
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

CLAIBORNE
BYPASS STRUCTURE SECTIONS

SHEET ID
S-303

2/21/24



ISOMETRIC
N.T.S.

US Army Corps of Engineers®

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PROJECT NUMBER: CHB22001
FILE NAME: CHB22001- S900C.dwg

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

CLAIBORNE
BYPASS STRUCTURE ISOMETRIC

SHEET ID
S-900

2/21/24

GENERAL NOTES:

G-1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER DRAWINGS. COORDINATE THE WORK OF OTHER TRADES INCLUDING, BUT NOT LIMITED TO, THE REQUIREMENTS FOR SLEEVES, INSERTS, HOLES, HANGERS, AND ANCHORS.

G-2. REPORT DISCREPANCIES IN DIMENSIONS BETWEEN DIFFERENT DRAWINGS TO OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK IN AREAS THAT WILL BE AFFECTED.

G-3. DETAILS TITLED OR NOTED AS "TYPICAL" APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OR REFERENCED.

G-4. PROVIDE TEMPORARY BRACING AND SHORING OF THE STRUCTURE AND COMPONENTS UNTIL ALL COMPONENTS ARE ERECTED AND ALL CONNECTIONS ARE FULLY MADE, AS NECESSARY, TO ENSURE STABILITY DURING CONSTRUCTION. BRACE ALL WALLS DURING CONSTRUCTION AGAINST WIND AND/OR CONSTRUCTION LOADS.

G-5. ELEVATIONS ON THE STRUCTURAL DRAWINGS ARE DENOTED AS [± X'-X"] REFERENCED TO THE NGVD29 VERTICAL DATUM.

G-6. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE.

G-7. WATER ELEVATIONS AT THE SITE AND WITHIN THE WORK AREA ARE WEATHER DEPENDENT AND UPREDICTABLE. CONTRACTOR IS TO CLOSELY COORDINATE WORK WITH THE CONTRACTING OFFICE, OP PERSONNEL, AND WEATHER REPORTS TO PLAN WORK.

DESIGN CRITERIA:

D-1. DESIGN STANDARDS

PRINCIPAL CODE OF RECORD: INTERNATIONAL BUILDING CODE (IBC) 2021 AS MODIFIED

ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND STRUCTURES
ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AISC 325-17 MANUAL OF STEEL CONSTRUCTION, 15th EDITION
EM1110-2-2502 FLOODWALLS AND OTHER HYDRAULIC RETAINING WALLS 1 AUGUST, 2022
EM1110-2-2100 STABILITY ANALYSIS OF CONCRETE STRUCTURES 1-DEC 2005
ER1110-2-1806 EARTHQUAKE DESIGN AND EVALUATION FOR CIVIL WORKS PROJECTS 31-MAY 2016

DESIGN LOADS:

D-1. DEAD LOAD: SELF WEIGHT OF MATERIALS

D-2. SEISMIC

SOIL SITE CLASS	D
PGA	
MDE	0.11g
OBE	0.03g

D-3. HYDROSTATIC LOAD

HEAD WATER	74'-0" ELEV.
TAIL WATER	34'-0" ELEV.

CONCRETE CONSTRUCTION NOTES (SPEC SECTION 03 70 00):

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C-3. CONCRETE REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A615M, GRADE 60 AND SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 315. SHOP FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.

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A.	CONCRETE DEPOSITED AGAINST THE GROUND	6 INCH
B.	CONCRETE EXPOSED TO EARTH OR WEATHER	6 INCH

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A-4. SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS.

A-5. EPOXY SHALL BE SUITABLE FOR UNDER WATER PLACEMENT.

A-6. AN INDEPENDENT QC INSPECTOR MUST PERFORM PROOF LOADING ON THE FIRST THREE ANCHORS OF EACH TYPE AND SIZE, FOR EACH INSTALLER, AND A MINIMUM OF 10% OF RANDOMLY SELECTED ANCHORS. PERFORM CONFINED TENSION PROOF LOAD TESTING IN ACCORDANCE WITH ASTM E488/ER88M. USE INCREMENTAL LOADING FOR TENSILE TEST. MAINTAIN PROOF LOAD FOR A MINIMUM OF 10 SECONDS. CONSIDER ANCHORS TO HAVE FAILED IF DISPLACEMENT EXCEEDS ONE TENTH OF THE ANCHOR DIAMETER, OR IF ANY OF THE FAILURE MODES LISTED IN ASTM E488/E488M OCCUR.

A-7. IMMEDIATELY REPORT FAILED ANCHOR LOCATIONS AND TEST RESULTS TO THE CONTRACTING OFFICER. ANCHORS THAT FAIL TO MEET PROOF LOAD OR INSTALLATION REQUIREMENTS MUST BE REGARDED AS MALFUNCTIONING. DO NOT RE-USE HOLES UNLESS SPECIFICALLY ALLOWED BY MANUFACTURER'S PUBLISHED INSTRUCTIONS AND APPROVED BY THE CONTRACTING OFFICER. TEST A MINIMUM OF TWO ADJACENT ANCHORS FOR EACH ANCHOR THAT FAILS. FILL UNUSED ANCHOR HOLES AND PATCH FAILED ANCHOR LOCATIONS. PRIOR TO PERFORMING THE REPAIR, THE CONTRACTOR MUST SUBMIT TO THE CONTRACTING OFFICER FOR APPROVAL, THE PROPOSED FILL AND PATCH MATERIALS. ADDITIONAL TESTS, REPAIRS, DELAYS, OR MODIFICATION OF WORK TO ACCOMMODATE FAILED TESTS WILL BE AT NO COST TO THE GOVERNMENT.

FIBER REINFORCED POLYMER (FRP)

F-1. ALL MEMBERS SHALL BE FABRICATED FROM PULTRUDED FRP COMPOSITE PROFILES AND STRUCTURAL SHAPES AS REQUIRED.

F-2. ENSURE THAT FIBERGLASS REINFORCEMENT IS A COMBINATION OF CONTINUOUS ROVING, CONTINUOUS STRAND MAT, BIDIRECTIONAL ROVING MAT, AND SURFACING VEIL IN SUFFICIENT QUANTITIES AS REQUIRED BY THE APPLICATION, THE PHYSICAL PROPERTIES, OR BOTH. CLEARLY IDENTIFY COMPONENTS AS SPECIFIED IN ASTM D4000. SUBMIT DOCUMENTATION VERIFYING STRUCTURAL INTEGRITY IN RELATION TO THERMAL EXPANSION.

F-3. ENSURE THAT ALL FINISHED SURFACES OF FRP ITEMS ARE SMOOTH, RESIN-RICH, AND FREE OF VOIDS, DRY SPOTS, CRACKS, CRAZES OR UNREINFORCED AREAS. PROVIDE A SYSTEM THAT IS COMPLETELY COVERED WITH RESIN PROTECTION AGAINST WEAR, WEATHERING, AND DAMAGE FROM ULTRAVIOLET LIGHT. PROVIDE ULTRAVIOLET PROTECTION (UV) WITH INTEGRAL UV INHIBITORS IN THE RESIN AND A SYNTHETIC, RESIN-RICH SURFACING VEIL.

F-4. COMPLY WITH ASTM E84 CLASS II AT A MINIMUM FOR FLAME RETARDANT RESINS.

F-5. ENSURE THAT ALL FIELD-FABRICATED AND SHOP-FABRICATED MEMBERS ARE COATED WITH VINYL ESTER RESIN TO PROVIDE MAXIMUM CORROSION RESISTANCE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SEAL COAT ALL CUT EDGES AND DRILLED HOLES WITH RESIN MATCHING ORIGINAL MATERIAL COMPOSITION. MEMBERS SHALL CONTAIN FIRE RETARDANT RESIN.

F-6. ENSURE THAT NO DRY GLASS FIBERS ARE VISIBLE ON ANY SURFACE OF FINISHED MEMBERS AND THAT ALL MEMBERS ARE SMOOTH AND UNIFORM, WITH NO EVIDENCE OF FIBER ORIENTATION IRREGULARITIES, INTERLAMINAR VOIDS, POROSITY, RESIN-RICH AREAS OR RESIN-STARVED AREAS.

F-7. FRP COMPONENTS SHALL BE FABRICATED FROM HIGH-STRENGTH E-GLASS AND ISOPHTHALIC POLYESTER RESIN UNLESS OTHERWISE SPECIFIED. WEATHERING AND ULTRAVIOLET LIGHT PROTECTION SHALL BE PROVIDED BY ADDITION OF A VEIL TO THE LAMINATE CONSTRUCTION.

F-8. COMPONENT COLOR SHALL BE MANUFACTURER'S STANDARD COLOR.

F-9. FABRICATION OF THE FRP MEMBERS SHALL BE PER ANSI/ACMA CODE OF STANDARD PRACTICE, INDUSTRY GUIDELINES FOR FABRICATION AND INSTALLATION OF PULTRUDED FRP STRUCTURES UNLESS OTHERWISE NOTED.

F-10. ALL CUTTING AND DRILLING FABRICATION TO BE DONE BY EXPERIENCED FIBERGLASS WORKERS USING CARBIDE OR DIAMOND-TIPPED TOOLING TO A TOLERANCE OF 1/16". NO MATERIAL DEVIATIONS BEYOND INDUSTRY STANDARDS ARE ACCEPTED. ALL CUT EDGES TO BE CLEANED AND SEALED.

F-11. PULTRUDED PROFILES SHALL BE MANUFACTURED TO THE DIMENSIONAL REQUIREMENTS AS SET FORTH IN ASTM D3917 AND THE VISUAL REQUIREMENTS AS SET FORTH IN ASTM D4385.

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ISSUE DATE: MMM YYYY
SOLICITATION NO.:
CONTRACT NO.: -
PROJECT NUMBER: CHB22001

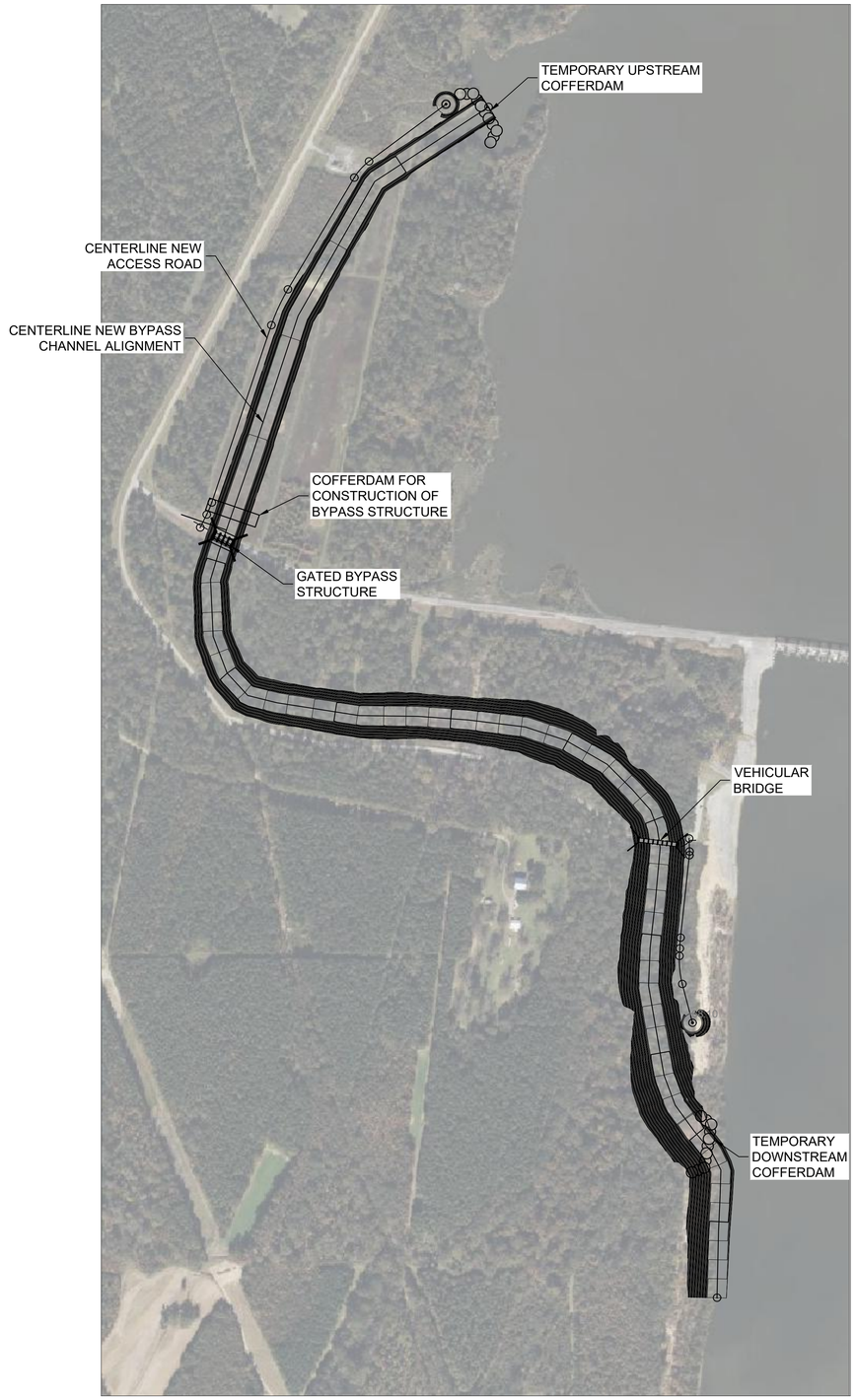
U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
STRUCTURAL GENERAL NOTES

SHEET ID
S-001

2/21/24

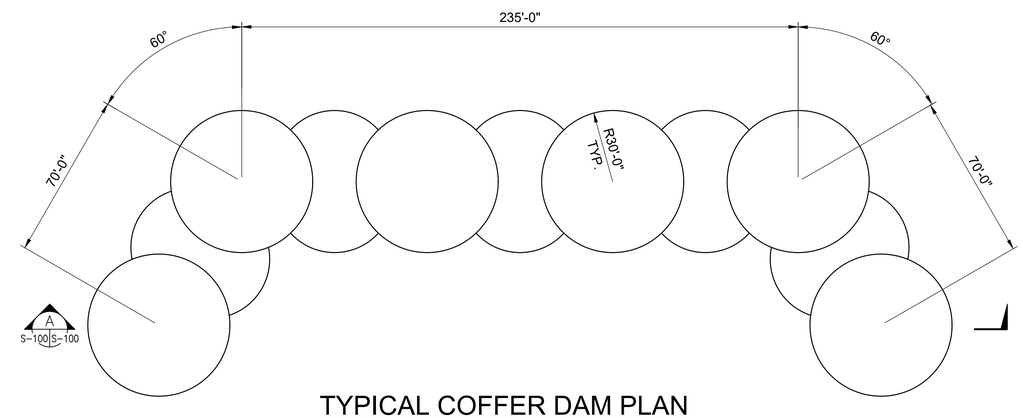


MILLERS FERRY COFFER DAM PLAN

1" = 400'-0"

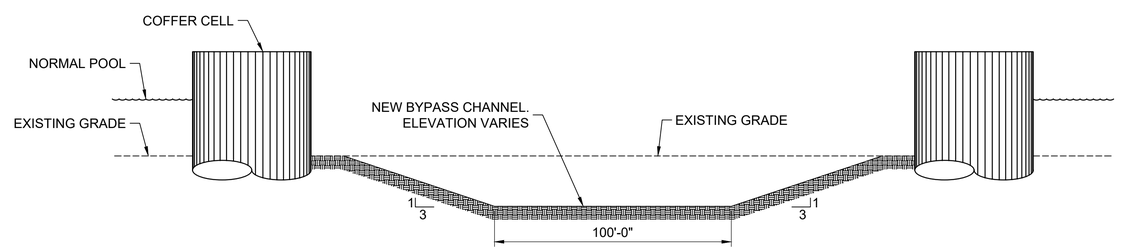
400' 0 400 800'

SCALE: 1"=400'



TYPICAL COFFER DAM PLAN

1/16" = 1'-0"



SECTION

SCALE: 1/32" = 1'-0" A S-100 S-100

25' 0 25' 50' 75'

1/32"=1'-0"

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MOBILE DISTRICT
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MOBILE, ALABAMA

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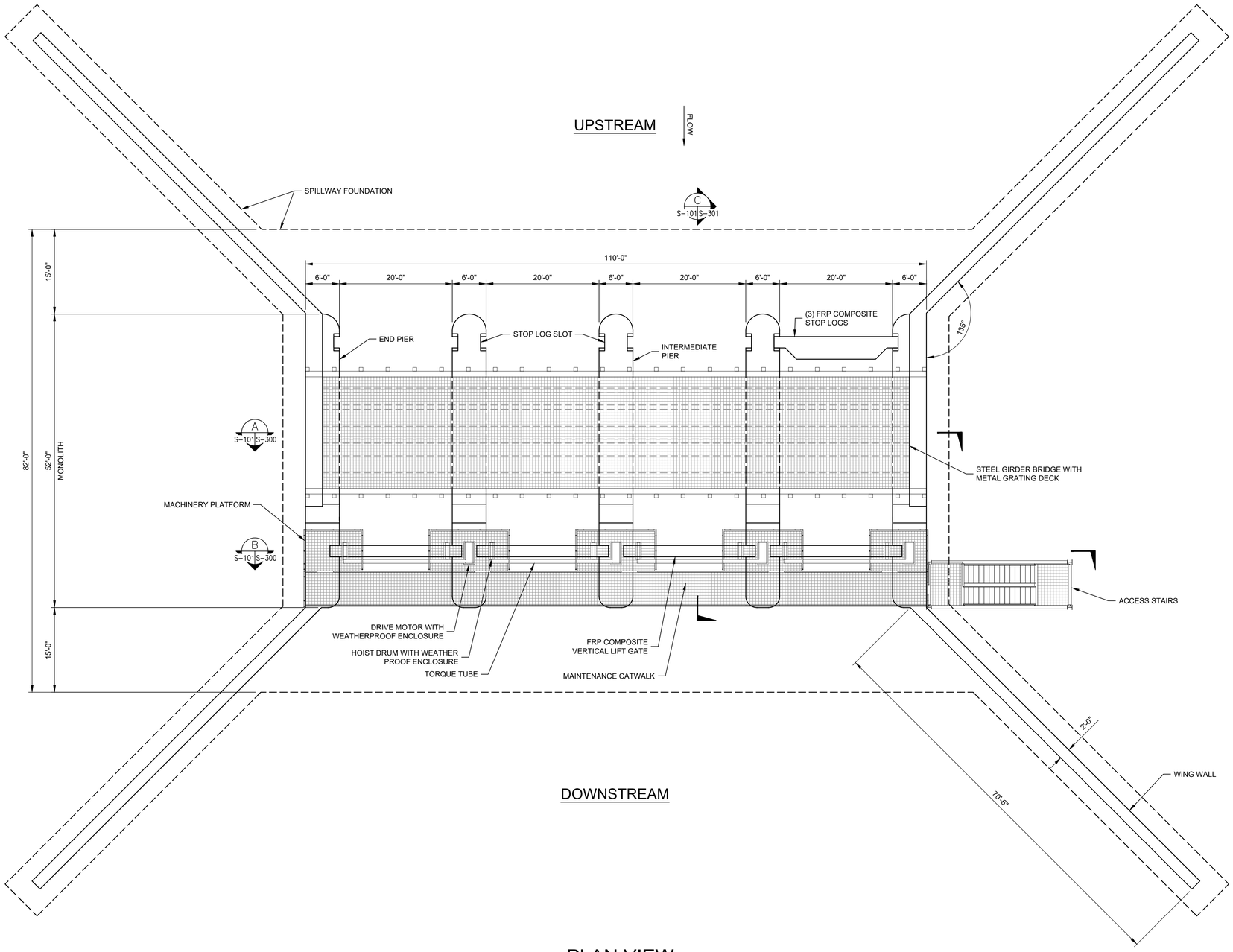
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
OVERALL PLAN

SHEET ID
S-100

2/23/24



PLAN VIEW

1" = 10'-0"

10' 0 10 20'

SCALE: 1"=10'

PLAN NORTH

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U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
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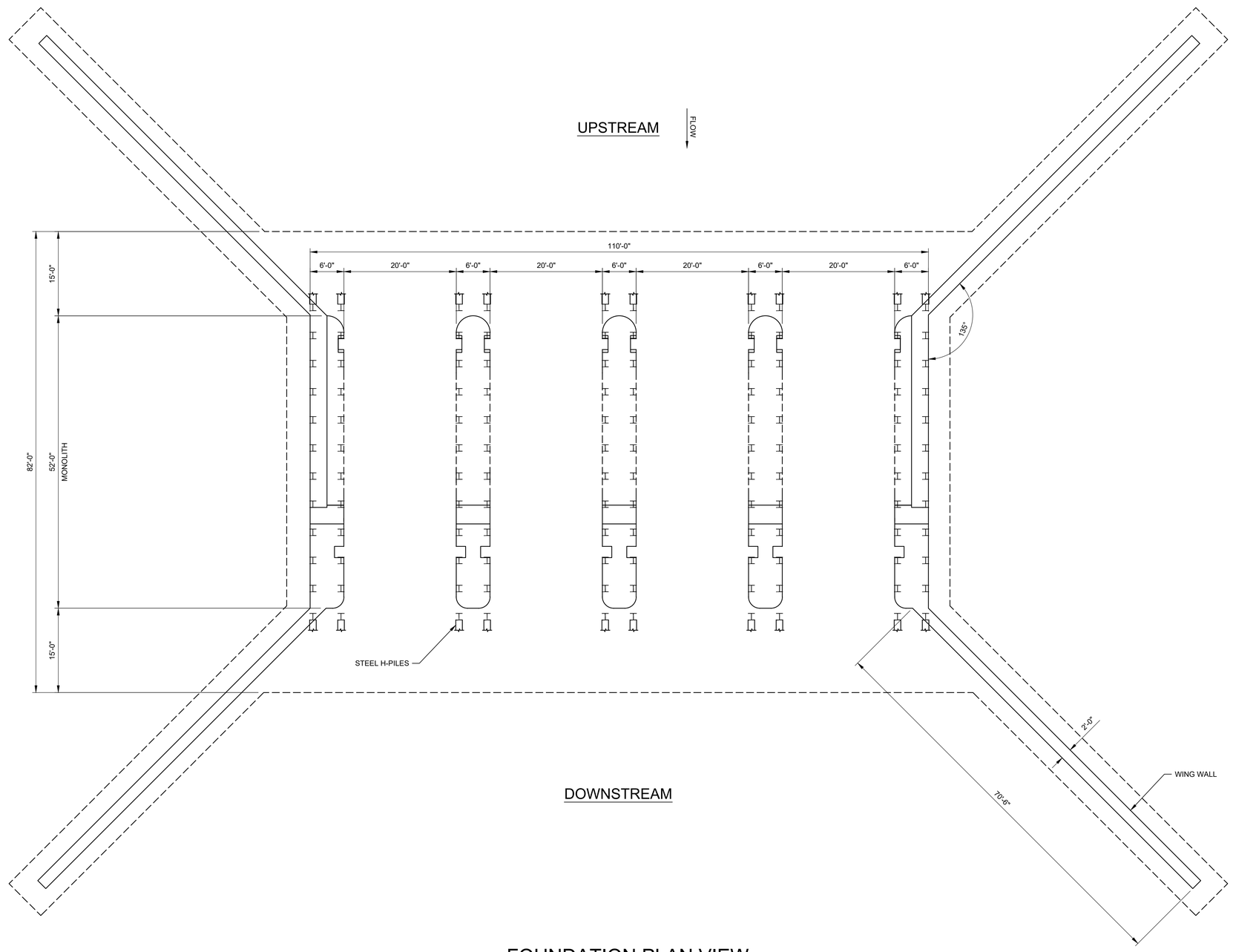
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
BYPASS STRUCTURE PLAN

SHEET ID
S-101

3/29/24



FOUNDATION PLAN VIEW

1" = 10'-0"

10' 0 10 20'

SCALE: 1"=10'

PLAN NORTH

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MOBILE DISTRICT
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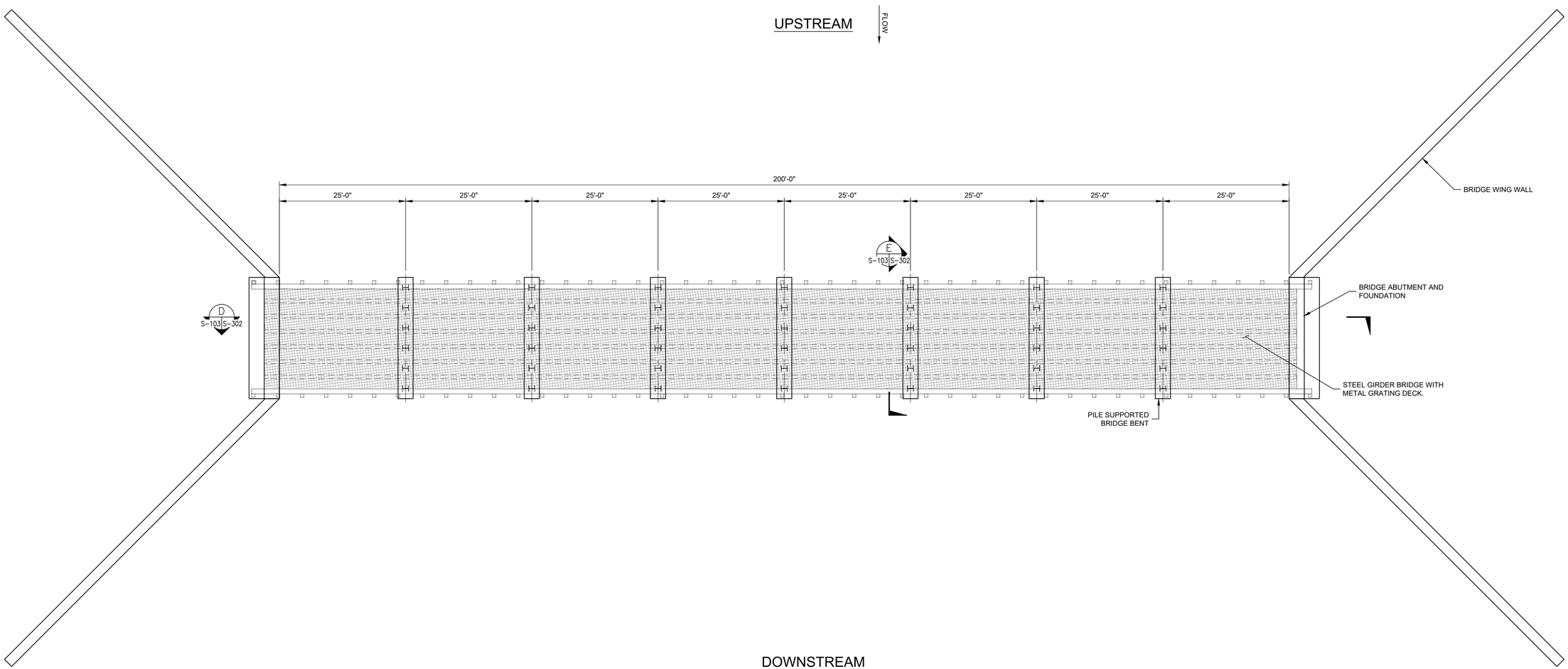
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
BYPASS STRUCTURE
ALTERNATE PILE FOUNDATION

SHEET ID
S-102

2/21/24



PLAN VIEW

1" = 10'-0"

5' 0 10' 30'

3/32"=1'-0"

PLAN NORTH

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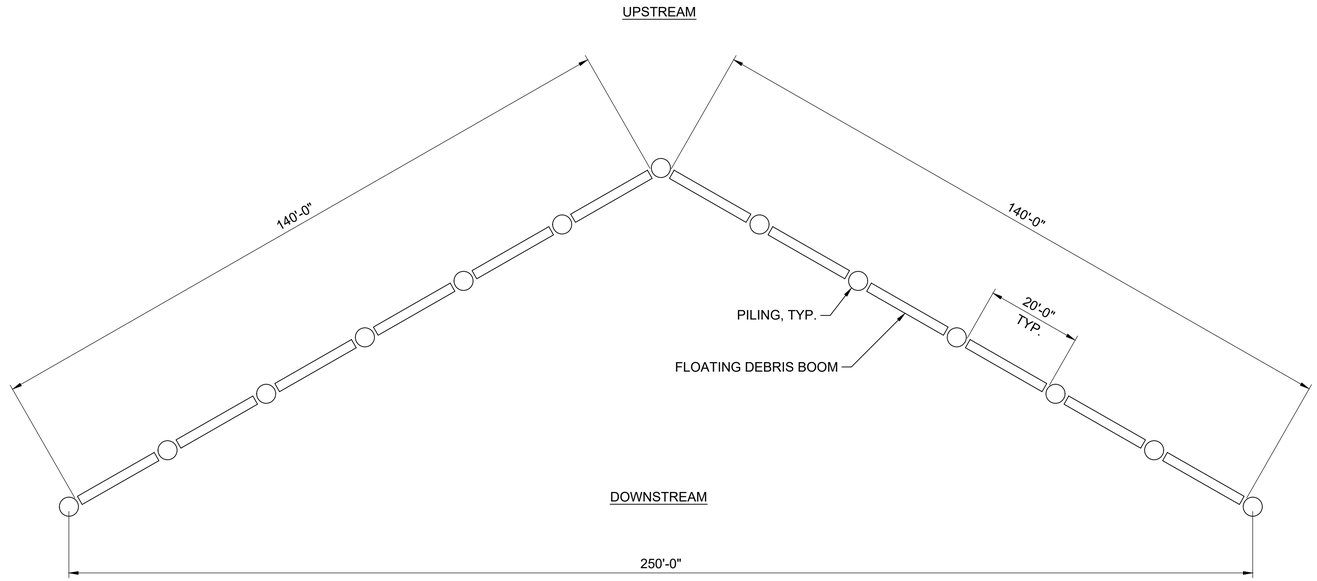
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
VEHICULAR BRIDGE PLAN

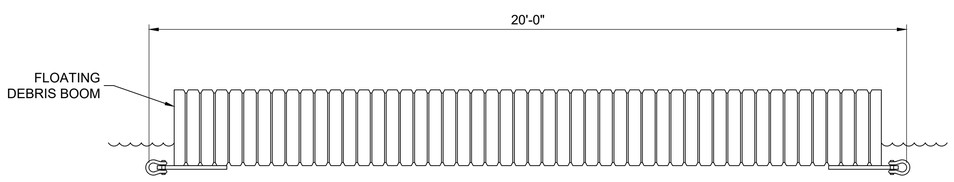
SHEET ID
S-103

2/29/24



TYPICAL DEBRIS BOOM PLAN

SCALE: 1/16" = 1'-0"



DEBRIS BOOM DETAIL

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

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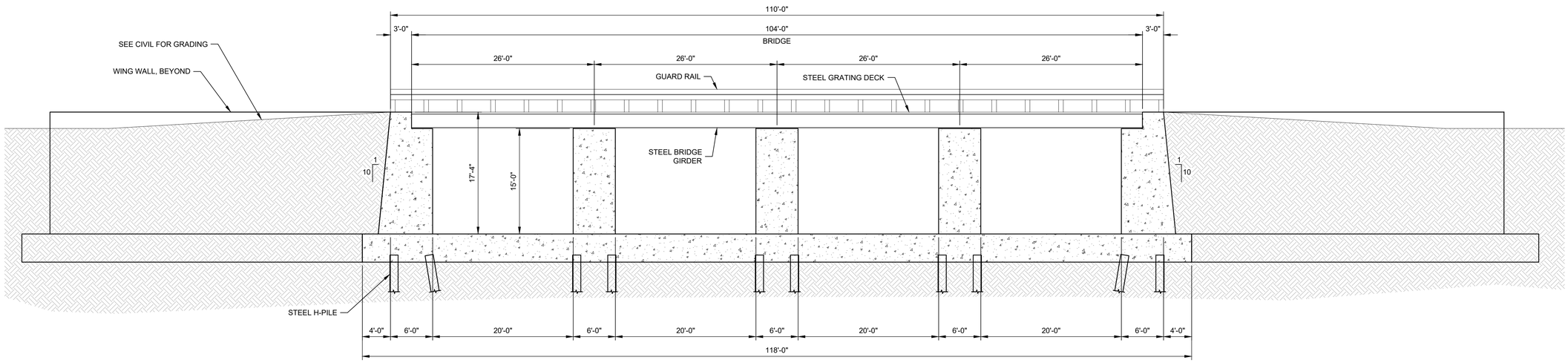
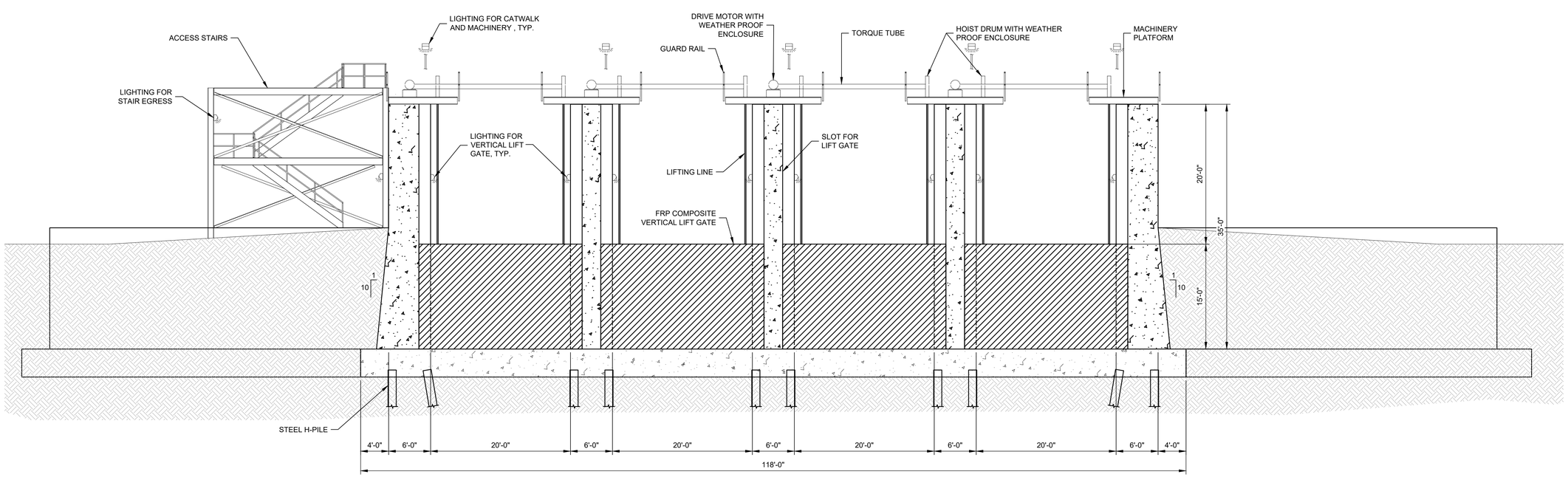
MILLERS FERRY
TYPICAL DEBRIS BOOM DETAILS

SHEET ID
S-104

2/21/24



SECTION A S-101 S-300
SCALE: 1/8" = 1'-0"



SECTION B S-101 S-300
SCALE: 1/8" = 1'-0"

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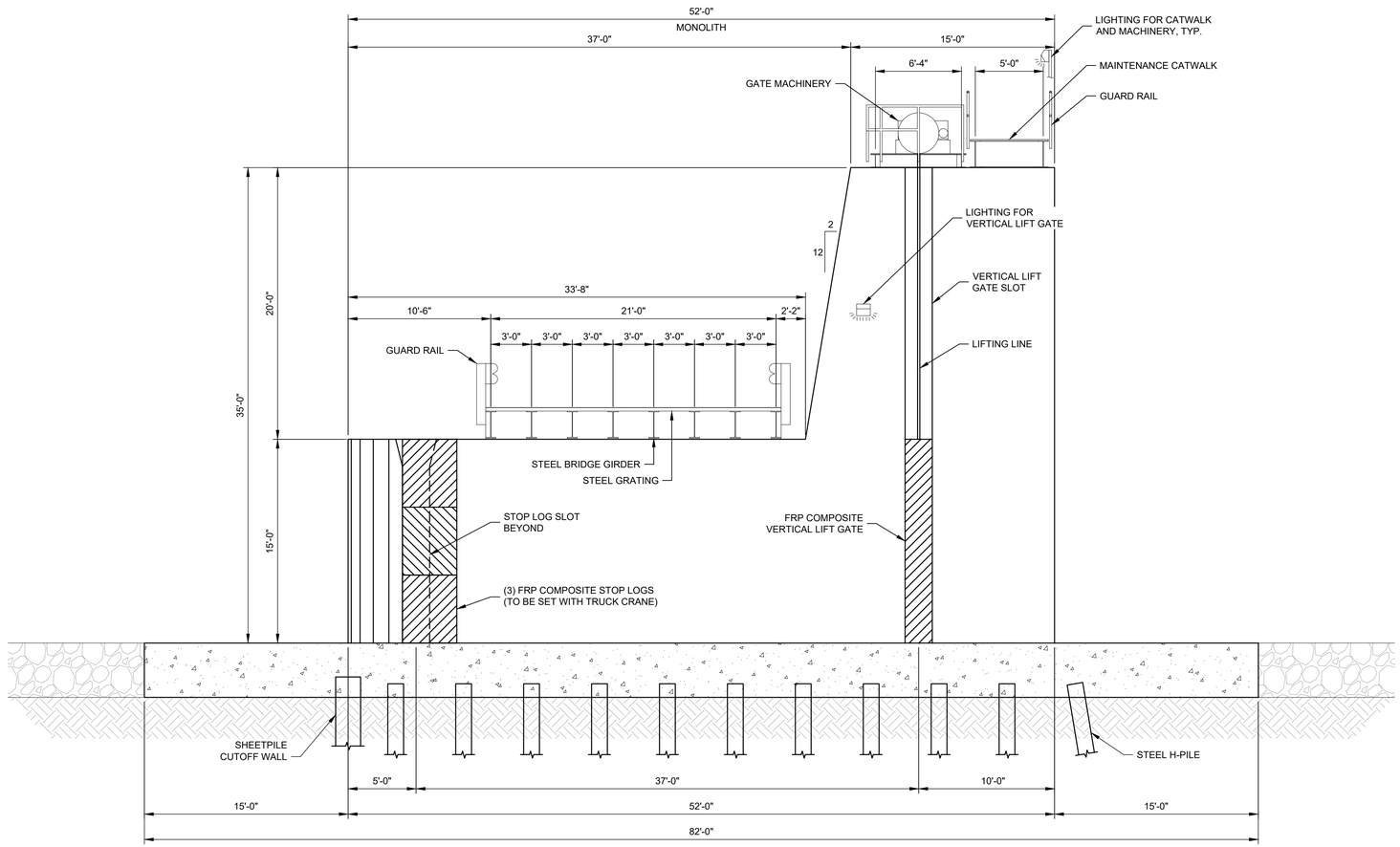
MILLERS FERRY
GATED STRUCTURE SECTIONS

SHEET ID
S-300

3/29/24



SECTION C

SCALE: 3/16" = 1'-0" S-101 S-301

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MILLERS FERRY
GATED STRUCTURE SECTIONS

SHEET ID
S-301

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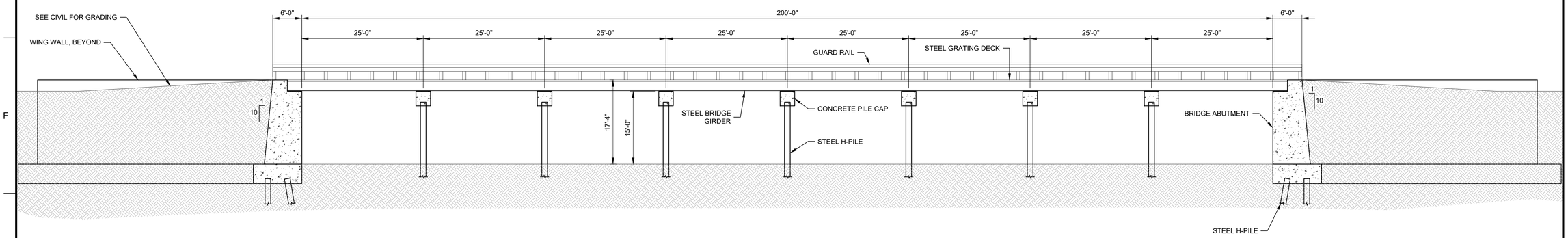
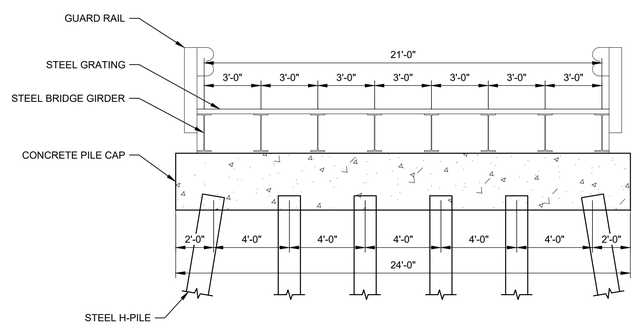


SECTION D
SCALE: 1/8" = 1'-0" S-103 S-302

NOTE:
PILES ARE REQUIRED TO ACHIEVE A MINIMUM ALLOWABLE COMPRESSIVE CAPACITY OF 40 TONS



SECTION E
SCALE: 1/4" = 1'-0" S-103 S-302

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FILE NAME: CHB22001- S302M.dwg

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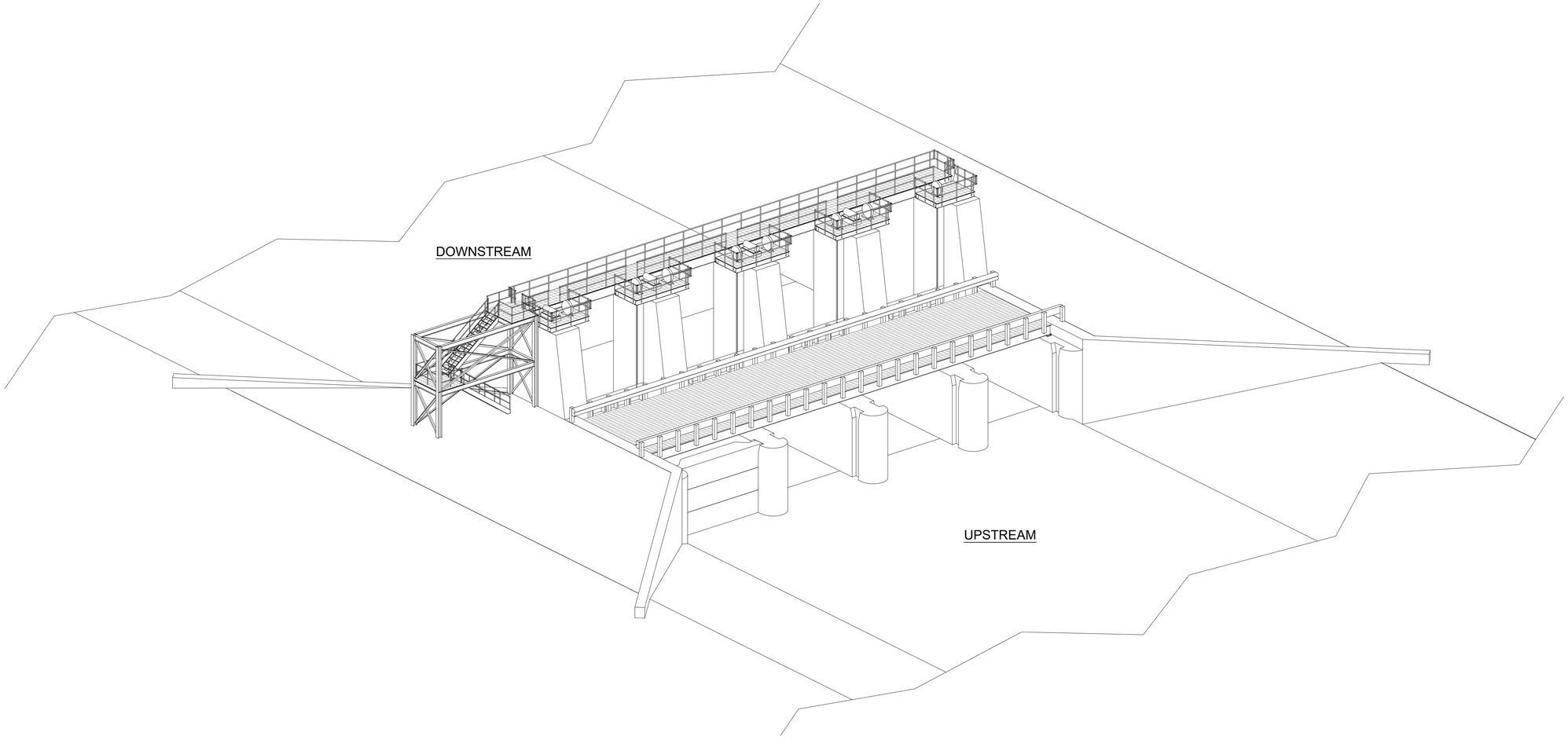
FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
VEHICULAR BRIDGE SECTIONS

SHEET ID
S-302

2/23/24



ISOMETRIC
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CONTRACT NO.: -
PROJECT NUMBER: CHB22001
FILE NAME: CHB22001 - S900M.dwg

U.S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
109 SAINT JOSEPH STREET
MOBILE, ALABAMA

FRANKLIN, ALABAMA
LOWER ALABAMA RIVER FISH PASSAGE
GENERAL INVESTIGATION STUDY

MILLERS FERRY
BYPASS STRUCTURE ISOMETRIC

SHEET ID
S-900

3/29/24