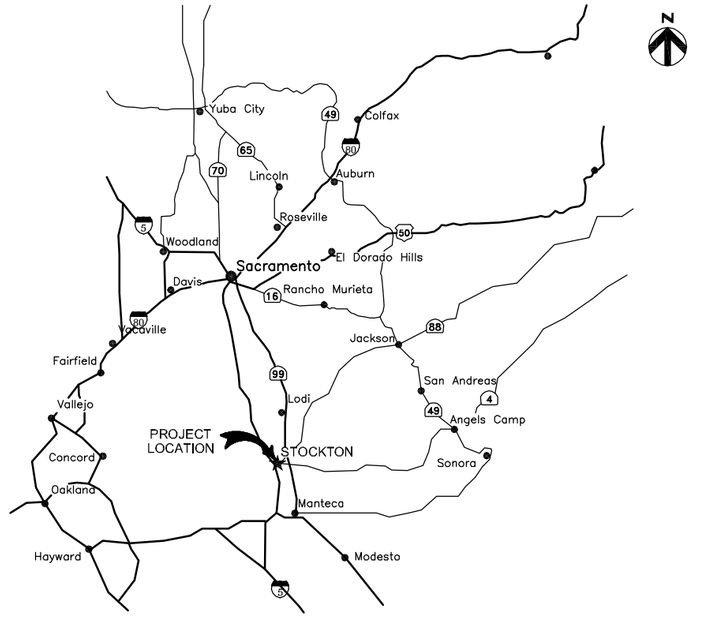
Contract Drawings For

San Joaquin Area Flood Control Agency

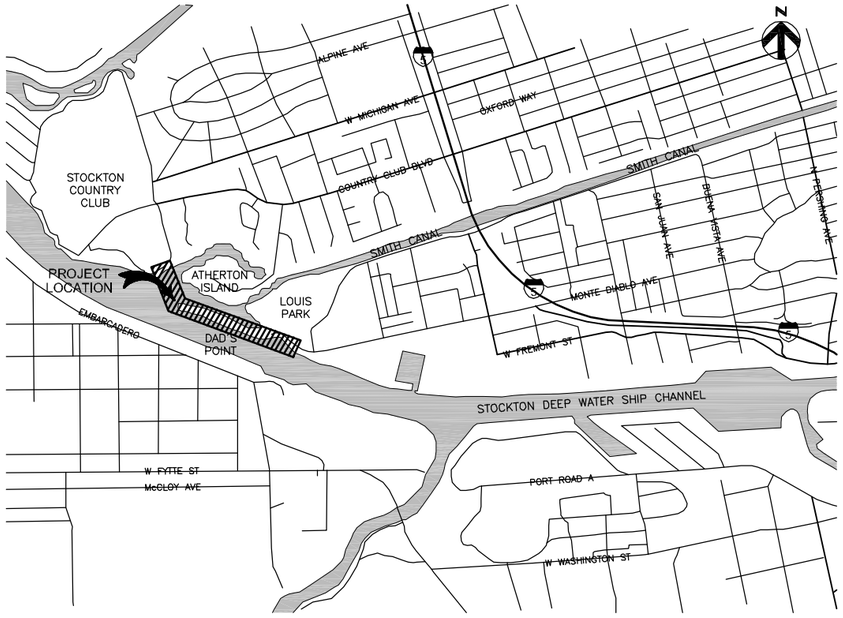
SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

30% DESIGN
NOT FOR CONSTRUCTION
JANUARY 29, 2010

PRELIMINARY



LOCATION MAP
NTS



VICINITY MAP
NTS

SAN JOAQUIN AREA FLOOD CONTROL AGENCY:

JAMES GIOTTONINI — Date
EXECUTIVE DIRECTOR

RECLAMATION DISTRICT 1614

Christopher Neudeck — Date

RECLAMATION DISTRICT 828

Thomas Rosten — Date

HDR ENGINEERING:

Keith DE Lapp, RCE No. C48214 — Date
HDR Engineering

PBI ENGINEERING:

Finbarr J O'Regan, RCE No. C57527 — Date
PBI Engineering

UTILITY CONTACT INFORMATION

UTILITY	REPRESENTATIVE	PHONE
GAS		
DRAINAGE		
TELEPHONE		
ELECTRICITY		
WATER		
SEWER		
FIRE		
TELEVISION		
TELEPHONE		
U.S.A.		

CALL BEFORE YOU DIG 800-227-2600

WARNING: CONTRACTOR TO USE EXTREME CAUTION. EXACT DEPTH AND LOCATION OF UNDERGROUND UTILITIES ARE UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY CONFLICT. CONTRACTOR SHALL CALL USA AT 1-800-227-2600 AT LEAST TWO WORKING DAYS BEFORE DIGGING.

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING
1180 Iron Point Rd. Suite 260
Folsom, CA 95630
PH: (916)608-2212 Fax: (916)608-2232

HDR Engineering Inc.

REGISTERED PROFESSIONAL ENGINEER KEITH F. DE LAPP No. 48214 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

TITLE SHEET

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET G-001 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

C:\pwworking\sac\d0154429\107341-01-G001.dwg 3-15-10 03:52:31 PM vrusso

SHEET INDEX

GENERAL:

G-001	TITLE SHEET
G-002	SHEET INDEX
G-003	ABBREVIATIONS
G-004	LEGEND & SYMBOLS
G-005	GENERAL NOTES
G-006	CONTRACTORS WORK AND STAGING AREAS
G-007	DISPOSAL SITES AND HAUL ROUTE

SURVEY:

V-001	UTILITY RESEARCH TABLE
V-002	CONTROL SHEET
V-003	TOPOGRAPHIC SURVEY/ALIGNMENT CONTROL No. 1
V-004	TOPOGRAPHIC SURVEY/ALIGNMENT CONTROL No. 2

GEOTECHNICAL:

B-001	LOG OF EXPLORATIONS No. 1
B-002	LOG OF EXPLORATIONS No. 2
B-003	LOG OF EXPLORATIONS No. 3
B-004	LOG OF EXPLORATIONS No. 4

CIVIL:

C-101	SHEET PILE WALL PLAN AND PROFILE No. 1
C-102	SHEET PILE WALL PLAN AND PROFILE No. 2
C-103	SHEET PILE WALL PLAN AND PROFILE No. 3
C-104	SHEET PILE WALL PLAN AND PROFILE No. 4
C-105	SHEET PILE WALL PLAN AND PROFILE No. 5
C-301	TYPICAL SHEET PILE SECTIONS
C-302	TYPICAL SHEET PILE SECTIONS
C-401	DUAL SHEET PILE TIE-IN AT GOLF COURSE
C-402	CONTROL GATE SITE PLAN
C-403	DUAL SHEET PILE TIE-IN AT DAD'S POINT
C-404	SHEET PILE TIE-IN AT LUIS PARK BOAT LAUNCH
C-501	GRADING AND DRAINAGE DETAILS
C-502	STORM DRAIN DETAILS
C-503	DEMOLITION DETAILS
C-504	TYPICAL SHEET PILE WALL EARTHWORK PAYLINES
C-505	MISCELLANEOUS FENCING DETAILS
C-506	MISCELLANEOUS CONSTRUCTION DETAILS
C-507	STAGE CONSTRUCTION DETAILS

STRUCTURAL:

S-001	GENERAL STRUCTURAL NOTES
S-002	TYPICAL CONCRETE DETAILS I
S-003	TYPICAL CONCRETE DETAILS II
S-004	TYPICAL CONCRETE DETAILS III
S-005	TYPICAL REINFORCING DETAILS
S-006	TYPICAL BLOCK WALL DETAILS I
S-007	TYPICAL BLOCK WALL DETAILS II
S-301	TYPICAL SHEET PILE WALL SECTION No. 1
S-302	TYPICAL SHEET PILE WALL SECTION No. 2
S-401	CONTROL GATE STRUCTURE FOUNDATION PLAN
S-402	CONTROL GATE STRUCTURE SECTION I
S-403	CONTROL GATE STRUCTURE SECTION II
S-402	MECHANICAL CONTROL BUILDING FOUNDATION PLAN
S-501	PILE SCHEDULES AND DETAILS
S-502	SHEET PILE WALL DETAILS
S-503	CONTROL GATE DETAILS
S-504	CONTROL GATE STRUCTURE FOUNDATION DETAILS
S-505	MECHANICAL CONTROL BUILDING FOUNDATION DETAILS

MECHANICAL:

M-001	GENERAL MECHANICAL NOTES
M-401	CONTROL BUILDING MECHANICAL PLAN AND SECTION
M-501	CONTROL BUILDING MECHANICAL DETAILS
M-502	CONTROL GATE MECHANICAL DETAILS

NOTES:

1. BOLD SHEETS INCLUDED IN CURRENT 30% PLAN SET.

PETERSON . BRUSTAD . INC
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STATE OF CALIFORNIA

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

SHEET INDEX

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET G-002 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

A/C	AIR CONDITIONING
A/E	ARCHITECT/ENGINEER
A	AMPERE
AB	ANCHOR BOLT
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
ABT	ABOUT
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACP	ACOUSTIC CEILING PANEL, ASPHALTIC CONCRETE PAVEMENT
ACST	ACOUSTIC
AD	ADDENDUM, AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGGR	AGGREGATE
AI	AREA INLET, ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ALIG	ALIGNMENT
ALT	ALTERNATE, ALTITUDE
ALUM	ALUMINUM
AM	ACOUSTICAL MATERIAL
AMB	AMBIENT
ANC	ANCHOR
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APRX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
AT	ACOUSTICAL TILE, AMP TRIP
ATC	ACOUSTICAL TILE CEILING
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
AWT	ACOUSTICAL WALL TILE
B TO B	BACK TO BACK
BAL	BALANCE
BBD	BULLETIN BOARD
BC	BASE CABINET, BOTTOM CHORD, BOLT CENTER, BOLT CIRCLE
BD	BOARD
BE	BOTH ENDS, BELL END
BF	BOTH FACES, BOTTOM FACE, BLIND FLANGE, BOARD FEET
BITUM	BITUMINOUS
BKG	BACKING
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK, BEAM
BOC	BACK OF CURB
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOL	BOTTOM OF LOUVER, BOLLARD
BOP	BOTTOM OF PIPE
BOR	BOTTOM OF REGISTER
BOT	BOTTOM
BOU	BOTTOM OF UNIT
BP	BASE PLATE
BRG	BEARING
BRGP	BEARING PLATE
BRKT	BRACKET
BS	BOTH SIDES
BTU	BRITISH THERMAL UNIT
BTW	BETWEEN
BTWLD	BUTT WELD
BU	BELL UP, BUILT-UP
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
BYP	BYPASS
C TO C	CENTER TO CENTER
C&G	CURB AND GUTTER
C	CHANNEL SHAPE, CENTIGRADE, CONDUIT
CAB	CABINET
CAP	CAPACITY
CAT	CATALOG, CATALOGIORY
CAV	CAVITY
CB	CATCH BASIN
CCB	CONCRETE BLOCK
CCW	COUNTER CLOCKWISE
CDF	CONTROLLED-DENSITY FILL
CE	CONCRETE EDGE
CER	CERAMIC
CF	CUBIC FEET (FOOT)
CFL	COUNTER FLASHING
CHBD	CHALKBOARD
CHD	CHORD
CHFR	CHAMFER
CHH	COMMUNICATION HANDHOLE
CI	CURB INLET
CIP	CAST-IN-PLACE
CIPB	CONCRETE INTERLOCKING PAVER BALLAST
CIRC	CIRCULATION, CIRCULAR
CISS	CAST-IN-STEEL SHELL
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTERLINE, CLASS, CLOSE
CLKG	CAULKING
CLR	CLEAR
CMH	COMMUNICATION MANHOLE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT, CONCRETE OPENING
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATION
COMP	COMPOSITION, COMPRESSIBLE, COMPOSITE
CON	CONCENTRIC
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COOR	COORDINATE
CORR	CORROSIVE, CORRUGATED
CP	CHECKER PLATE, CONTROL POINT
CPLG	COUPLING
CRL	CORROSION-RESISTANT LINING
CSC	COMPRESSION SLEEVE COUPLING
CSK	COUNTERSINK
CSS	CLINIC SERVICE SINK
CT	CERAMIC TILE
CTJ	CONTRACTION JOINT
CTR	CENTER
CTRL	CONTROL
CVT	CULVERT
CU	COPPER, CUBIC
CW	CLOCKWISE
CY	CUBIC YARD
d	PENNY (NAIL MEASURE)
D	DEEP, DIFFUSER, DRAIN
DB	DUCT BANK, DECIBEL, DRY BULB
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
DEMO	DEMOLITION
DEP	DEPRESSED
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON, DIGITAL INPUT
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIFF	DIFFERENTIAL, DIFFERENCE
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE, DISTRIBUTION
DIV	DIVISION
DL	DEAD LOAD
DMJ	DOUBLE MECHANICAL JOINT
DMPF	DAMP PROOFING
DN	DOWN
DO	DISSOLVED OXYGEN, DIGITAL OUTPUT, DITTO
DP	DEPTH
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DOWN SPOUT
DT	DOUBLE TEE, DRIP TRAP ASSEMBLY
DUP	DUPLICATE
DWG	DRAWING
DWL	DOWEL
DWR	DRAWER
E	EAST
EA	EACH, EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EDB	ELECTRICAL DUCT BANK
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT, EFFICIENCY
EHH	ELECTRICAL HANDHOLE
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELBOW, ELEVATION
ELEC	ELECTRICAL
EMBD	EMBEDDED
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE, EQUAL SPACE, EMERGENCY SHOWER
ESEW	EMERGENCY SHOWER AND EYE WASH
EST	ESTIMATE
EW	EACH WAY, EMERGENCY EYE/FACE WASH
EWC	ELECTRIC WATER COOLER
EWEF	EACH WAY, EACH FACE
EWTB	EACH WAY, TOP AND BOTTOM
EXC	EXCAVATION
EXH	EXHAUST
EXP	EXPANSION, EXPOSED
EXST	EXISTING
EXT	EXTERIOR, EXTERNAL, EXTENSION
F TO F	FACE TO FACE
F&B	FACE AND BYPASS
FAB	FABRICATE
FB	FLOOR BEAM
FBD	FIBERBOARD
FBG	FIBERGLASS
FBM	BOARD FOOT MEASURE
FBO	FURNISHED BY OWNER
FC	FLUSHING CONNECTION
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDC	FLEXIBLE DUCT CONNECTION
FDR	FEEDER
FDTN	FOUNDATION
FE	FLANGED END
FEC	FIRE EXTINGUISHER CABINET
FES	FLARED END SECTION
FEXT	FIRE EXTINGUISHER
FF	FAR FACE, FACTORY FINISH, FLAT FACE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH
FJT	FLUSH JOINT
FL	FLOW, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLOR	FLUORESCENT
FLR	FLOOR
FLS	FLASHING, FLUSH
FN	FENCE
FO	FINISHED OPENING
FOB	FLAT ON BOTTOM
FOC	FACE OF CONCRETE, FACE OF CURB
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOT	FLAT ON TOP
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FRTM	FIRE RETARDANT TREATED MATERIAL
FS	FLOOR SINK, FAR SIDE
FT	FEET, FOOT
FTG	FOOTING, FITTING
FUR	FURRED, FURRING
FURN	FURNITURE, FURNISH
FUT	FUTURE
FV	FACE VELOCITY
FW	FIELD WELD, FIRE WALL
FWD	FORWARD
FWE	FURNISHED WITH EQUIPMENT
FXTR	FIXTURE
G	GRILLE, GROUND
GA	GAGE (METAL THICKNESS)
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR, GRADE BREAK
GC	GROOVED COUPLING
GD	GUARD
GEN	GENERAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFMU	GROUND FACE MASONRY UNIT
GG	GUTTER GRADE
GJ	GROOVED JOINT
GL	GLASS
GLB	GLASS BLOCK, GLULAM BEAM
GND	GROUND
GP	GUY POLE
GR	GRADE
GRTG	GRATING
GSB	GYPSUM SHEATHING BOARD
GT	GREASE TRAP
GVL	GRAVEL
GW	GUY WIRE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM HARDBOARD
H	HIGH
HB	HOSE BIBB
HBD	HARDBOARD
HC	HANDICAPPED, HOLLOW CORE, HORIZONTAL CURVE, HORIZONTAL CENTERLINE
HD	HEAD, HOT DIP
HDR	HEADER
HDW	HARDWARE
HEX	HEXAGONAL
HGR	HANGER
HH	HANDHOLE
HID	HIGH-INTENSITY DISCHARGE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HPC	HORIZONTAL POINT OF CURVATURE
HPS	HIGH-PRESSURE SODIUM
HPT	HORIZONTAL POINT OF TANGENCY
HR	HOSE REEL, HOUR
HS	HEADED STUD, HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
HTG	HEATING
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWD	HARDWOOD
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
HZ	HERTZ, CYCLES PER SECOND
ID	INSIDE DIAMETER, INTERIOR DIMENSION
IE	INVERT ELEVATION, FOR EXAMPLE
IF	INSIDE FACE
IH	INTAKE HOOD
IMP	IMPACT
IN	INCH
INC	INCLUDE, INCANDESCENT
INF	INFLUENT
INSTR	INSTRUMENTATION
INSUL	INSULATION
INT	INTERIOR, INTERSECTION
INTR	INTERMEDIATE, INTERIOR
INV	INVERT
IPS	IRON PIPE SIZE
IPT	INTERNAL PIPE THREAD
IR	INSIDE RADIUS, IRON ROD
IRR	IRRIGATION
ISO	ISOMETRIC
JB	JUNCTION BOX
JCT	JUNCTION
JF	JOINT FILLER
JST	JOIST
JT	JOINT
K	KIP
KB	KNEE BRACE
KCMIL	THOUSAND CIRCULAR MILS
KD	KNOCK DOWN
KO	KNOCK OUT
KSI	KIPS PER SQUARE INCH
KW	KILOWATT
L	ANGLE, LENGTH, LAVATORY, LINTEL
LAD	LADDER
LAM	LAMINATE
LATL	LATERAL
LB	LAG BOLT, POUND
LCTB	LIQUID CHALK AND TACK BOARD
LDG	LANDING
LDR	LEADER
LE	LIFTING EYE
LF	LINEAR FOOT
LG	LONG
LH	LEFT HAND
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LMLU	LIQUID MARKER LECTURE UNIT
LNG	LONGITUDINAL
LOC	LOCATION
LP	LOW POINT
LPS	LOW-PRESSURE SODIUM
LR	LONG RADIUS
LT	LEFT
LTD	LIMITED
LTG	LIGHTING
LTL	LINTEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
LVL	LAMINATED VENEER LUMBER
LVR	LOUVER
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
MA	MIXED AIR
MACH	MACHINED
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MEMBER
MC	MECHANICAL CONTRACTOR, MECHANICAL COUPLING, MOMENT CONNECTION
MCB	METAL CORNER BEAD
MCJ	MASONRY CONTROL JOINT
MDMJ	MODIFIED DOUBLE MECHANICAL JOINT
MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MASONRY LINTEL
MLO	MAIN LUGS ONLY
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODULAR, MODIFY
MON	MONUMENT
MPT	MALE PIPE THREAD
MRGWB	MOISTURE-RESISTANT GYPSUM WALLBOARD
MS	MOP SINK
MSL	MEAN SEA LEVEL
MT	MOUNT
MU	MASONRY UNIT
MULL	MULLION
MV	MEDIUM VOLTAGE
MW	MONITORING WELL
N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NAT	NATURAL, NATIONAL
NC	NORMALLY CLOSED
NEG	NEGATIVE
NF	NEAR FACE, NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NS	NEAR SIDE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
O TO O	OUT TO OUT
OA	OUTSIDE AIR, OVERALL
OC	ON CENTER
OCPD	OVER CURRENT PROTECTION DEVICE
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
OF	OUTSIDE FACE, OFFICE FURNISHING
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OG	ORIGINAL GROUND
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
OVFL	OVERFLOW
OVHG	OVERHANG
OZ	OUNCE
P	PAINT
PA	PUBLIC ADDRESS
PAR	PARALLEL, PARAPET
PB	PANIC BAR, PULL BOX
PBD	PARTICLE BOARD
PC	POINT OF CURVE, PIECE, PRECAST
PCC	POINT OF COMPOUND CURVATURE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PE	PLAIN END
PED	PEDESTAL
PEN	PENETRATION
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PF	POWER FACTOR
PFMU	PREFACED MASONRY UNIT
PH	PHASE
PI	POINT OF INTERSECTION
PKG	PACKAGE
PL	PLATE, PROPERTY LINE, PRECAST LINTEL
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PNEU	PNEUMATIC
POL	POLISH
POS	POSITIVE, POSITION
PP	POLYPROPYLENE, POWER POLE
PRC	POINT OF REVERSE CURVATURE
PREF	PREFINISHED
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE
PRES	PRESSURE
PRI	PRIMARY
PROP	PROPERTY, PROPOSED
PROT	PROTECTION
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PST	PRESTRESSED
PT	POINT, POINT OF TANGENCY
PTN	PARTITION
PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
PVMT	PAVEMENT
PWD	PLYWOOD
PWJ	PLYWOOD WEB JOIST
PZ	PIEZOMETER
Q	RATE OF FLOW
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R&R	REMOVE AND REPLACE
R&S	REMOVE AND SALVAGE
R	RADIUS, REGISTER, RISER
RA	RETURN AIR
RB	RESILIENT BASE, ROCK BERM
RCPT	RECEPTACLE
RD	ROOF DRAIN
REC	RECESS
RECD	RECEIVED
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REINF	REINFORCING
REM	REMOVE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING, RETURN
REV	REVISION, REVERSE
RF	RESILIENT FLOORING
RFG	ROOFING
RFL	REFLECTED, REFLECTOR
RGH	ROUGH
RGS	RIGID GALVANIZED STEEL
RGS-PVC	PVC COATED RGS
RH	RELIEF HOOD, RIGHT HAND, RELATIVE HUMIDITY
RL	REQUIRED LAP
RLFA	RELIEF AIR
RND	ROUND
RNG	RUNNING
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
RVT	RESILIENT VINYL TILE
RY	READY
S	SOUTH, SINK
SA	SUPPLY AIR
SAMU	SOUND-ABSORBING MASONRY UNIT
SAN	SANITARY
SB	SPLASH BLOCK
SC	SOLID CORE
SCH	SCHEDULE
SCHEM	SCHEMATIC
SCN	SCREEN
SE	STEEL/ALUMINUM EDGE
SEC	SECONDARY, SECONDS
SECT	SECTION
SEP	SEPARATE
SF	SQUARE FOOT, SILT FENCE
SG	SHEET GLASS, SEALANT GROOVE
SH	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIL	SILENCE
SIM	SIMILAR
SJ	SLAB JOINT
SL	SLOPE, STEEL LINTEL
SLTD	SLOTTED
SLV	SLEEVE
SMLS	SEAMLESS
SOG	SLAB ON GRADE
SP	SOUNDPROOF, STANDPIPE
SPA	SPACING
SPEC	SPECIFICATION
SPLY	SUPPLY
SPST	SINGLE POLE SINGLE THROW
SPT	SET POINT
SQ	SQUARE
SR	SHORT RADIUS
SS	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STR	STRUCTURAL, STRAIGHT
SUB	SUBSTITUTE
SUC	SUCTION
SUSP	SUSPENDED
SY	SQUARE YARD
SYM	SYMBOL
SYMM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T	TILE, TREAD
TA	TOILET ACCESSORY, TEMPERED AIR
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEF	TROWELED EPOXY FLOORING
TEMP	TEMPORARY, TEMPERATURE
THD	THREAD
THK	THICK
THRESH	THRESHOLD
TKBD	TACK BOARD
TOB	TOP OF BOLT, TOP OF BANK, TOP OF BEAM, TOP OF BERM
TOC	TOP OF CURB, TOP OF CONCRETE
TOD	TOP OF DUCT
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOL	TOLERANCE, TOP OF LEDGER
TOM	TOP OF MASONRY
TOP	TOP OF PLATE
TOPO	TOPOGRAPHY
TOPW	TOP OF PIER WALL
TOS	TOP OF SLAB, TOP OF STEEL, TOE OF SLOPE
TOW	TOP OF WALL
TP	TOILET PARTITION, TELEPHONE POLE, TOE PLATE, TRAP PRIMER
TPD	TOILET PAPER DISPENSER
TPG	TOPPING, THROUGH PLATE GIRDER
TR	TRANSOM
TRANS	TRANSITION
TRD	TRENCH DRAIN
TYP	TYPICAL
U	URINAL
UG	UNDERGROUND
ULT	ULTIMATE
UNFN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	VENT, VELOCITY, VOLT
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARNISH, VARIABLE, VOLT AMPERES REACTIVE
VB	VAPOR BARRIER, VINYL BASE, VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE, VERTICAL CENTERLINE
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VERTS	VERTICAL REINFORCING
VG	VERTICAL GRAIN
VIF	VERIFY IN FIELD
VIN	VINYL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VS	VERSUS, VAPOR SEAL
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W/	WITH
W/O	WITHOUT
W	WATT, WEST, WIDE, WINDOW, WIRE, WIDE FLANGE BEAM
WB	WOOD BASE
WC	WATER CLOSET, WATER COLUMN
WD	WOOD, WIDTH
WF	WIDE FLANGE, WASH FOUNTAIN
WG	WIRE GLASS, WATER GAGE
WH	WALL HYDRANT, WEEP HOLE
WI	WROUGHT IRON
WL	WATER LEVEL
WLD	WELDED
WM	WIRE MESH
WP	WEATHERPROOF
WS	WATERSTOP, WATER SURFACE
WSCT	WAINSCOT
WT	WEIGHT, WATER TIGHT
WTHP	WATERPROOF, WORKING POINT
WWF	WELDED WIRE FABRIC
XP	EXPLOSION-PROOF
XS	EXTRA STRONG
XSECT	CROSS SECTION
XXS	DOUBLE EXTRA STRONG
YH	YARD HYDRANT
YS	YIELD STRENGTH

GENERAL NOTES:

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING AND "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.
4. SEE INSTRUMENTATION LEGEND SHEET FOR PROJECT-SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING
1180 Iron Point Rd. Suite 260
Folsom, CA 95630
PH: (916)608-2212 Fax: (916)608-2232

HDR Engineering Inc.

REGISTERED PROFESSIONAL ENGINEER
KEITH F. DE LAPP
No. 48214
Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

ABBREVIATIONS

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET G-003 OF xx SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

SITE PLAN SYMBOLOGY

- EMBANKMENT SLOPE
- 50 NEW CONTOUR
- 50 EXISTING CONTOUR
- VEGETATION (SIZE)
- CO CLEANOUT
- MH MANHOLE
- MW MONITORING WELL
- PZ PIEZOMETER
- CB STORM DRAIN CATCH BASIN
- UV UTILITY VAULT
- PP POWER POLE
- TP TELEPHONE POLE
- FH FIRE HYDRANT
- YH–X YARD HYDRANT
- 75.5 EXISTING SPOT ELEVATION
- 75.8 FINISHED SPOT ELEVATION
- CP–X HORIZONTAL CONTROL POINT
- BENCHMARK
- TH–"X" IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE
- DOWNGUY
- EXTERIOR PAD MOUNTED TRANSFORMER
- POLE – MOUNTED TRANSFORMER
- Y ELECTRICAL HANDHOLE OR MANHOLE Y – MHX OR HHX, WHERE X INDICATES SEQUENCE NUMBER

NOTES:

1. UTILITIES THAT ARE SUSPENDED ABOVE GRADE ARE DESIGNATED BY THE PREFIX "OH" (OVERHEAD).

- T TELEPHONE LINE
- E ELECTRIC LINE
- F FIBER OPTIC
- C COMMUNICATION
- HANDRAIL AND GUARDRAIL
- PIPELINE
- LARGE PIPELINE
- UTILITY BENEATH STRUCTURE
- RAILROAD
- DRAINAGE FLOW
- NATURAL WATERWAY
- X X CHAIN LINK FENCE
- X X FIELD FENCE
- PROPERTY LINE
- CENTERLINE
- RB ROCK BERM
- SF SILT FENCE
- EASEMENT
- LIMITS OF CONSTRUCTION
- ROW

MATERIALS IN PLAN/SECTION

- ACOUSTICAL CEILING TILE (SECTION)
- ASPHALT (PLAN OR SMALL–SCALE SECTION)
- ASPHALT (LARGE–SCALE SECTION)
- BATT INSULATION (SECTION)
- BRICK MASONRY (PLAN AND/OR SECTION)
- CHECKERED PLATE (PLAN)
- CONCRETE (PLAN AND/OR SECTION)
- CONCRETE MASONRY (PLAN AND/OR SECTION)
- DEMOLITION (PLAN AND/OR SECTION)
- EARTH (SECTION)
- FILTER POINT MAT (PLAN)
- FINISHED WOOD (SECTION)
- GLULAM LUMBER (SECTION)
- GRANULAR FILL (SECTION)
- GRATING (SECTION)
- GRATING (PLAN)
- GROUT (SECTION)
- GYPSUM BOARD (SECTION)
- METAL (SECTION)
- ORIENTED STRAND BOARD (SECTION)
- PARTICLE BOARD (SECTION)
- PLYWOOD (LARGE–SCALE SECTION)
- PLYWOOD (SMALL–SCALE SECTION)
- PRECAST CONCRETE (PLAN AND/OR SECTION)
- RIGID INSULATION (SECTION)
- RIPRAP (PLAN AND/OR SECTION)
- SAND (SECTION)
- SOD (SECTION)
- WEEP JOINT MORTAR PROTECTION SYSTEM (SECTION)
- WOOD – CONTINUOUS (SECTION)
- WOOD BLOCKING (SECTION)

GENERAL SYMBOLOGY

ARROW INDICATES DIRECTION OF PLAN NORTH

N

PLAN
1/4" = 1'–0"
PLAN TITLE

SECTION LETTER
FLAG INDICATES DIRECTION OF SECTION CUT
X / XXX
SHEET WHERE SECTION IS LOCATED *
SECTION CUT MARKER

SECTION
3/8" = 1'–0"
SECTION LETTER
X / XXX
SHEET WHERE SECTION VIEW IS FIRST CUT *
SECTION TITLE

DETAIL NUMBER
/ XXX
SHEET WHERE DETAIL IS LOCATED *
DETAIL MARKER
FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.

XXXXXXXX
DETAIL MARKER
FOR REFERENCING DETAILS BOUND IN SPECIFICATIONS OR SEPARATE VOLUME.

DETAIL
3" = 1'–0"
DETAIL NUMBER
/ XXX
SHEET WHERE DETAIL WAS CALLED OUT
DETAIL TITLE

* FOR COMMON DETAILS AND SECTIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS, THE SHEET NUMBER IS REPLACED BY A DASH (–).

ELEVATION NUMBER
ARROW INDICATES POINT OF VIEW
X / XXX
SHEET WHERE ELEVATION IS LOCATED *
SINGLE ELEVATION OR PHOTO MARKER

A B C D
ELEVATION NUMBER
ARROW INDICATES POINT OF VIEW ELEVATION
X / XXX
INDICATES SHEET WHERE ELEVATION IS LOCATED
MULTIPLE ELEVATION OR PHOTO MARKER

ELEVATION
3" = 1'–0"
ELEVATION IDENTIFICATION NUMBER
X / XXX
SHEET WHERE POINT OF VIEW MARKER CAN BE FOUND *
ELEVATION TITLE

TARGET ELEVATION

ARCHITECTURAL

ROOM NAME
XX–XX ROOM NUMBER

XXX / X DOOR NUMBER

A COLUMN GRID LINE

X WALL TYPE

X WINDOW TYPE

X LOUVER

X ACCESSORY, FURNITURE, AND MISCELLANEOUS EQUIPMENT IDENTIFIER

KEY NOTE DESIGNATION

KEY NOTE NUMBER

GENERAL LINE SYMBOLOGY

- 4–HOUR FIRE RATED WALL
- 3–HOUR FIRE RATED WALL
- 2–HOUR FIRE RATED WALL
- 1–HOUR FIRE RATED WALL
- COLUMN GRID LINE/CENTERLINE

IDENTIFICATION SYMBOLOGY

PIPING

FIGURE	EXAMPLE
36–PLE	
LINE SIZE	36"
SERVICE	PLANT EFFLUENT

EQUIPMENT IDENTIFICATION

ALTERNATIVE 1

NPWP2023

FIGURE	EXAMPLE
SERVICE ABBREVIATION	INDICATES NON–POTABLE WATER
EQUIPMENT ABBREVIATION	INDICATES PUMP
BUILDING OR STRUCTURE NUMBER	BUILDING 20
EQUIPMENT NUMBER	PUMP 23

ALTERNATIVE 2

NPWP–23

FIGURE	EXAMPLE
SERVICE ABBREVIATION	INDICATES NON–POTABLE WATER
EQUIPMENT ABBREVIATION	INDICATES PUMP
EQUIPMENT NUMBER	PUMP 23

SHEET NAMING CONVENTION

AREA DESIGNATION

TO BE EDITED ON AN A PROJECT BASIS. TO BE DETERMINED BY THE PROJECT MANAGER, THEN ADDED TO THE GENERAL LEGEND.
EXAMPLE:
01 BUILDING OR AREA NAME
02 BUILDING OR AREA NAME
03 BUILDING OR AREA NAME

DISCIPLINE DESIGNATOR & DISCIPLINE ORDER

G	GENERAL
V	SURVEYING/MAPPING
X	DEMOLITION
C	CIVIL
U	MULTI–DISCIPLINE
S	STRUCTURAL
A	ARCHITECTURAL
D	PROCESS
M	MECHANICAL (HVAC)
P	PLUMBING
E	ELECTRICAL
Y	INSTRUMENTATION

DRAWING TYPE DESIGNATOR

0	GENERAL (SYMBOLS, LEGENDS)
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES AND DIAGRAMS
8	PROFILES
9	3D REPRESENTATIONS

EXAMPLE

GRAVITY THICKENER ARCHITECTURAL SECTION, SHEET 01

0	5				

AREA DESIGNATION

		A			

DISCIPLINE DESIGNATOR

			3		

SHEET TYPE DESIGNATOR

				0	1

SHEET NUMBER

GENERAL NOTES:

1. THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE–EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING
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Folsom, CA 95630
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STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

LEGEND & SYMBOLS

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
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DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET G-004
OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

BASIS OF DESIGN

1. BASIS OF DESIGN UTILIZED FOR THIS DRAWING SET IS INCLUDED IN THE FOLLOWING STATEMENT:

   A. THE PURPOSE OF THE DESIGN CONCEPT PRESENTED IN THIS DRAWING SET IS TO FURTHER DEVELOP THE FEASIBILITY OF THE SMITH CANAL CLOSURE STRUCTURE CONCEPTUALIZATION PRESENTED IN THE TECHNICAL MEMORANDUM, DATED JUNE 27, 2008, IN SUPPORT OF AN APPLICATION FOR A CONDITIONAL LETTER OF MAP REVISION TO BE FILED WITH FEMA.

2. GEOTECHNICAL INFORMATION USED FOR THIS DRAWING SET WAS PROVIDED BY KLEINFELDER, INC. IN THE FOLLOWING DOCUMENT:

   A. GEOTECHNICAL SERVICES REPORT, SMITH CANAL CLOSURE STRUCTURE, STOCKTON, CALIFORNIA, DATED APRIL 9, 2008.

3. THE DESIGN WATER SURFACE ELEVATION USED TO ESTABLISH THE TOP OF SHEET PILE WALL ELEVATION WAS PROVIDED BY PETERSON BRUSTAD, INC. IN THE FOLLOWING DOCUMENT:

   A. SMITH CANAL CLOSURE CONCEPTUALIZATION TECHNICAL MEMORANDUM, FOR THE SAN JOAQUIN AREA FLOOD CONTROL AGENCY, DATED JUNE 27, 2008.

4. THE PRELIMINARY TOPOGRAPHIC FEATURE INFORMATION USED IN THE DEVELOPMENT OF THE DESIGN FEASIBILITY SHOWN IN THIS DRAWING SET WAS PROVIDED BY KJELDSEN, SINNOCK & NEUDECK, INC. AND IS A COMPILATION OF AVAILABLE AERIAL AND FIELD DATA.

5. EXPERIENCE AND JUDGMENT WERE APPLIED IN THE DEVELOPMENT OF THIS DESIGN CONCEPT WHERE PROJECT SPECIFIC DATA OR GUIDANCE IS UNAVAILABLE.

6. THE PERFORMANCE OF EARTHEN LEVEE SYSTEMS IS NOT PART OF THE DESIGN FEASIBILITY PRESENTED IN THIS DRAWING SET.

7. RIGHT-OF-WAY CONSTRAINTS WERE NOT CONSIDERED IN THE DEVELOPMENT OF THIS DESIGN CONCEPT.

8. UTILITY RESEARCH AND IDENTIFICATION WAS NOT PERFORMED AS PART OF THE DEVELOPMENT OF THIS DESIGN CONCEPT.

CONTRACT REPRESENTATIVES			
PUBLIC / UTILITY SERVICE	RESPONSIBLE ENTITY	REPRESENTATIVE	TELEPHONE
UNDERGROUND ALERT	USA	---	800-227-2600
AGENCY	SJAFCA		
AGENCY (O&M)	RD 1614		
AGENCY (O&M)	RD 828		
DESIGN ENGINEER	HDR	SAM PLANCK	916-817-4700
GEOTECHNICAL ENGINEER	KLEINFELDER, INC.		916-366-2347
HABITAT MANAGER			
NATURAL GAS	PACIFIC GAS AND ELECTRIC CO.		
ELECTRICITY	PACIFIC GAS AND ELECTRIC CO.		
TELEPHONE	AT&T		
SEWER/WATER/DRAINAGE	CITY OF STOCKTON		
CONSTRUCTION MANAGER			
TRANSPORTATION	CITY OF STOCKTON		

NOTE:

ADMINISTRATION OF ALL WORK PERFORMED BY THE CONTRACTOR SHALL COMPLY WITH THE GENERAL SPECIFICATIONS.

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REV	DATE	BY	DESCRIPTION
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SJAFCA San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

GENERAL NOTES

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

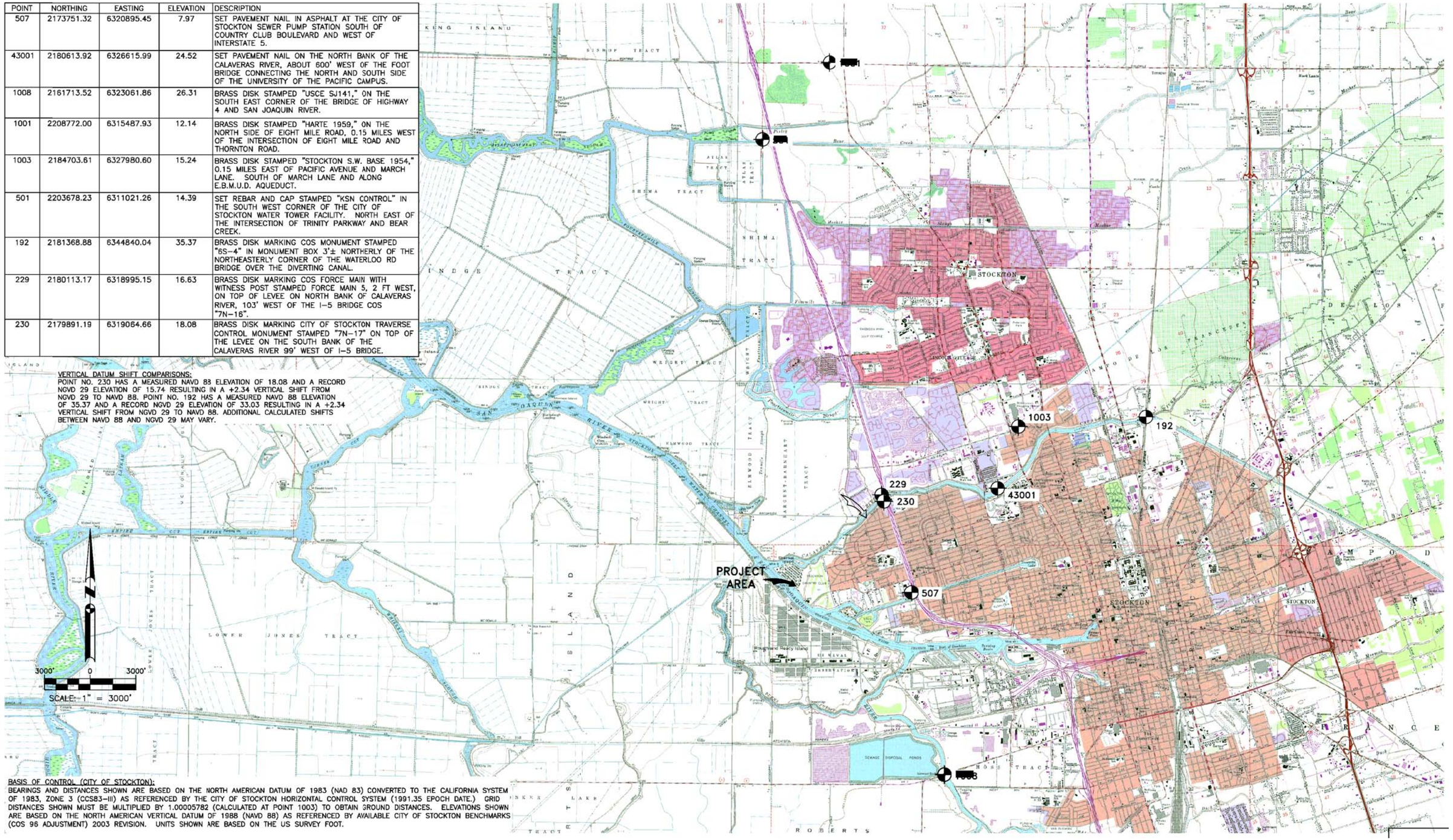
SCALE: NO SCALE	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET G-005 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
507	2173751.32	6320895.45	7.97	SET PAVEMENT NAIL IN ASPHALT AT THE CITY OF STOCKTON SEWER PUMP STATION SOUTH OF COUNTRY CLUB BOULEVARD AND WEST OF INTERSTATE 5.
43001	2180613.92	6326615.99	24.52	SET PAVEMENT NAIL ON THE NORTH BANK OF THE CALAVERAS RIVER, ABOUT 600' WEST OF THE FOOT BRIDGE CONNECTING THE NORTH AND SOUTH SIDE OF THE UNIVERSITY OF THE PACIFIC CAMPUS.
1008	2161713.52	6323061.86	26.31	BRASS DISK STAMPED "USCE SJ141," ON THE SOUTH EAST CORNER OF THE BRIDGE OF HIGHWAY 4 AND SAN JOAQUIN RIVER.
1001	2208772.00	6315487.93	12.14	BRASS DISK STAMPED "HARTE 1959," ON THE NORTH SIDE OF EIGHT MILE ROAD, 0.15 MILES WEST OF THE INTERSECTION OF EIGHT MILE ROAD AND THORNTON ROAD.
1003	2184703.61	6327980.60	15.24	BRASS DISK STAMPED "STOCKTON S.W. BASE 1954," 0.15 MILES EAST OF PACIFIC AVENUE AND MARCH LANE. SOUTH OF MARCH LANE AND ALONG E.B.M.U.D. AQUEDUCT.
501	2203678.23	6311021.26	14.39	SET REBAR AND CAP STAMPED "KSN CONTROL" IN THE SOUTH WEST CORNER OF THE CITY OF STOCKTON WATER TOWER FACILITY. NORTH EAST OF THE INTERSECTION OF TRINITY PARKWAY AND BEAR CREEK.
192	2181368.88	6344840.04	35.37	BRASS DISK MARKING COS MONUMENT STAMPED "6S-4" IN MONUMENT BOX 3'± NORTHERLY OF THE NORTHEASTERLY CORNER OF THE WATERLOO RD BRIDGE OVER THE DIVERTING CANAL.
229	2180113.17	6318995.15	16.63	BRASS DISK MARKING COS FORCE MAIN WITH WITNESS POST STAMPED FORCE MAIN 5, 2 FT WEST, ON TOP OF LEVEE ON NORTH BANK OF CALAVERAS RIVER, 103' WEST OF THE I-5 BRIDGE COS "7N-16".
230	2179891.19	6319064.66	18.08	BRASS DISK MARKING CITY OF STOCKTON TRAVERSE CONTROL MONUMENT STAMPED "7N-17" ON TOP OF THE LEVEE ON THE SOUTH BANK OF THE CALAVERAS RIVER 99' WEST OF I-5 BRIDGE.

VERTICAL DATUM SHIFT COMPARISONS:
POINT NO. 230 HAS A MEASURED NAVD 83 ELEVATION OF 18.08 AND A RECORD NGVD 29 ELEVATION OF 15.74 RESULTING IN A +2.34 VERTICAL SHIFT FROM NGVD 29 TO NAVD 88. POINT NO. 192 HAS A MEASURED NAVD 88 ELEVATION OF 35.37 AND A RECORD NGVD 29 ELEVATION OF 33.03 RESULTING IN A +2.34 VERTICAL SHIFT FROM NGVD 29 TO NAVD 88. ADDITIONAL CALCULATED SHIFTS BETWEEN NAVD 88 AND NGVD 29 MAY VARY.



BASIS OF CONTROL (CITY OF STOCKTON):
BEARINGS AND DISTANCES SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CONVERTED TO THE CALIFORNIA SYSTEM OF 1983, ZONE 3 (CCS83-III) AS REFERENCED BY THE CITY OF STOCKTON HORIZONTAL CONTROL SYSTEM (1991.35 EPOCH DATE.) GRID DISTANCES SHOWN MUST BE MULTIPLIED BY 1.00005782 (CALCULATED AT POINT 1003) TO OBTAIN GROUND DISTANCES. ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS REFERENCED BY AVAILABLE CITY OF STOCKTON BENCHMARKS (COS 96 ADJUSTMENT) 2003 REVISION. UNITS SHOWN ARE BASED ON THE US SURVEY FOOT.

PETERSON . BRUSTAD . INC
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SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

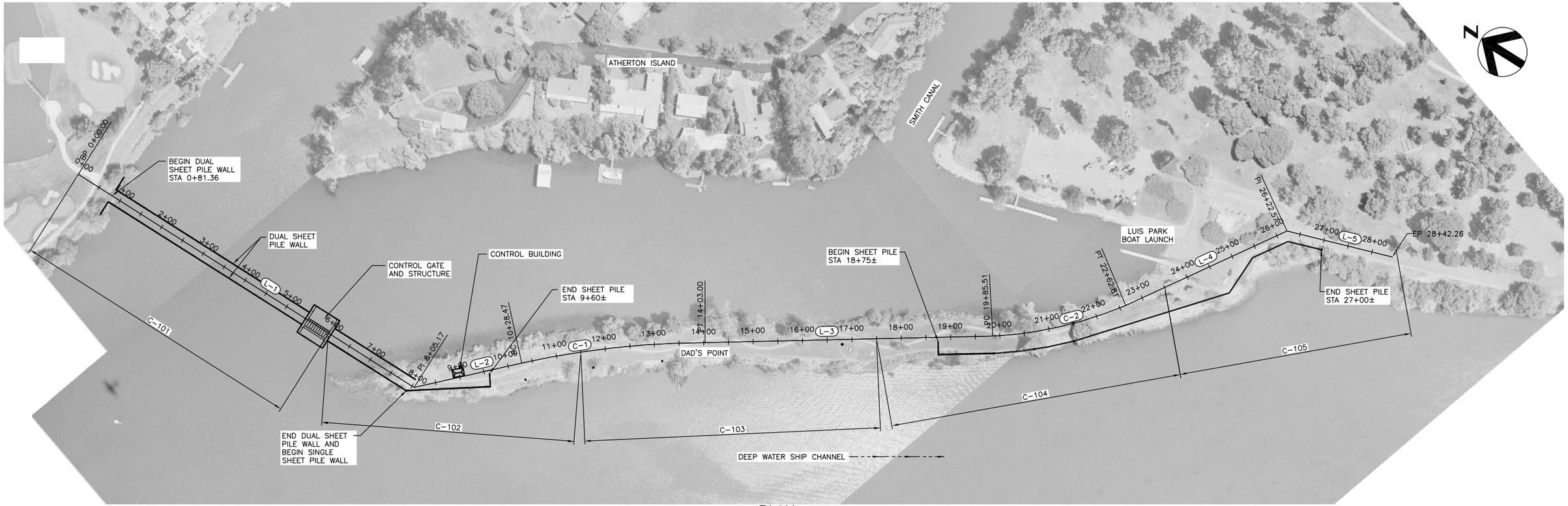
CONTROL SHEET

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET V-002
OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2



PLAN
1" = 100'

ALIGNMENT LINE TABLE				
LINE NO.	LENGTH	DIRECTION	START POINT (N,E)	END POINT (N,E)
L-1	723.81'	S32°15'49"E	2172704.6946, 6315580.13	2172023.84, 6316009.94
L-2	223.29'	S77°21'54"E	2172023.8400, 6316009.94	2171975.00, 6316227.83
L-3	582.50'	S65°54'25"E	2171852.7817, 6316581.11	2171614.99, 6317112.87
L-4	359.75'	S89°23'26"E	2171555.6908, 6317382.38	2171551.86, 6317742.11
L-5	219.69'	S50°49'57"E	2171551.8644, 6317742.11	2171413.11, 6317912.44

ALIGNMENT CURVE TABLE							
CURVE NO.	PI STATION	Δ	RADIUS	TANGENT	LENGTH	CHORD DIRECTION	CHORD LENGTH
C-1	12+16.45	167°45'13"	1752.31'	187.98'	374.54	S70°55'02.35"E	373.82'
C-2	21+25.53	160°23'11"	810.08'	140.02'	277.31	S77°35'25.98"E	275.95'

BASIS OF CONTROL (CITY OF STOCKTON):

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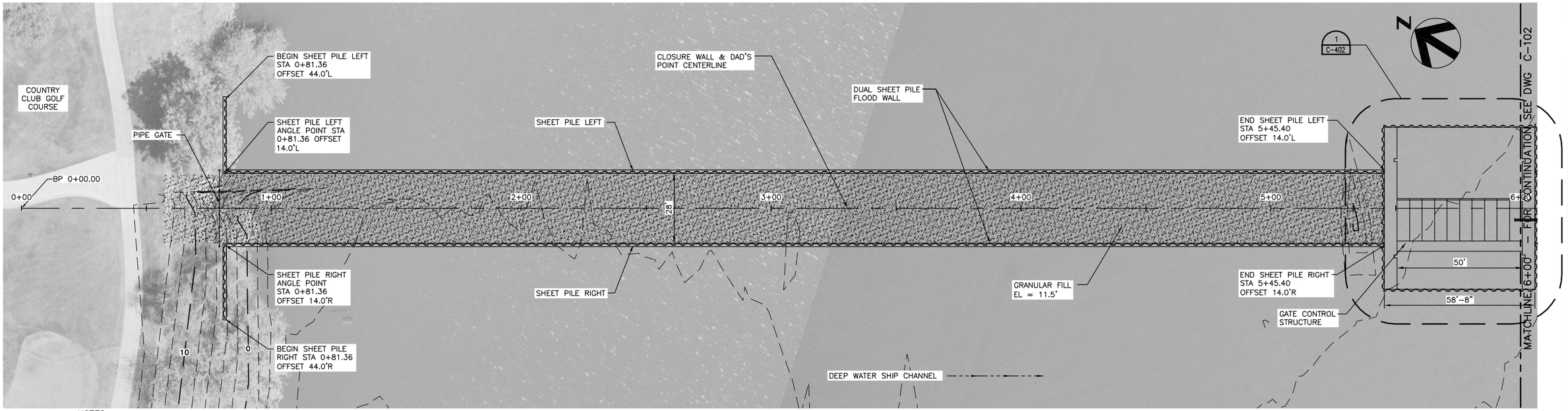
TOPOGRAPHIC SURVEY/ ALIGNMENT CONTROL No. 1

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET **V-003** OF xx SHEETS

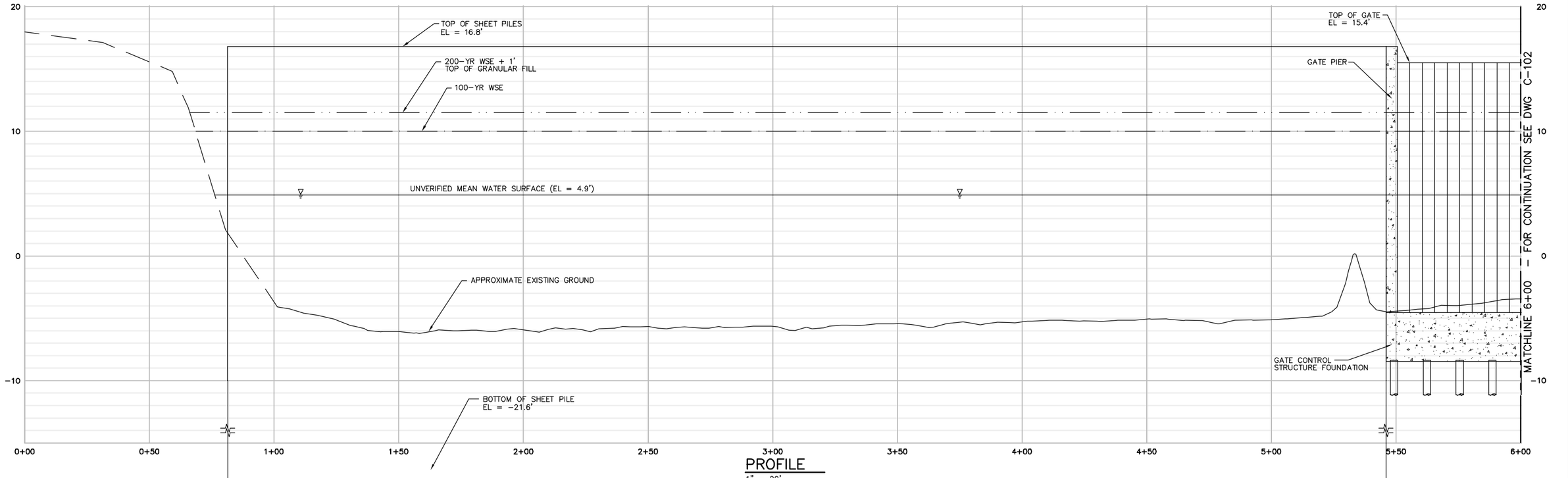
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



NOTES:

1. UTILITY RESEARCH TO BE CONDUCTED AS PART OF NEXT PHASE.

PLAN
1" = 20'



PROFILE
1" = 20'

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING
1180 Iron Point Rd. Suite 260
Folsom, CA 95630
PH: (916)608-2212 Fax: (916)608-2232

HDR Engineering Inc.

REGISTERED PROFESSIONAL ENGINEER
KEITH F. DE LAPP
No. 48214
Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

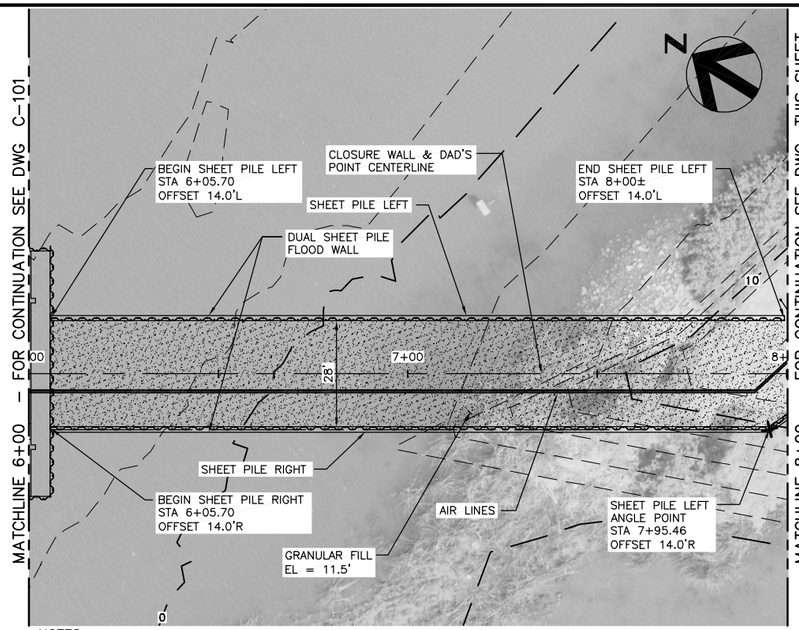
SHEET PILE WALL
PLAN AND PROFILE No. 1

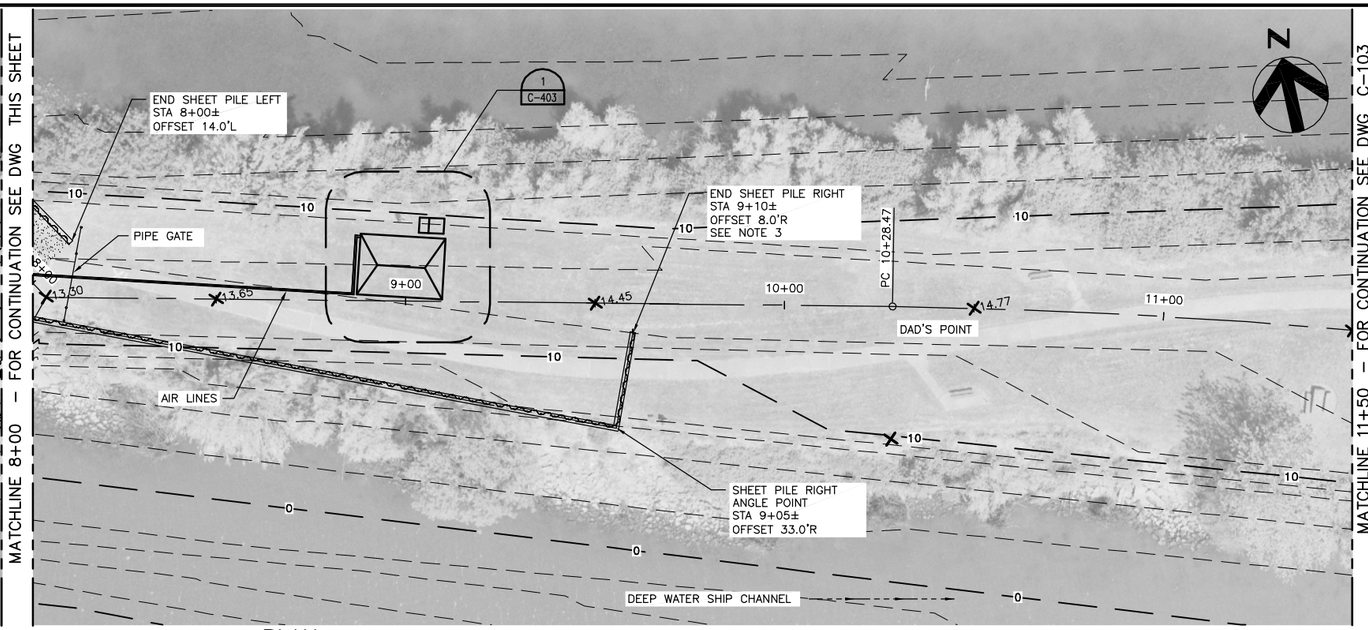
SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET C-101
OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

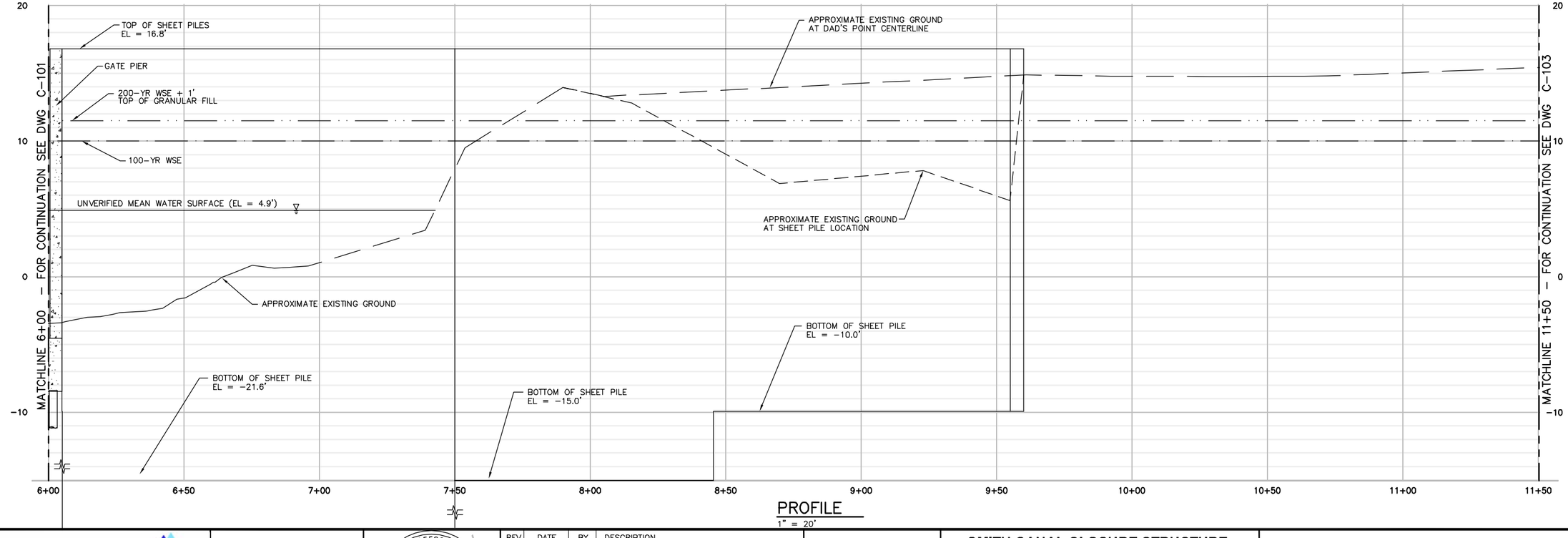




PLAN
1" = 20'

NOTES:

1. PERFORMANCE OF DAD'S POINT AS AN EARTHEN LEVEE BY OTHERS.
2. UTILITY RESEARCH TO BE CONDUCTED AS PART OF NEXT PHASE.
3. GRADING AT SHEET PILE TERMINATION BY OTHERS.



PROFILE
1" = 20'

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CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

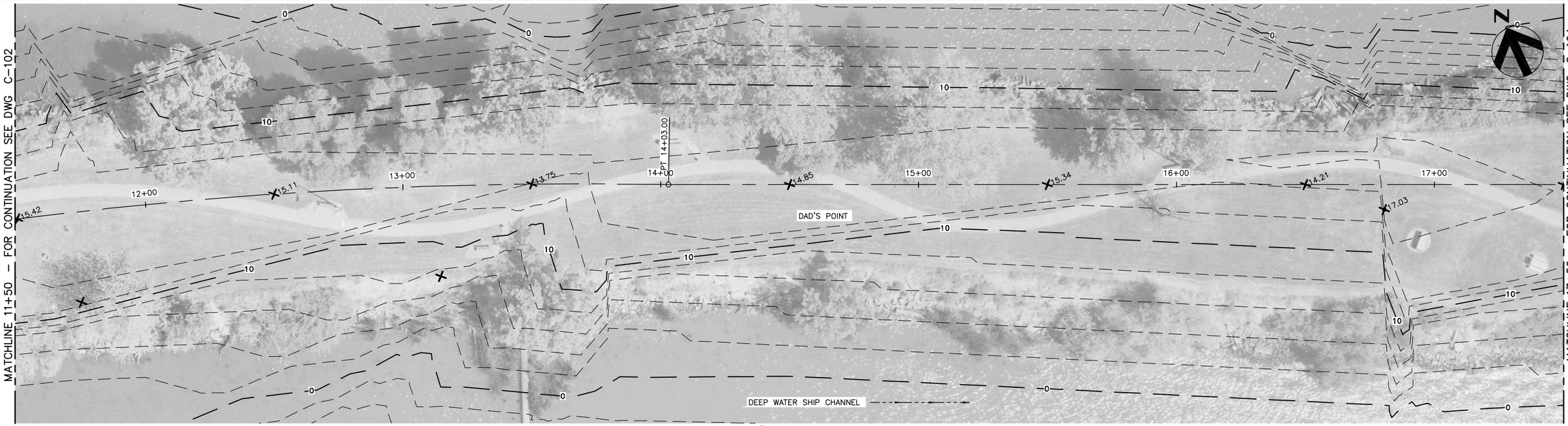
SHEET PILE WALL PLAN AND PROFILE No. 2

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET C-102 OF XX SHEETS

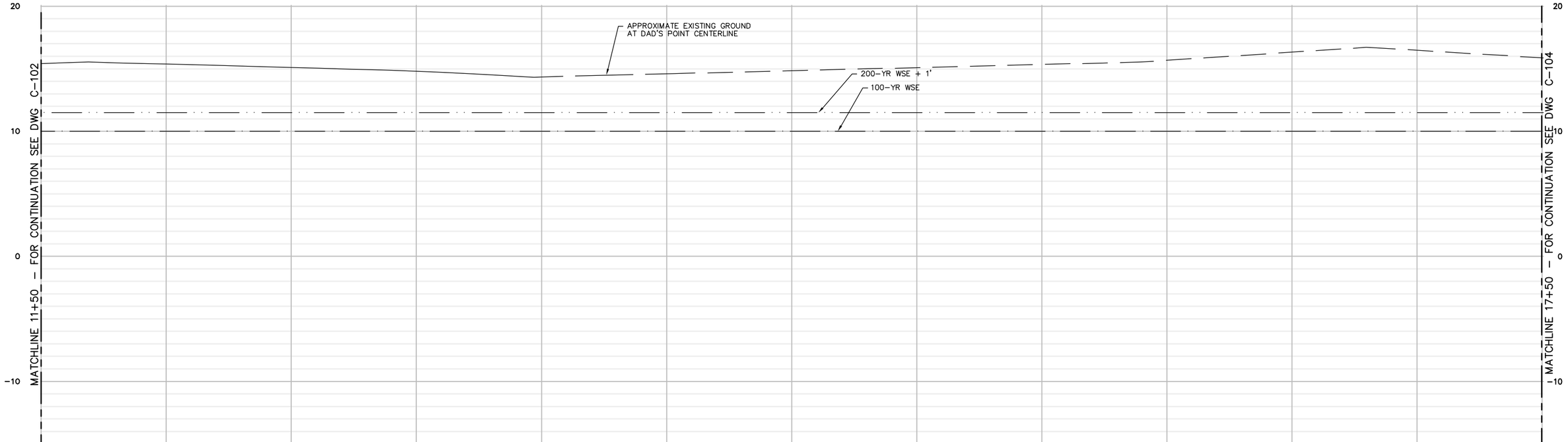
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



PLAN
1" = 20'

NOTES:

1. PERFORMANCE OF DAD'S POINT AS AN EARTHEN LEVEE BY OTHERS.
2. UTILITY RESEARCH TO BE CONDUCTED AS PART OF NEXT PHASE.



PROFILE
1" = 20'

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Folsom, CA 95630
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CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

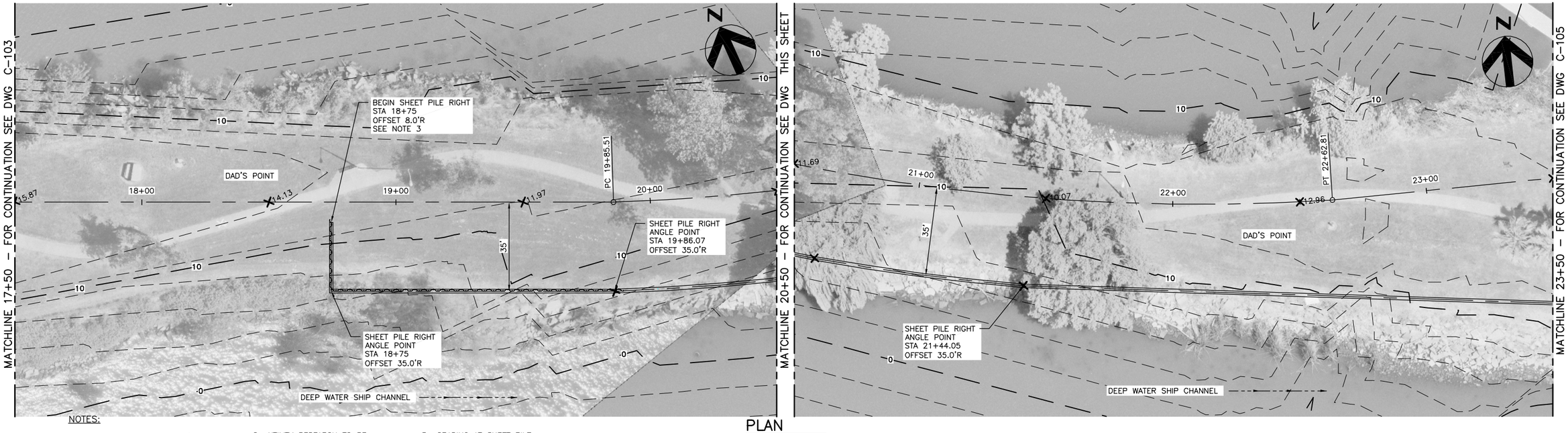
SHEET PILE WALL
PLAN AND PROFILE No. 3

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET
C-103
OF
xx
SHEETS

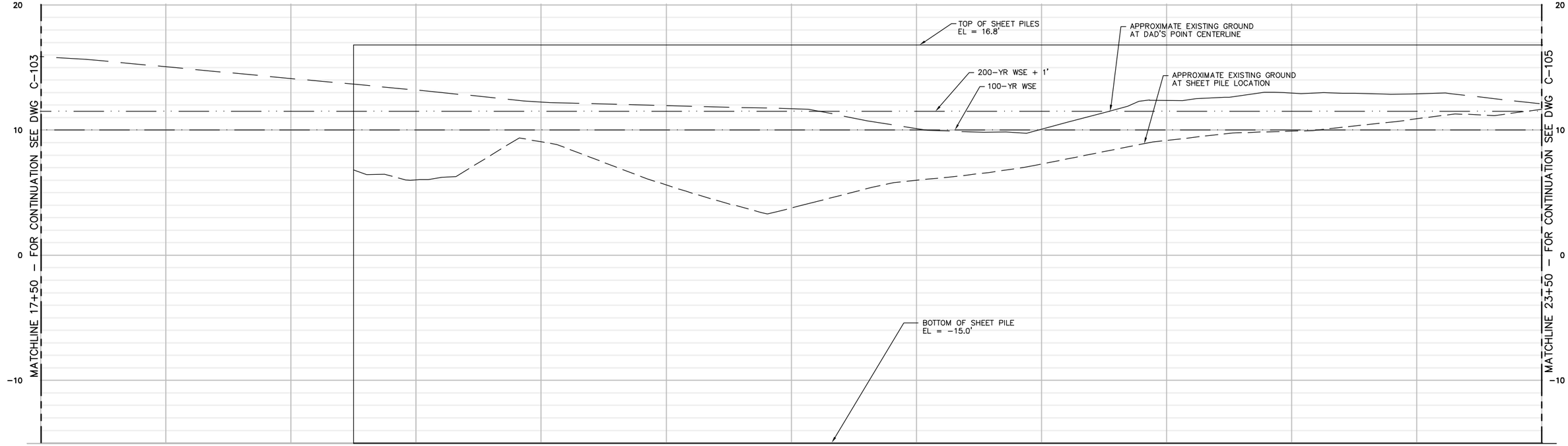
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



NOTES:

1. PERFORMANCE OF DAD'S POINT AS AN EARTHEN LEVEE BY OTHERS.
2. UTILITY RESEARCH TO BE CONDUCTED AS PART OF NEXT PHASE.
3. GRADING AT SHEET PILE TERMINATION BY OTHERS.

PLAN
1" = 20'



PROFILE
1" = 20'

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING
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HDR Engineering Inc.

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No. 48214
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STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

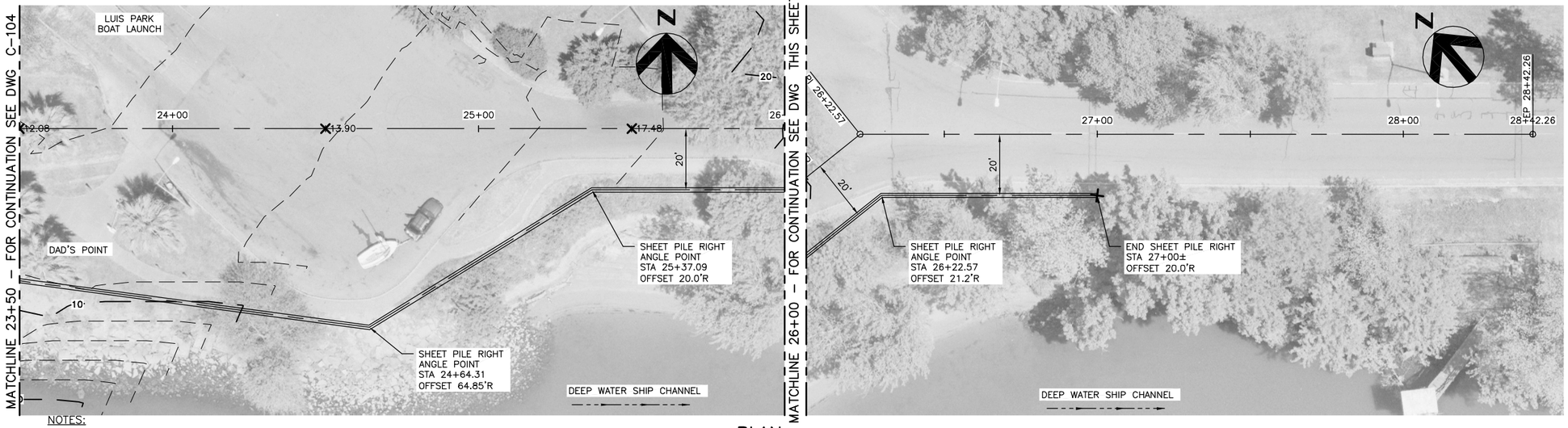
SHEET PILE WALL
PLAN AND PROFILE No. 4

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET C-104 OF xx SHEETS

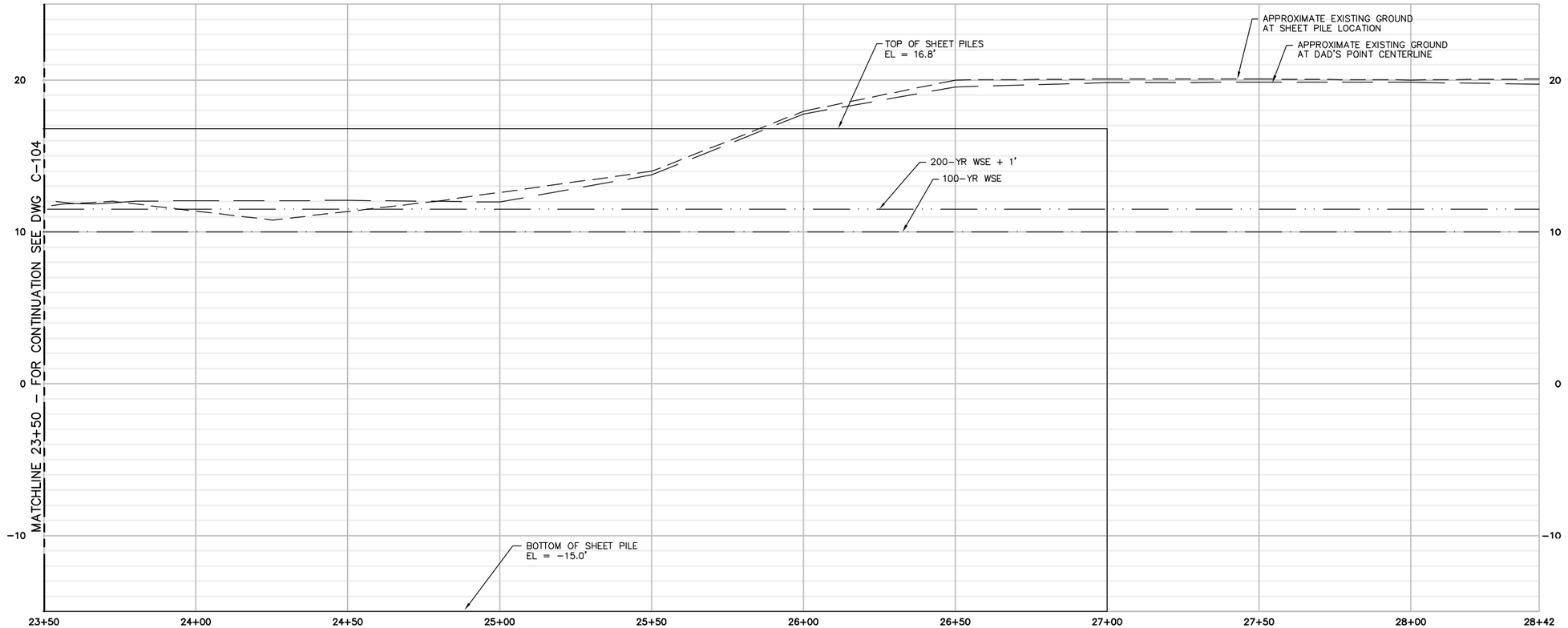
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



NOTES:

1. PERFORMANCE OF DAD'S POINT AS AN EARTHEN LEVEE BY OTHERS.
2. UTILITY RESEARCH TO BE CONDUCTED AS PART OF NEXT PHASE.

PLAN
1" = 20'



PROFILE
1" = 20'

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PH: (916)608-2212 Fax: (916)608-2232

HDR Engineering Inc.

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PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

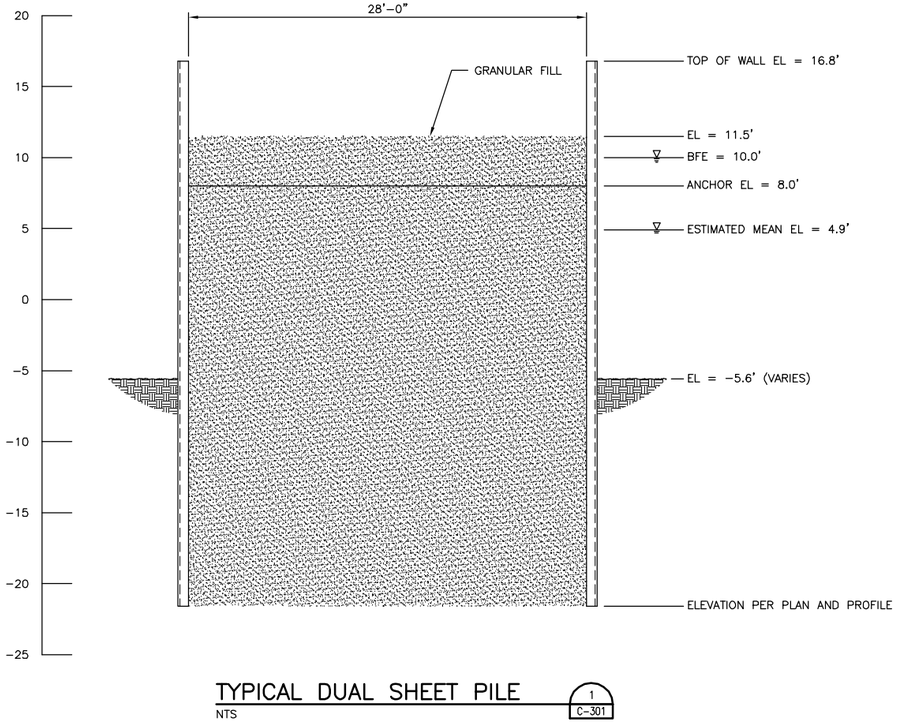
SHEET PILE WALL
PLAN AND PROFILE No. 5

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

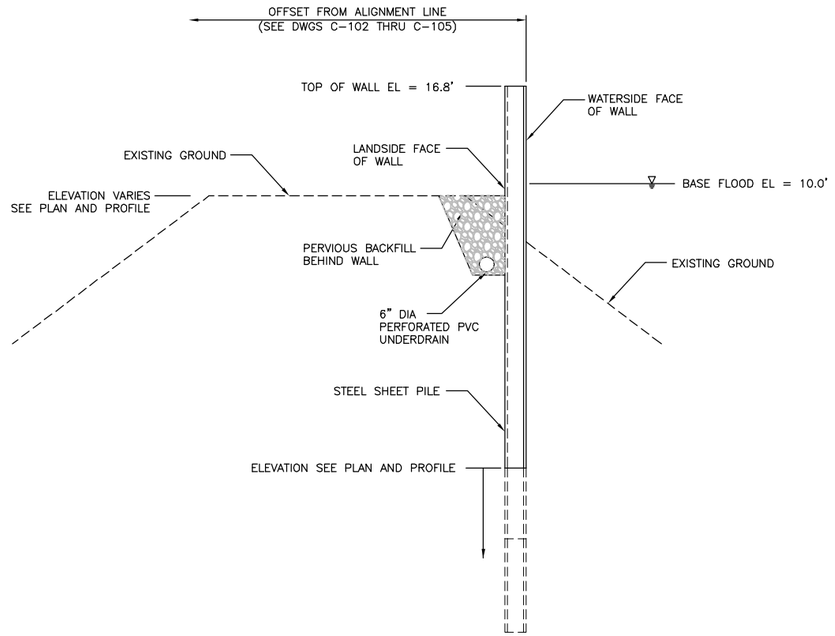
SCALE: AS NOTED	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET
C-105
OF
XX
SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



TYPICAL DUAL SHEET PILE (1 / C-301)
NTS



SINGLE STEEL
SHEET PILE FLOODWALL (2 / C-301)
NTS

NOTE:

SEE SHEET S−301 FOR STRUCTURAL DETAILS OF STEEL SHEET PILES.

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Folsom, CA 95630
PH: (916)608−2212 Fax: (916)608−2232

HDR Engineering Inc.

REGISTERED PROFESSIONAL ENGINEER
KEITH F. DE LAPP
No. 48214
Exp. 6−30−10
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
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SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

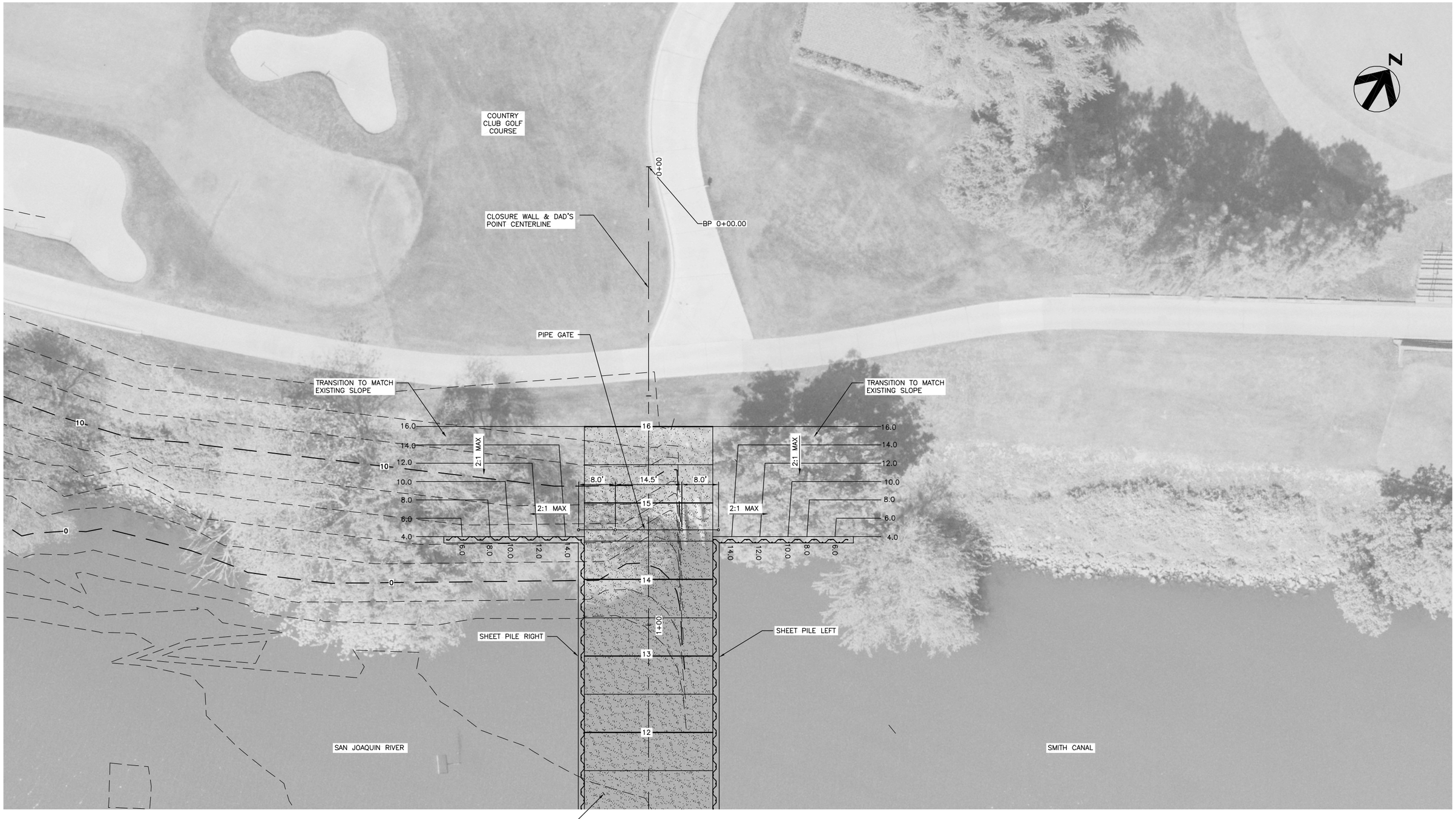
TYPICAL SHEET PILE SECTIONS

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: 3/16" = 1' − 0"	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET C-301
OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



PLAN
1" = 10'

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1180 Iron Point Rd. Suite 260
Folsom, CA 95630
PH: (916)608-2212 Fax: (916)608-2232

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REV	DATE	BY	DESCRIPTION
–		–	

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SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

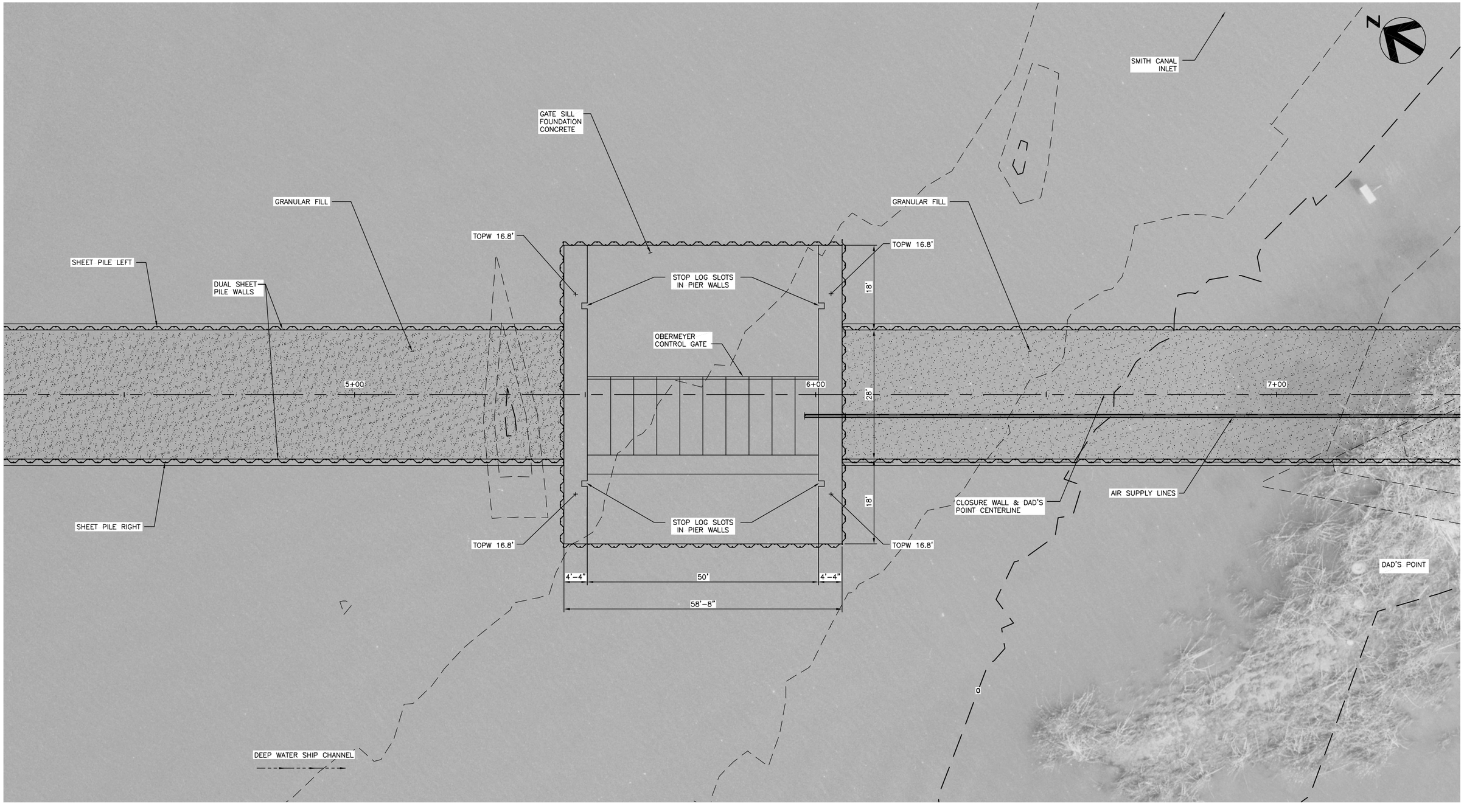
DUAL SHEET PILE TIE-IN AT GOLF COURSE

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET C-401 OF xx SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



PLAN
1" = 10'

NOTES:

1. SEE S-401 FOR ADDITIONAL GATE SILL INFORMATION

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Folsom, CA 95630
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REGISTERED PROFESSIONAL ENGINEER
KEITH F. DE LAPP
No. 48214
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CIVIL
STATE OF CALIFORNIA

REV	DATE	BY	DESCRIPTION
–		–	

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San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

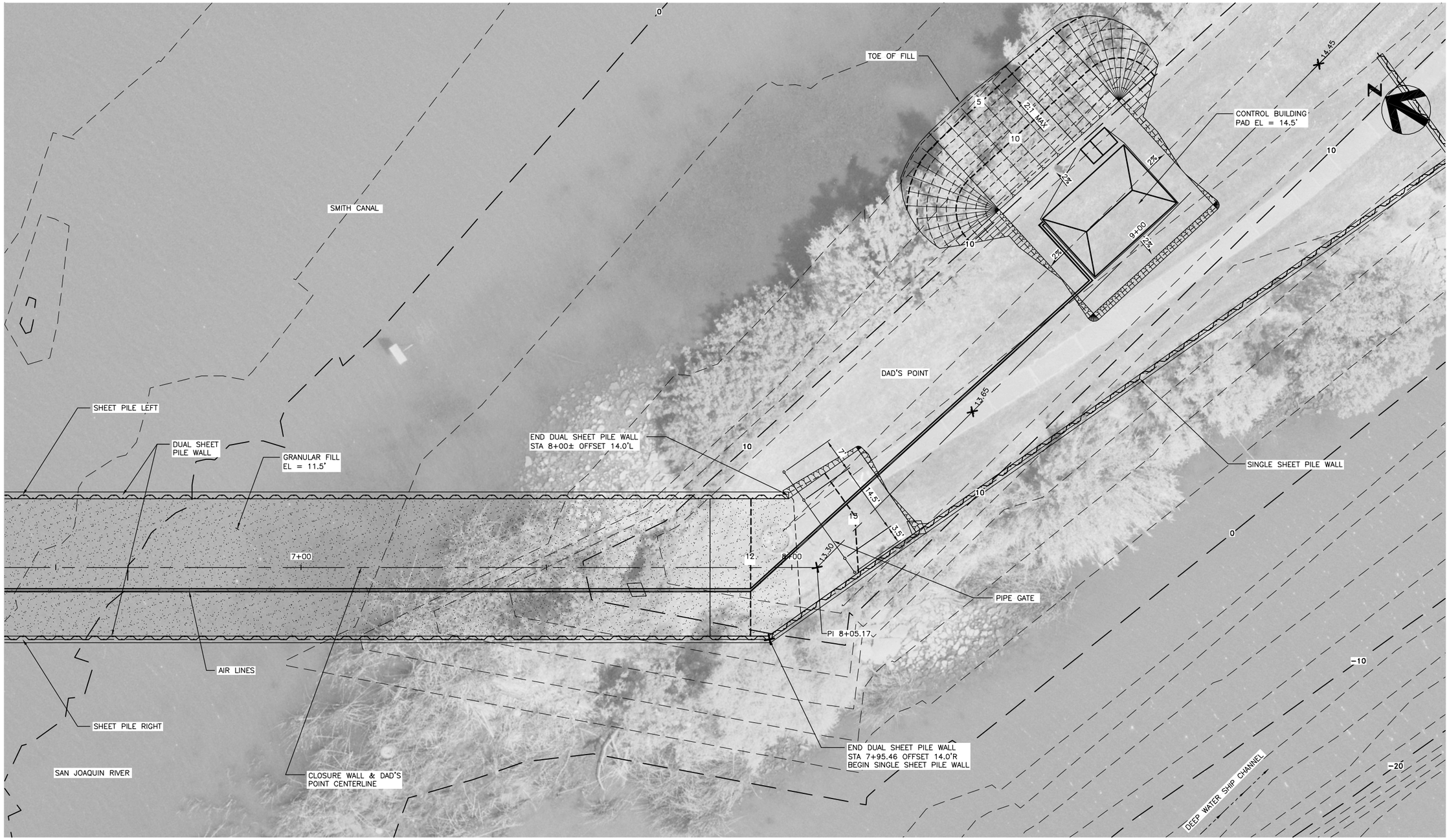
CONTROL GATE SITE PLAN

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET C-402 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



NOTES:

1. GRADING BEHIND SINGLE SHEET PILE WALL NOT SHOWN.
2. UTILITY RESEARCH TO BE CONDUCTED AS PART OF NEXT PHASE.
3. SEE M-401 FOR CONTROL BUILDING PLAN AND SECTION

PLAN
1" = 10'

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ENGINEERING . CONSULTING
1180 Iron Point Rd. Suite 260
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PH: (916)608-2212 Fax: (916)608-2232

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KEITH F. DE LAPP
No. 48214
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CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

DUAL SHEET PILE TIE-IN AT DAD'S POINT

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET C-403 OF xx SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



PLAN
1" = 10'

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Folsom, CA 95630
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KEITH F. DE LAPP
No. 48214
Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

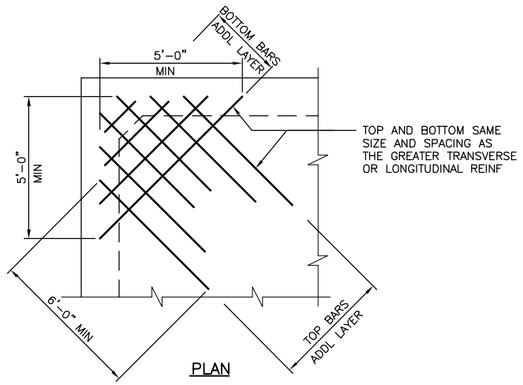
SHEET PILE TIE-IN AT LUIS PARK BOAT LAUNCH

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: AS NOTED	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET
C-404
OF
xx
SHEETS

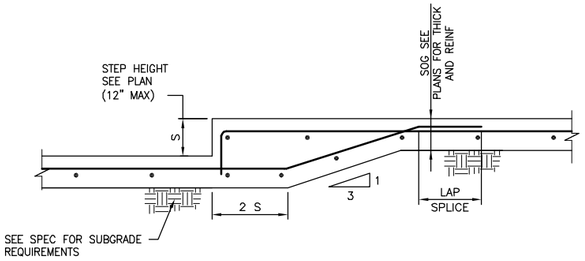
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



TYPICAL EXTERIOR BUILDING SLAB CORNER DETAIL

1

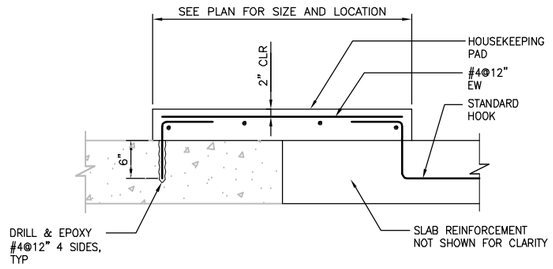
NTS



TYPICAL SLAB-ON-GRADE DEPRESSION (FOR ONE LAYER OF REBAR)

2

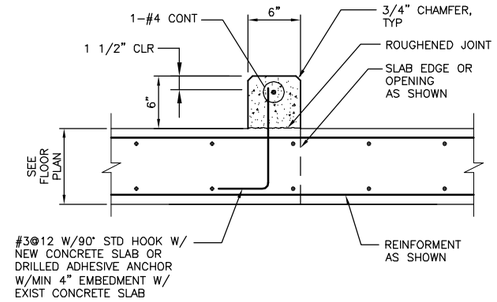
NTS



TYPICAL HOUSEKEEPING PAD DETAIL

3

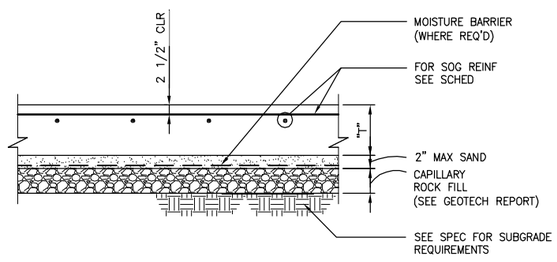
NTS



CONCRETE CURB

4

NTS



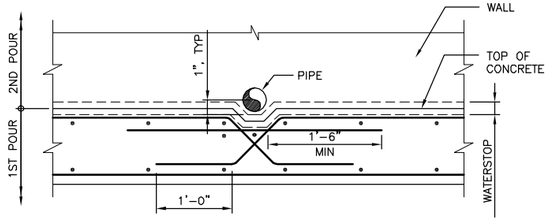
THICK "T"	REINFORCMENT
6"	#4 @ 12" EA WAY
8"	#5 @ 12" EA WAY

NOTE:
ELIMINATE 2-INCH SAND LAYER WHERE MOISTURE BARRIER IS NOT REQUIRED.

TYPICAL BUILDING SLAB-ON-GRADE

5

NTS



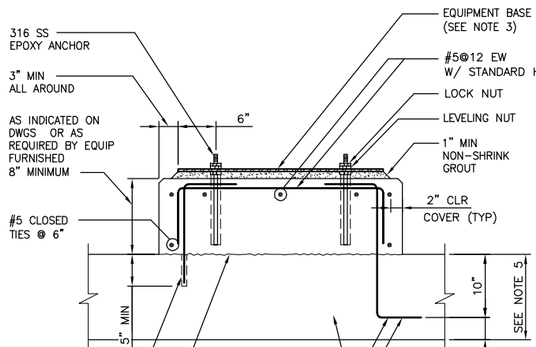
NOTES:

1. WALL REINFORCEMENT NOT SHOWN FOR CLARITY.
2. FOR ALL REINFORCEMENT SEE PLANS.

TYPICAL WALL HORIZ CONST JOINT JOINT AT PIPE INTERFERENCE

6

NTS



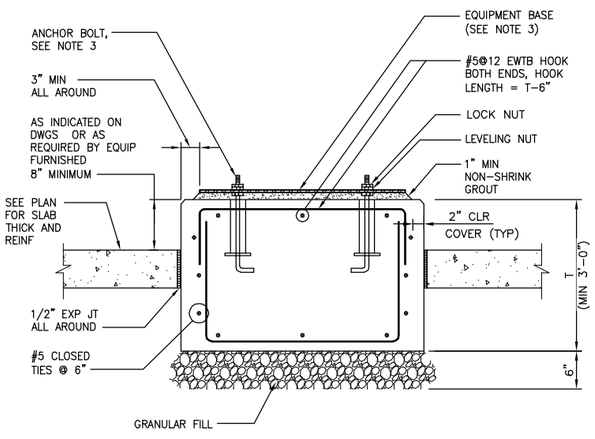
NOTES:

1. FOR NEW EQUIPMENT PADS ON EXISTING SLABS, DRILL INTO EXISTING SLAB TO AT 12" CENTERS AROUND PERIMETER OF EQUIPMENT PADS AND SET #5 HOOKED DOWELS IN EPOXY GROUT.
2. FOR EQUIPMENT PADS ON NEW SLABS, PROVIDE #5 DOWELS AT 12" CENTERS AROUND PERIMETER OF EQUIPMENT BASE.
3. EQUIPMENT DIMENSIONS SHALL BE AS INDICATED ON THE DRAWINGS OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER.
4. EQUIPMENT BASES SHALL BE INSTALLED LEVEL. TOLERANCE IS 1/16".
5. WHERE CONCRETE SLAB THICKNESS WILL NOT PROVIDE MINIMUM COVER AS SPECIFIED ON DWGS, PROVIDE EXTRA THICKNESS OF CONCRETE.
6. SIZE PADS PER PLAN WHEN SHOWN.

EQUIPMENT PAD DETAIL

9

NTS



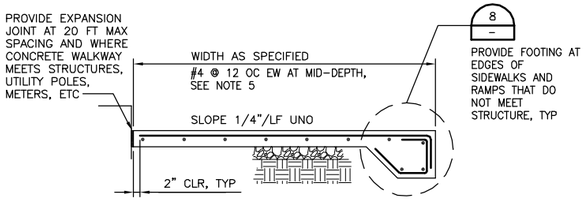
NOTES:

1. PROVIDE PAD UNDER ELECTRICAL AND MECHANICAL EQUIPMENT WEIGHING MORE THAN 5000 POUNDS, SUPPORTED ON GRADE, UNLESS NOTED OTHERWISE ON PLANS.
2. EQUIPMENT BASE DIMENSIONS SHALL BE AS INDICATED ON THE DRAWINGS OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER.
3. ANCHOR BOLTS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE EQUIPMENT BASE IS BEING CAST.
4. PIPE SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT. PIPE SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER OF 3" GREATER THAN BOLT DIAMETER.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL. TOLERANCE IS 1/16".

ISOLATED EQUIPMENT PAD DETAIL

10

3/4" = 1'-0"



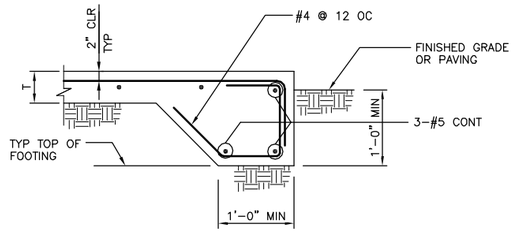
NOTES:

1. PROVIDE BROOM FINISH UNO PER THE REQUIREMENTS OF SPEC SECTION 03002.
2. PROVIDE TOOLED JOINTS AT 5 FOOT CENTERS IN PERPENDICULAR DIRECTIONS.
3. PROVIDE 6" CLASS 2AB UNDER CONCRETE SIDEWALKS AND LANDINGS, UNLESS OTHERWISE NOTED.
4. PROVIDE 12" CLASS 2AB UNDER CONCRETE PAVEMENT AND RAMPS.
5. #5 @ 8" OC EW AT MID-DEPTH AT CONCRETE PAVEMENT AND RAMPS.
6. 8" THICKNESS AT CONCRETE PAVEMENT AND RAMPS.
7. LEAN CONCRETE WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH F'c=3,000 PSI MAY BE USED AT CONCRETE SIDEWALKS AND LANDINGS ONLY. SEE SPECIFICATION SECTION 03002 FOR ADDITIONAL INFORMATION.

CONCRETE SIDEWALK AND RAMP DETAIL

7

NTS



TYPICAL BUILDING SLAB EDGE

8

NTS

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ENGINEERING . CONSULTING
1180 Iron Point Rd. Suite 260
Folsom, CA 95630
PH: (916)608-2212 Fax: (916)608-2232

HDR Engineering Inc.

REGISTERED PROFESSIONAL ENGINEER
KEITH F. DE LAPP
No. 48214
Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
–		–	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

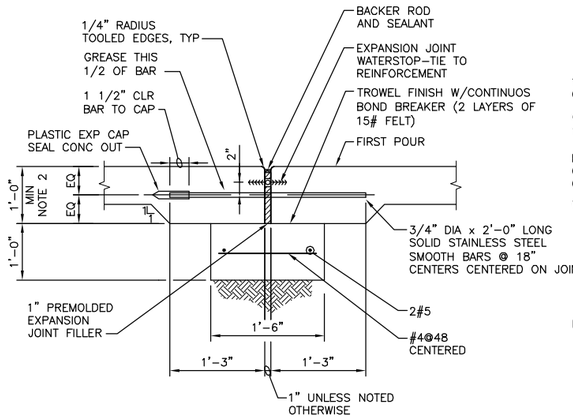
TYPICAL CONCRETE DETAILS I

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

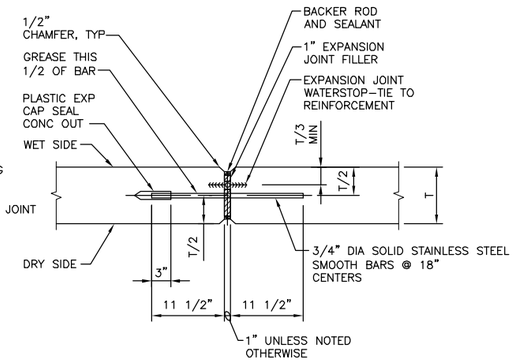
SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET S-002 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE!
0 1/2 1



SLABS ON GRADE



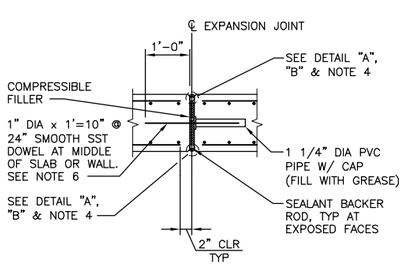
WALLS AND ELEVATED SLABS

NOTES:

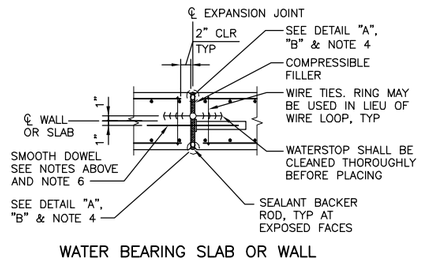
1. SLAB AND WALL REINFORCEMENT NOT SHOWN. TERMINATE ALL SLAB AND WALL REINFORCING 2" CLEAR TO EDGE OF EXPANSION JOINT.
2. THICKEN SLAB ONLY WHERE SLAB THICKNESS IS GREATER THAN 1'-0"

EXPANSION JOINTS (EJ)

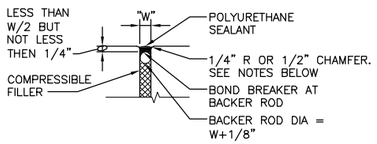
NTS — 1 / –



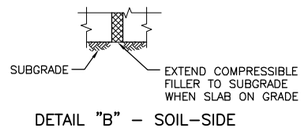
NON-WATER BEARING SLAB OR WALL



WATER BEARING SLAB OR WALL



DETAIL "A" – EXPOSED FACE



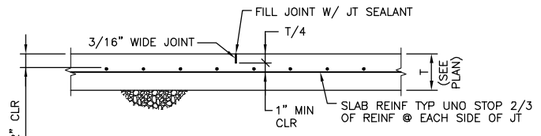
DETAIL "B" – SOIL-SIDE

NOTES:

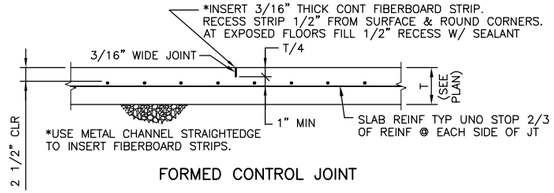
1. FOR WALLS, FORM ALL JOINT EDGES AT 1/2" CHAMFER.
2. FOR UNDER SIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/2" CHAMFER.
3. FOR SLABS, PROVIDE 1/4" RADIUS TOOLED EDGES AT TOP SURFACE
4. USE DETAIL "B" AT UNDERSIDE OF SLABS ON GRADE ONLY. USE DETAIL "A" AT ALL OTHER LOCATIONS.
5. "W" = 1" WIDE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
6. SMOOTH DOWEL AND PVC ASSEMBLY AT EXPANSION JOINTS SHALL USE GREENSTREAK "SPEED DOWEL" NO. PSD12/#7TX (BASE CODE PSD/#7BX).

EXPANSION JOINT (EJ)

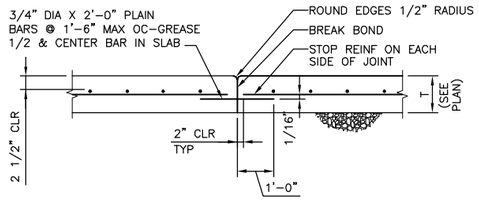
NTS — 2 / –



SAWED CONTROL JOINT



FORMED CONTROL JOINT



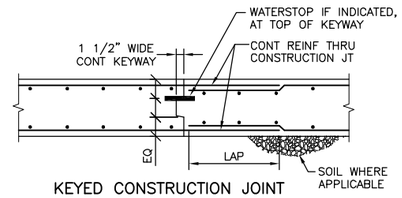
DOWELLED CONSTRUCTION JOINT (DSJ)

NOTE:

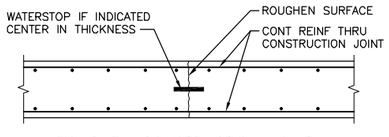
1. ANY ONE OF THE DETAILS ABOVE MAY BE USED AT LOCATIONS INDICATED ON DRAWINGS AS "SJ," AT CONTRACTOR'S OPTION.
2. WHERE "DSJ" IS INDICATED ON PLAN, THE "DSJ" SHALL BE USED.

SLAB-ON-GRADE JOINT (SJ)

NTS — 3 / –



KEYED CONSTRUCTION JOINT



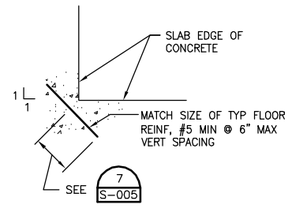
ROUGHEN CONSTRUCTION JOINT

NOTE:

1. SEE SPECIFICATION FOR REQUIREMENT TO TIE WATERSTOPS IN PLACE TO PREVENT MOVEMENT OR FOLDING OVER.

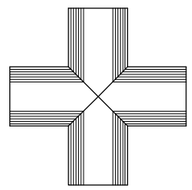
CONSTRUCTION JOINT (CJ)

NTS — 4 / –

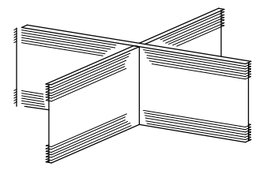


ADDITIONAL REINFORCEMENT AT RE-ENTRANT SLAB CORNER

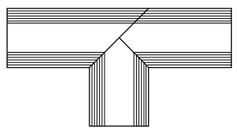
NTS — 5 / –



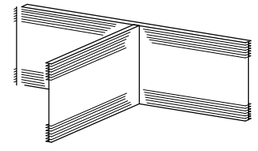
FLAT CROSS



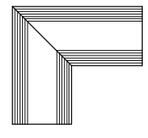
VERTICAL CROSS



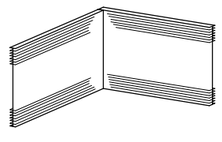
FLAT TEE



VERTICAL TEE



FLAT ELL



VERTICAL ELL

NOTES:

1. BULB TYPE WATERSTOPS SHALL BE HANDLED SIMILAR TO AS SHOWN WITH BULB JOINTS MITERED FOR FULL CONTINUITY OF HOLLOW BULB.
2. ONLY STRAIGHT BUTT JOINT WELDS AE ALLOWED IN THE FIELD

SHOP FABRICATED WATERSTOP

NTS — 5 / –

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REV	DATE	BY	DESCRIPTION
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SJAFCA
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SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

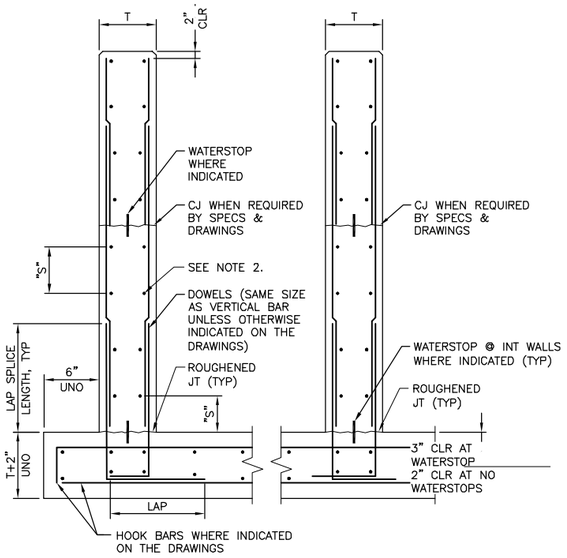
TYPICAL CONCRETE DETAILS II

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET S-003 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



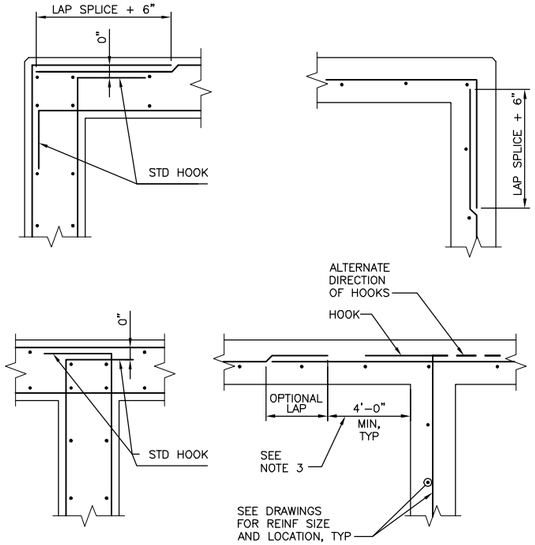
NOTES:

1. "S" = BAR SPACING INDICATED ON THE DRAWINGS
2. FOR HORIZONTAL REINF BAR LOCATION RELATIVE TO VERTICAL REINF BAR LOCATION (INSIDE OR OUTSIDE) SEE DRAWING (INSIDE SHOWN).

HORIZONTAL WALL JOINTS WITH WATERSTOP

2

NTS



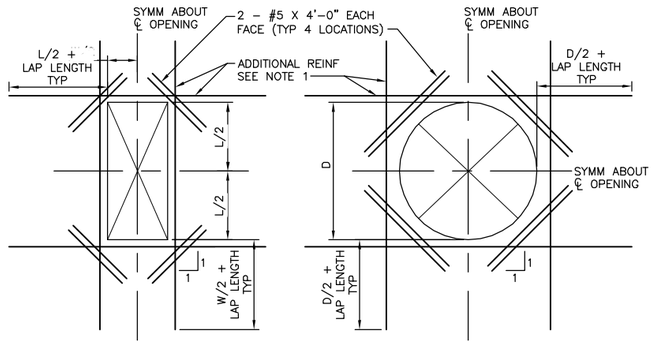
NOTES:

1. ALL HOOKS SHALL BE STD 90 DEGREE HOOKS.
2. SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BARS. STAGGER BETWEEN TYPICAL REINF SPACING, EXTEND TO 1/5 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
3. OPTIONAL LAP LOCATION. APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS TYP.

WALL REINFORCEMENT AT CORNER & INTERSECTIONS

3

NTS



RECTANGULAR OPENING DETAIL

CIRCULAR OPENING DETAIL

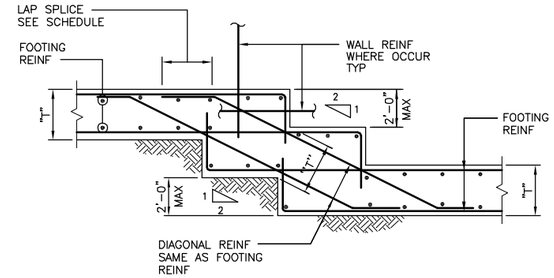
NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING, PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
4. OPENINGS 12" OR LESS IN SLABS AND OPENINGS 18" OR LESS IN WALLS, NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE RESPACED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE.
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
6. PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

EXTRA REINFORCING AROUND OPENINGS

4

NTS



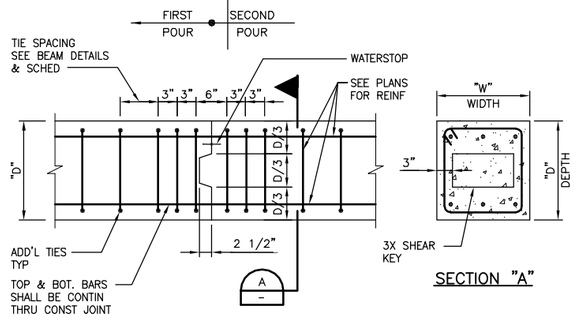
NOTES:

1. FOR FOOTING REINFORCEMENT AND FOOTING SIZE, SEE FOUNDATION PLAN, SECTIONS AND SCHEDULE.
2. "T" DENOTES FOOTING THICKNESS.

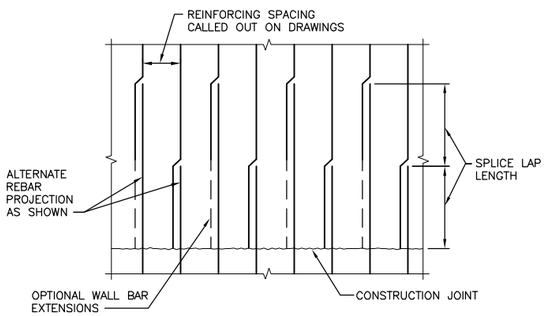
TYPICAL STEPPED FOOTING DETAIL

1

NTS



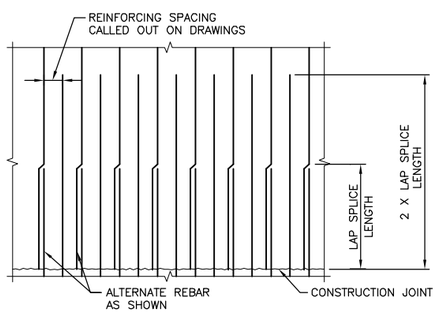
SECTION "A"



STAGGERED REINFORCING AT CONSTRUCTION JOINT

6

NTS



WALL VERTICAL REINFORCING AT CONSTRUCTION JOINT

7

NTS

TYPICAL CONCRETE BEAM CONSTRUCTION JOINT DETAIL

5

NTS

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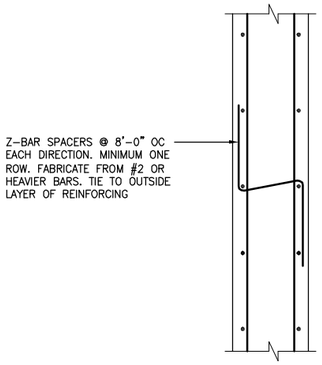
TYPICAL CONCRETE DETAILS III

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: NO SCALE	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET
S-004
OF
XX
SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

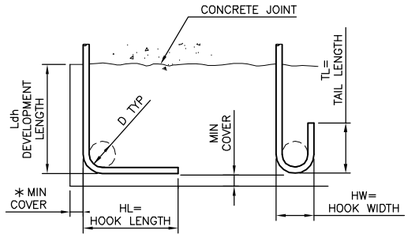


SPACER FOR WALL REINFORCEMENT (1)
NTS

LOCATION	* MINIMUM COVER
UNFORMED SURFACES ADJACENT TO EARTH	3"
FORMED OR TOP SURFACES EXPOSED TO WEATHER OR SATURATED AIR, SUBMERGED OR IN CONTACT WITH EARTH:	2"
OTHER LOCATIONS: BARS IN BEAMS OR GIRDERS, INCLUDING STIRRUPS AND COLUMN SPIRALS OR TIES	1 1/2"
SLABS, WALLS AND JOINTS #9 AND LARGER	BAR DIA + 1/4"
#8 AND SMALLER	1 1/2"

* COVER FOR REINFORCING STEEL SHALL NOT BE LESS THAN THE MINIMUM GIVEN ABOVE (NO MINUS TOLERANCE) , AND SHALL NOT EXCEED THE MINIMUM BY MORE THAN 1/4 INCH WHERE THE CONCRETE THICKNESS IS 24" OR LESS, OR MORE THAN 1/2 INCH WHERE THE CONCRETE THICKNESS IS MORE THAN 24 INCHES.

REINFORCEMENT CONCRETE COVER (2)
NTS

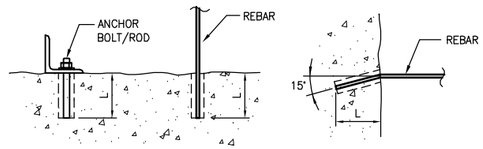


90° STD HOOK 180° STD HOOK

BAR SIZE GRADE 60	HL	HW	TL	D	f'c=4.0 OR 4.5 KSI Ldh *
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-2"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/4"	10 1/2"	9 1/2"	15"
#10	1'-10"	1'-1 1/4"	11 1/2"	10 3/4"	17"
#11	2'-0"	1'-2 3/4"	1'-1"	12"	19"

* COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED.

REINFORCING HOOK SCHEDULE (3)
NTS

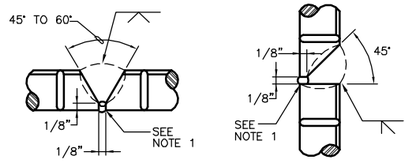


VERTICAL APPLICATION HORIZONTAL APPLICATION

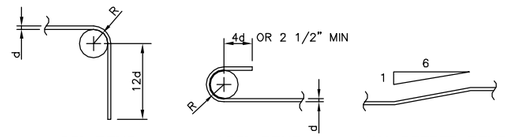
ADHESIVE ANCHOR SCHEDULE			
REINFORCING BARS		ANCHOR BOLTS/RODS	
BAR SIZE	EMBED LENGTH (L)	DIA (IN)	EMBED LENGTH (L)
#3	4"	3/8"	5"
#4	5"	1/2"	6"
#5	6"	5/8"	7"
#6	7"	3/4"	8"
#7	8"	7/8"	9"
#8	9"	1"	10"
#9	10"		
#10	12"		

NOTES:
1. EPOXY TYPE IS SUBJECT TO APPROVAL OF THE ENGINEER OF RECORD.
2. EMBEDMENT LENGTHS SHOWN ARE MINIMUM. PROVIDE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

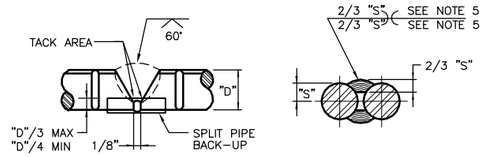
ADHESIVE ANCHOR DETAILS & SCHEDULE (4)
NTS



HORIZONTAL POSITION – A VERTICAL POSITION – B



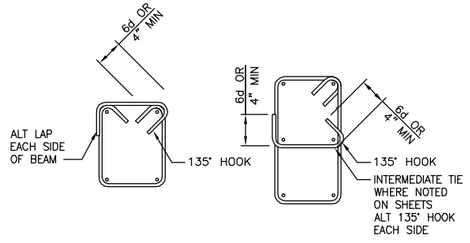
90° BEND 180° BEND MAX OFFSET BEND



HORIZONTAL AND VERTICAL POSITION – C HORIZONTAL AND VERTICAL POSITION – D

NOTES:
1. CHIP, GRIND, OR GOUGE TO SOUND METAL BEFORE WELDING OTHER SIDE.
2. USE DETAIL A & B FOR #9 & LARGER BARS. USE DETAIL C FOR #8 & SMALLER BARS. USE DETAIL D FOR #6 & SMALLER BARS.
3. E 90 ELECTRODE FOR GRADE 60.
4. SEE AWS D1.4 FOR WELDING PROCESS, PREHEAT REQUIREMENTS, AND OTHER DETAILS. SUBMIT WELDING PROCEDURE PER AWS.
5. 1 1/2" FOR #3 AND #4 BARS; 2" FOR #5 BARS; AND 2 1/2" FOR #6 BARS.

WELDED SPLICE OF REINFORCING BARS (5)
NTS



TYP. STIRRUP TYP. COLUMN TIE OR CLOSED STIRRUP

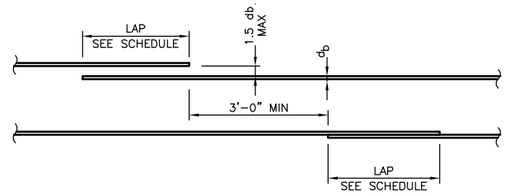
BAR SIZE	R
#3 TIES & STIRRUPS	2d
#3–#8	3d
#9–#11	4d
#14–#18	5d

TYPICAL STIRRUPS & TIES (6)
NTS

BAR SIZE	f'c = 5.0 ksi		fy = 60.0 ksi	
	LAP LENGTH (IN)		EMBEDMENT LENGTH (IN)	
	TOP	OTHER	TOP	OTHER
#3	21	16	16	12
#4	28	22	22	16
#5	35	27	27	21
#6	43	33	33	25
#7	62	48	48	37
#8	71	55	55	42
#9	80	62	62	47
#10	91	70	70	53
#11	101	77	77	59

NOTES:
1. LAP LENGTHS SHOWN ARE FOR CLASS "B" TENSION SPLICES.
2. LAP LENGTHS AND EMBEDMENTS SHOWN ARE FOR BARS SPACED LATERALLY @ > FIVE TIMES THE BAR DIAMETER AND FOR MINIMUM COVER IN ACCORDANCE WITH ACI 318-95.
3. IF SPACING IS < 5 TIMES BAR DIAMETER, INCREASE LAP LENGTH AND EMBEDMENT SHOWN BY 25%.
4. TOP REINFORCING IS HORIZONTAL STEEL SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING.

BAR SIZE	f'c = 4.0 ksi		fy = 60.0 ksi	
	LAP LENGTH (IN)		EMBEDMENT LENGTH (IN)	
	TOP	OTHER	TOP	OTHER
#3	24	18	18	15
#4	33	24	24	19
#5	40	31	31	24
#6	48	38	37	29
#7	70	55	54	42
#8	81	62	62	48
#9	91	70	70	54
#10	103	79	79	61
#11	113	87	87	67



REINFORCING LAP SCHEDULE (7)
NTS

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SJAFCA San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

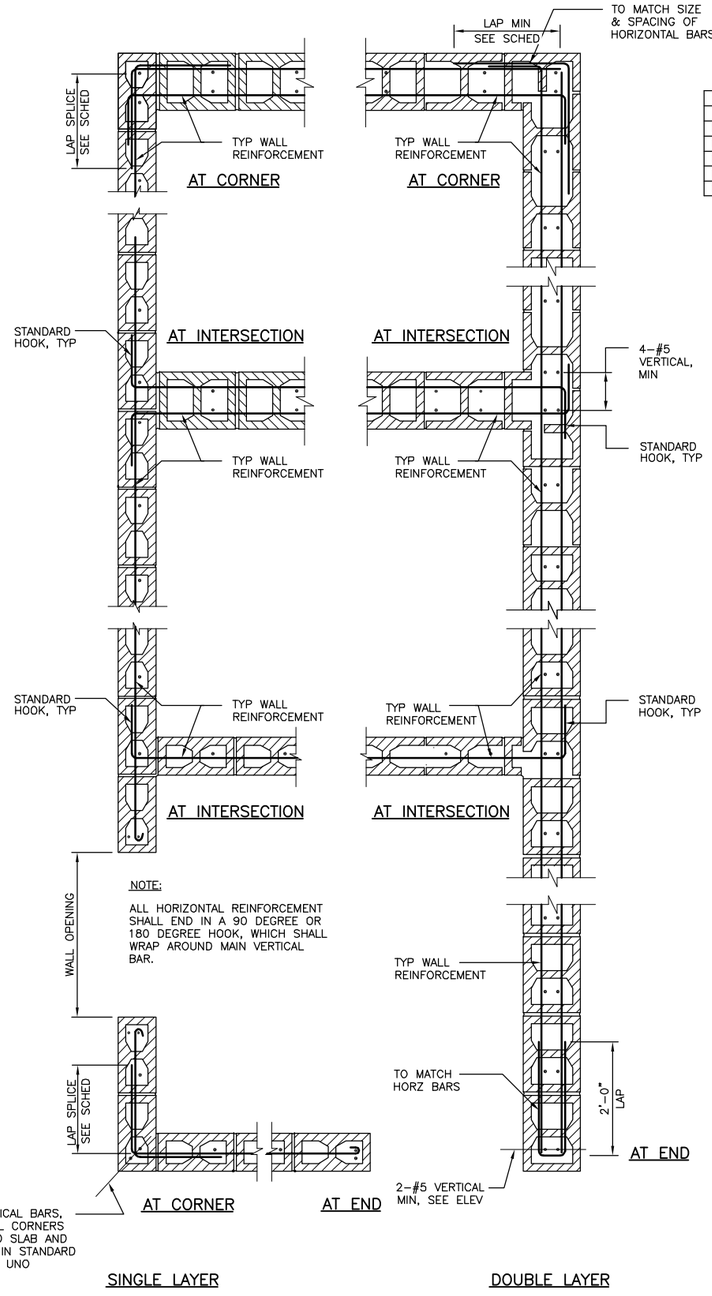
TYPICAL REINFORCEMENT DETAILS

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET S-005 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

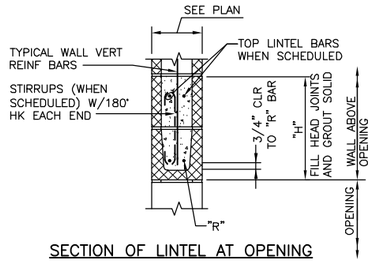


TYPICAL REINFORCEMENT AT CMU WALL

NTS

1

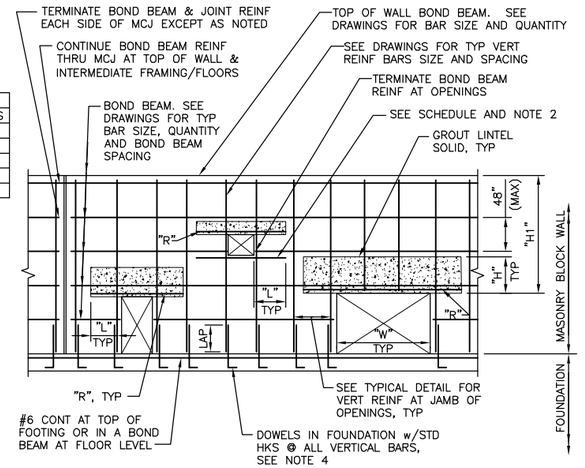
LINTEL REINFORCEMENT SCHEDULE						
MARK	"W"	"R"	"L"	"H"	STIRRUPS	REMARKS
ML-1	1'-4" THRU 3'-4"	1-#5	25"	8"	-	
ML-2	1'-4" THRU 3'-4"	2-#5	25"	16"	-	
ML-3	3'-5" THRU 6'-8"	2-#5	25"	24"	-	
ML-4	6'-9" THRU 10'-0"	2-#6	30"	32"	-	
ML-5	10'-1" THRU 12'-0"	2-#7	35"	32"	#3@16"	



SECTION OF LINTEL AT OPENING

NOTES:

1. OPENINGS 8" OR LESS WIDE MAY OCCUR WITHOUT LINTEL REINFORCING AS LONG AS NO REINFORCING IS INTERRUPTED.
2. ML-1 TO BE USED ONLY AT NON-LOAD BEARING SITUATIONS.
3. SEE DRAWINGS FOR LINTEL TYPES. WHERE LINTEL TYPES ARE NOT SHOWN PROVIDE LINTELS FROM THE ABOVE SCHEDULE BASED ON THICKNESS OF WALL AND MAX CLEAR OPENING SIZE AND VERIFY LINTEL TYPE W/ENGINEER PRIOR TO CONSTRUCTION.



WALL ELEVATION

NOTES:

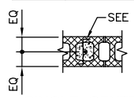
1. ONLY LINTEL GROUT IS SHOWN. GROUT SOLID ALL REINFORCED CELLS. SEE CMU WALL REINF SCHEDULE.
2. WHERE OTHER DRAWING DETAILS INDICATE SOLID MASONRY SILL, PLACE BOND BEAM REINF IN FIRST COURSE BELOW SOLID CMU.
3. PROVIDE BOND BEAM AT ALL ELEVATED FLOORS WITH SAME REINFORCING AS TOP OF WALL, UNO.
4. STRAIGHT BARS EMBEDDED ONE CONCRETE LAP LENGTH INTO CONC FOUNDATION MAY BE USED AT CONTRACTOR'S OPTION.
5. "H" SHALL NOT BE SPLICED.
6. SHORE LINTEL MINIMUM 7 DAYS AFTER GROUTING.

CMU REINFORCING SEISMIC DESIGN CATEGORY "D" AND ABOVE

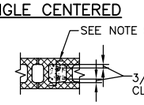
NTS

2

	STRUCTURE/WALL LOCATION	MISC	PUMPING STATION	REMARKS
TYPE	REINFORCING LOCATION	8" WALL THK	12" WALL THK	
VERTS	VERTICAL BARS	1#5 @16" OC SINGLE CENTERED	2#6 @24" OC DOUBLE CENTERED	
	JAMBS	SEE 1&2/S-007	SEE 1&2/S-007	
	CORNERS/INTERSECTIONS	2-#5 SINGLE CENTERED	2-#6 DOUBLE CENTERED	
	MCJ	1-#5 OC SINGLE CENTERED EA SIDE, UNO PER 1&2/S-007	2-#6 OC DOUBLE CENTERED EA SIDE, UNO PER 1&2/S-007	SEE 5 / S-007
HORIZ	TOP OF WALL BOND BEAMS	2-#5	2-#6	
	HORIZ JOINT REINF	9 GAGE WIRE, JOINT REINF AT 16" VERT SPACING BETWEEN BOND BEAMS	9 GAGE WIRE, JOINT REINF AT 16" VERT SPACING BETWEEN BOND BEAMS	
	BELOW OPENINGS	2-#5	2-#6	
	LINTELS	TYP, SEE 2 AND 4 THIS SHT	TYP, SEE 2 AND 4 THIS SHT	
	INTERMEDIATE BOND BEAMS	2-#4 AT 24" VERT SPACING	2-#5 AT 24" VERT SPACING	



SINGLE CENTERED



DOUBLE CENTERED

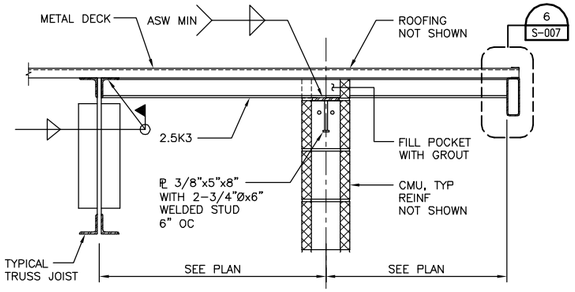
NOTES:

1. PROVIDE REINFORCING NOTED FOR ALL MASONRY WALLS UNLESS OTHERWISE NOTED ON PLAN.
2. MAINTAIN MINIMUM 3"x3" CONTINUOUS VERTICAL CELL AT EACH REBAR. PLACE WALLS TO MAXIMUM 4'-0" HEIGHT BEFORE GROUTING.
3. PLACE REBAR IN WALL WITH LAP SPLICE LENGTH PER OTHER DETAIL.
4. UNO GROUT ONLY THE CELLS WITH REINFORCING IN SCHEDULE. LOCATE ONE VERTICAL RUN OF REINFORCEMENT AT ALL CORNERS AND EACH SIDE OF ALL MCJ'S.
5. PROVIDE WIRE REBAR POSITIONERS TO HOLD BARS IN PLACE.
6. STOP GROUT POUR 1/2" BELOW TOP OF COURSE AT EACH GROUT LIFT.

CMU REINFORCING SCHEDULE

NTS

3



DETAIL AT 2.5K3 SUPPORT

NTS

5

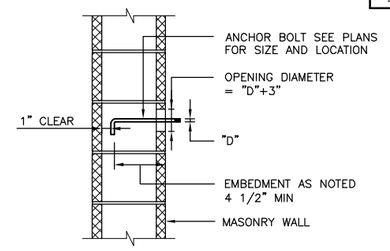
MASONRY LAP SPLICE LENGTHS : f'm=1500 psi, fy=60000 psi				
BAR SIZE	8" BLOCK		12" BLOCK	
	BAR @ CL	BAR @ EDGE	BAR @ CL	BAR @ EDGE
#3	19"	19"	19"	19"
#4	25"	31"	25"	28"
#5	31"	48"	31"	43"
#6	57"	-	52"	-

WHEN REQD SPLICE LENGTH EXCEEDS 4'-0" - USE HIGH LIFT GROUTING WITH NO SPLICES OR USE MECHANICAL TENSION SPLICES WITH LOW LIFT GROUTING.

CMU REINFORCING LAP SCHEDULE

NTS

6



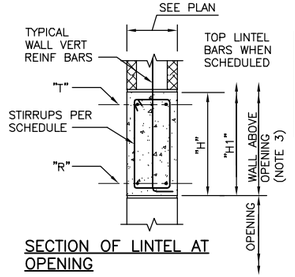
NOTES:

1. SET ANCHOR BOLTS WITH TEMPLATE.
2. CUT BLOCK WEB AS REQUIRED TO ALLOW PLACEMENT OF ANCHOR BOLT WITH 1/2" MINIMUM GROUT BETWEEN ANCHOR BOLT AND BLOCK.

ANCHOR BOLT IN MASONRY

NTS

7



CAST-IN-PLACE CONCRETE REINFORCEMENT SCHEDULE						
MARK	"W"	"R"	"H"	"H1"	STIRRUPS	REMARKS
CL-1	1'-4" THRU 3'-4"	2-#5	16"	24"	#3@8"	
CL-2	3'-5" THRU 6'-8"	2-#5	16"	24"	#4@8"	
CL-3	6'-9" THRU 10'-0"	2-#6	16"	32"	#4@8"	
CL-4	10'-1" THRU 12'-0"	2-#6	16"	32"	#4@8"	
CL-5	12'-0" THRU 14'-0"	2-#7	16"	32"	#4@6"	

SECTION OF LINTEL AT OPENING

NOTES:

1. "CL" DENOTES CAST-IN-PLACE CONCRETE LINTEL.
2. "T" BARS ARE 2-#4, HOOKED AT ENDS.
3. "H1" IS MIN REQUIRED HEIGHT OF WALL ABOVE OPENING.

CAST-IN-PLACE CONCRETE LINTEL DETAIL & REINFORCING

NTS

4

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HDR Engineering Inc.

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KEITH F. DE LAPP
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Exp. 6-30-10
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STATE OF CALIFORNIA
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-		-	

SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

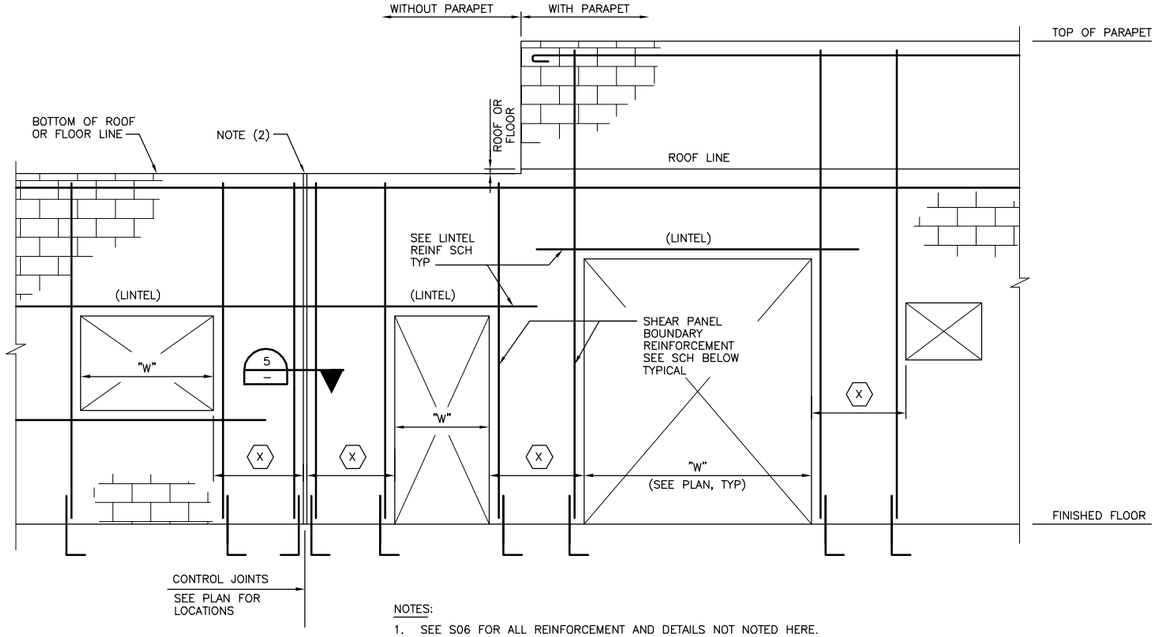
TYPICAL BLOCK WALL DETAILS I

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET S-006 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



NOTES:

1. SEE S06 FOR ALL REINFORCEMENT AND DETAILS NOT NOTED HERE.
2. ROOF/FLOOR DIAPHRAGM CHORD REINFORCEMENT SHALL BE CONTINUOUS THRU CONTROL JOINTS.
3. (X) DENOTES SHEAR PANNEL. SEE PLANS FOR LOCATION AND SCHEDULE BELOW FOR BOUNDARY REINFORCING.

TYPICAL CMU WALL ELEVATION

NTS — 1

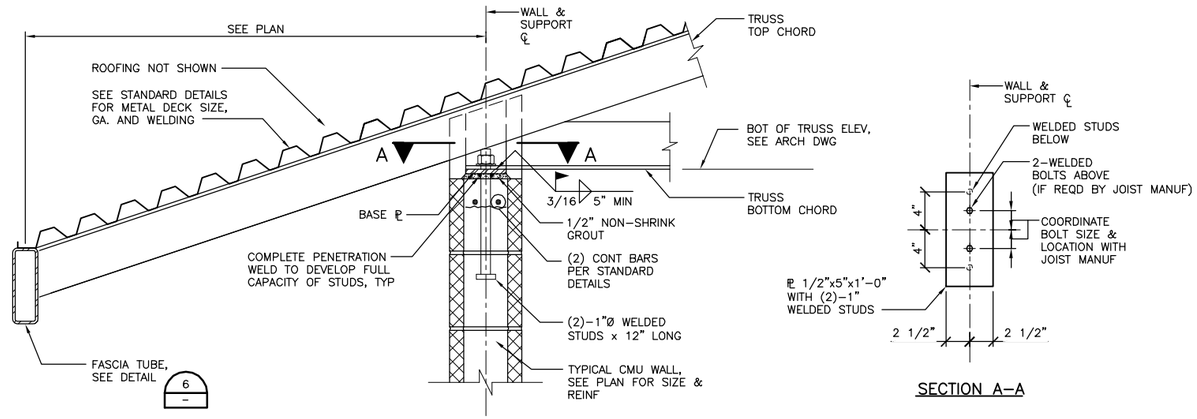
WALL PANEL MARK	REINF. STEEL	REMARKS
1	2-#7	
2	4-#7	NOTE (2)

NOTES:

1. UNLESS OTHERWISE NOTED PER SCHEDULE, PROVIDE MINIMUM OF 2-#5 FOR 8" CMU WALLS AND 2-#6 FOR 12" CMU WALLS.
2. 2-#7 IN EACH OF FIRST TWO CELLS.

SHEAR PANEL BOUNDARY REINFORCEMENT SCHEDULE

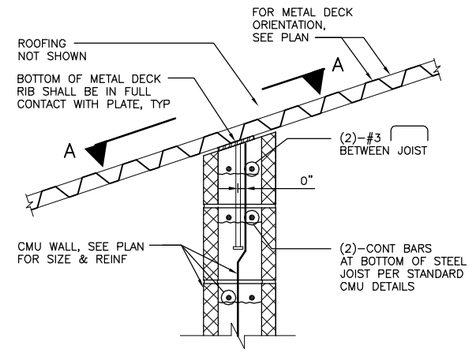
NTS — 2

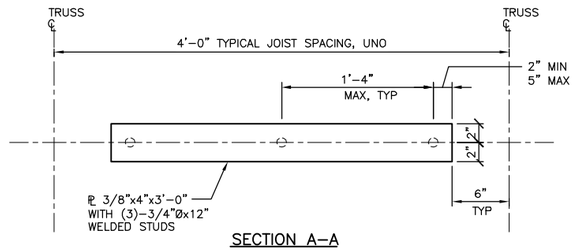


SECTION A-A

TYPICAL TRUSS JOIST DETAIL AT CMU WALL

NTS — 3





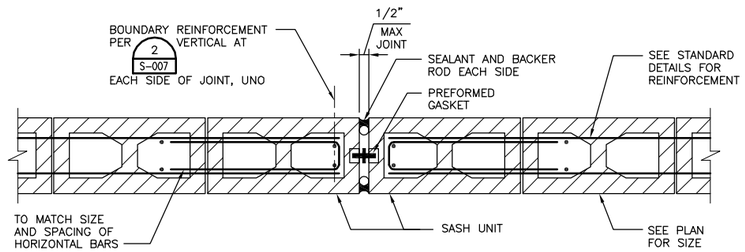
SECTION A-A

NOTE:

1. TRUSS SPACING SHALL BE TYPICALLY 4'-0" OC. THE EMBED PLATE LENGTH & NUMBER OF STUDS TO BE MODIFIED FROM SHOWN IF TRUSS SPACING IS DIFFERENT FROM 4'-0".
2. FOR DECK SIZE, WELDING AND PROPERTIES SEE TYPICAL METAL DECK DETAILS.
3. FOR EASE OF CONSTRUCTION COORDINATE LOCATION OF STUDS WITH CENTER OF CMU CELL.

TYPICAL WALL DETAIL AT ROOF

NTS — 4

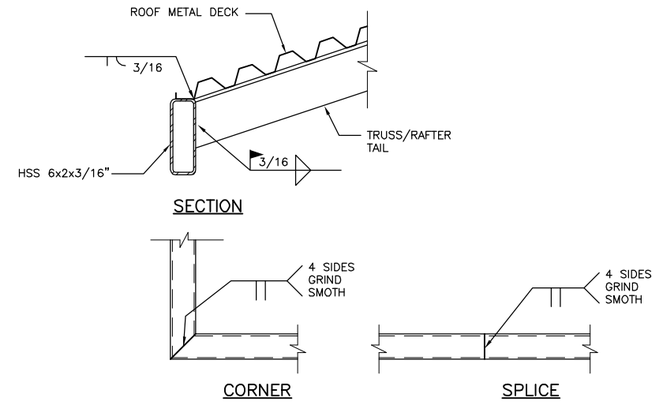


NOTES:

1. CONDITION SHOWN FOR TWO LAYERS OF REINFORCEMENT. FOR ONE LAYER CONDITION, HOOK HORIZONTAL BARS AT JOINT AND ELIMINATE BARS.
2. NO HORIZONTAL REINFORCEMENT SHALL GO THRU THE JOINT EXCEPT AS SHOWN IN TYPICAL CMU WALL ELEVATION.
3. MAXIMUM JOINT SPACING SHALL BE 30'-0", UNLESS NOTED OTHERWISE ON PLANS

TYPICAL CONTROL JOINT DETAIL

NTS — 5



FASCIA TUBE DETAILS

NTS — 6

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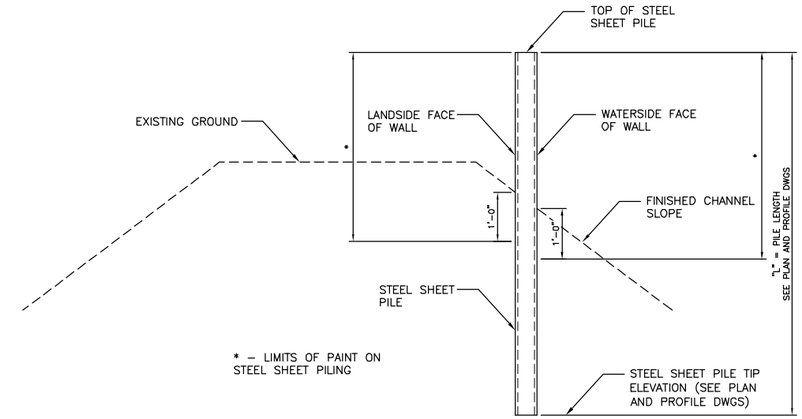
TYPICAL BLOCK WALL DETAILS II

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SHEET S-007 OF XX SHEETS

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TYPICAL SINGLE STEEL SHEET PILE FLOODWALL

NTS

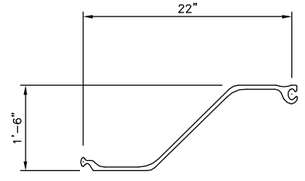
1 / S-303

NOTES:

1. STEEL SHEET PILING SHALL BE PZ–22 ASTM A572 GRADE 50 OR APPROVED EQUAL WITH DIMENSIONS AND PROPERTIES SHOWN IN TABLE ON THIS SHEET.
2. STEEL SHEET PILING SHALL BE CAST HOT ROLLED IN THE U.S.A.
3. STEEL SHEET PILING SHALL HAVE BALL AND SOCKET INTERLOCK.
4. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STEEL SHEET PILE DIMENSIONS AND PROPERTIES

SECTION	AREA (IN^2/FT)	WIDTH (IN)	WEIGHT PER SINGLE (LBS/FT)	WEIGHT PER WALL (LBS/FT^2)	MOMENT OF INERTIA (IN^4/FT)	SECTION MODULUS (IN^3/FT)	COATING AREA PER SINGLE (FT^2/FT)	COATING AREA PER WALL (FT^2/FT^2)
PZ–22	6.47	22	40.3	22	84.38	18.1	4.48	1.22



PZ–22 SECTION

NTS

A / –

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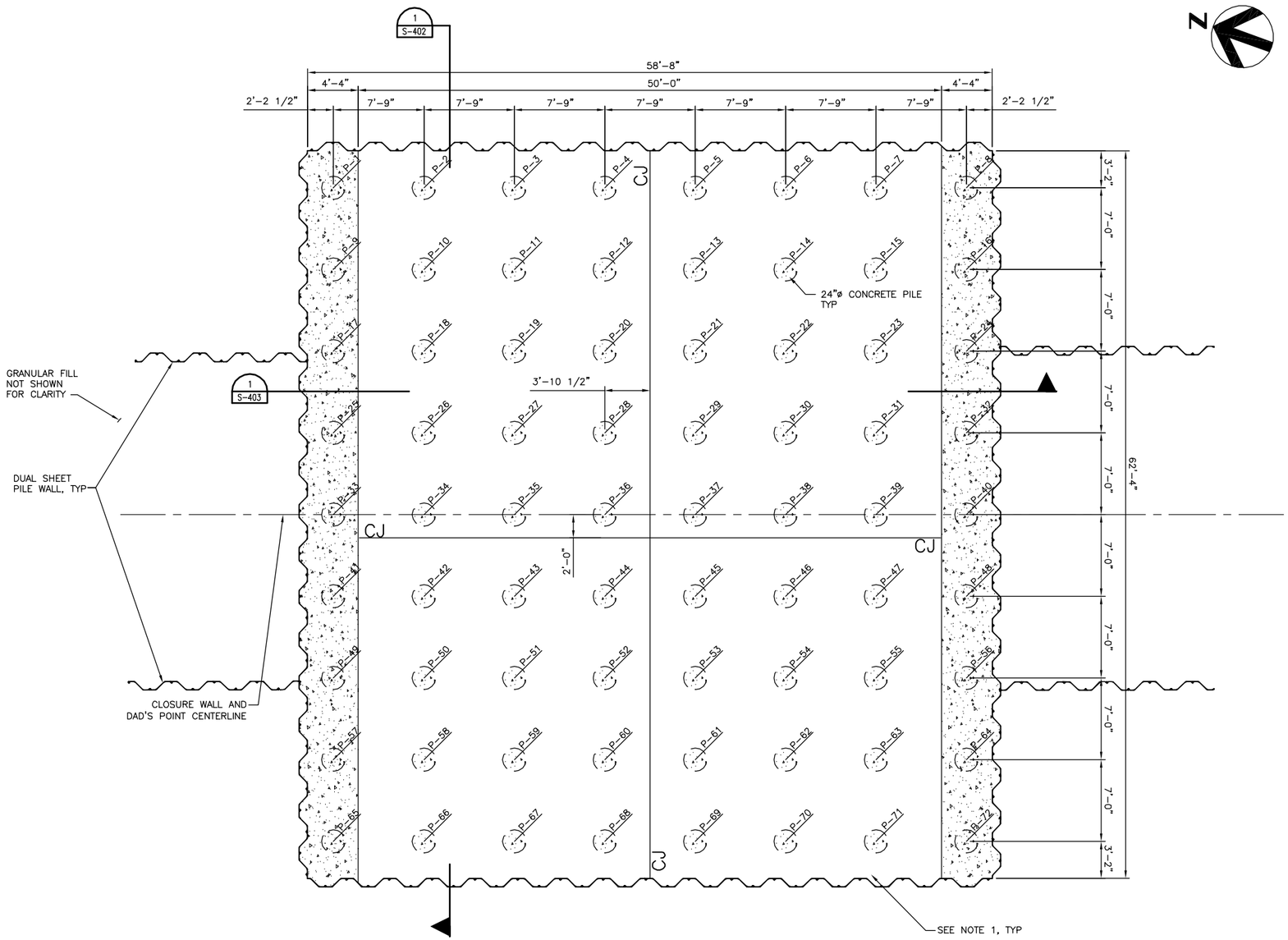
TYPICAL SHEET PILE WALL SECTION NO. 1

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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SHEET **S-301** OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



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SJAFCA San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

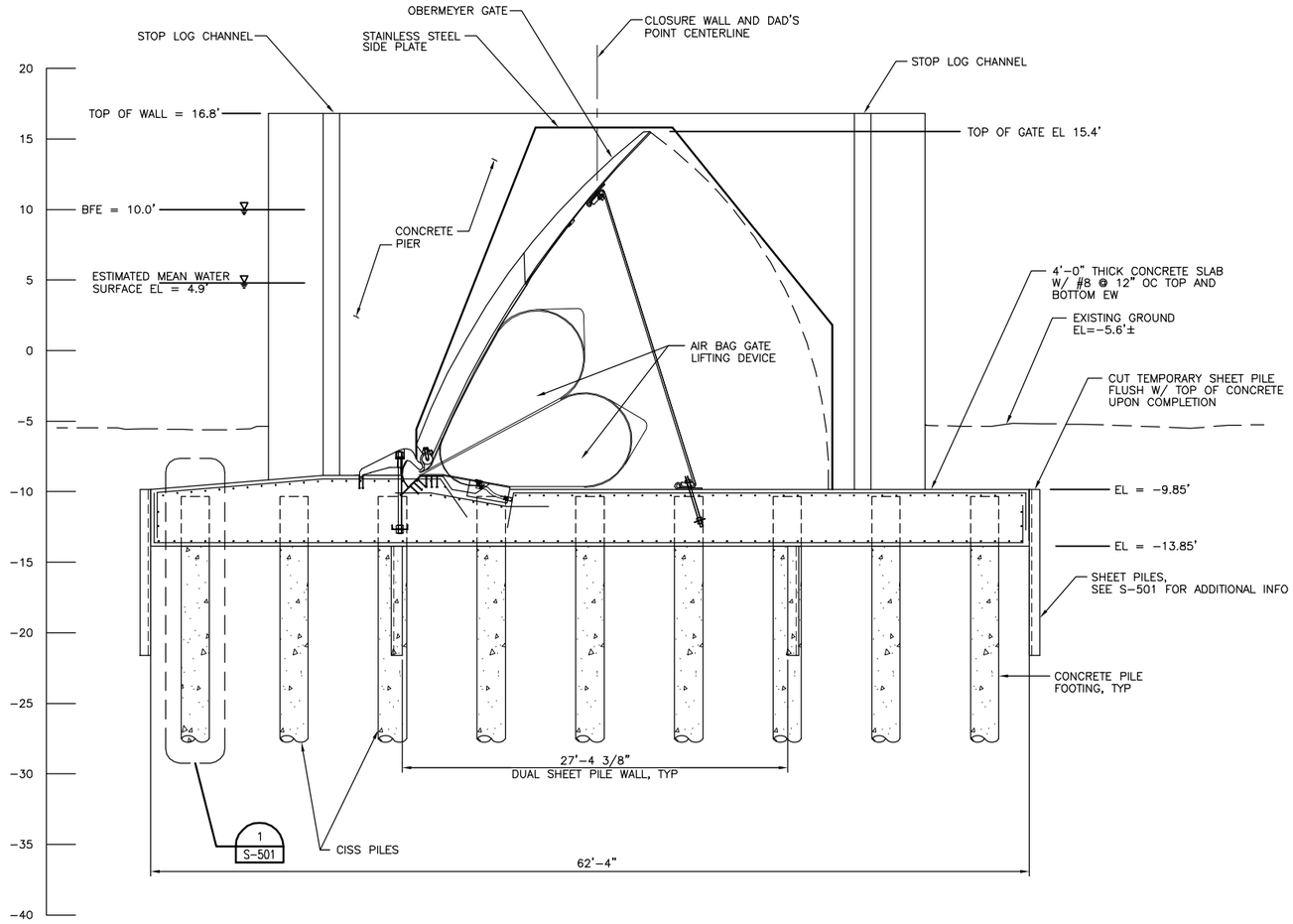
CONTROL GATE STRUCTURE FOUNDATION PLAN

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: 3/16" = 1' – 0"	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET S-401 OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



CONTROL GATE STRUCTURE
3/16" = 1'-0"

1
–

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SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

CONTROL GATE AND STRUCTURE SECTION I

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

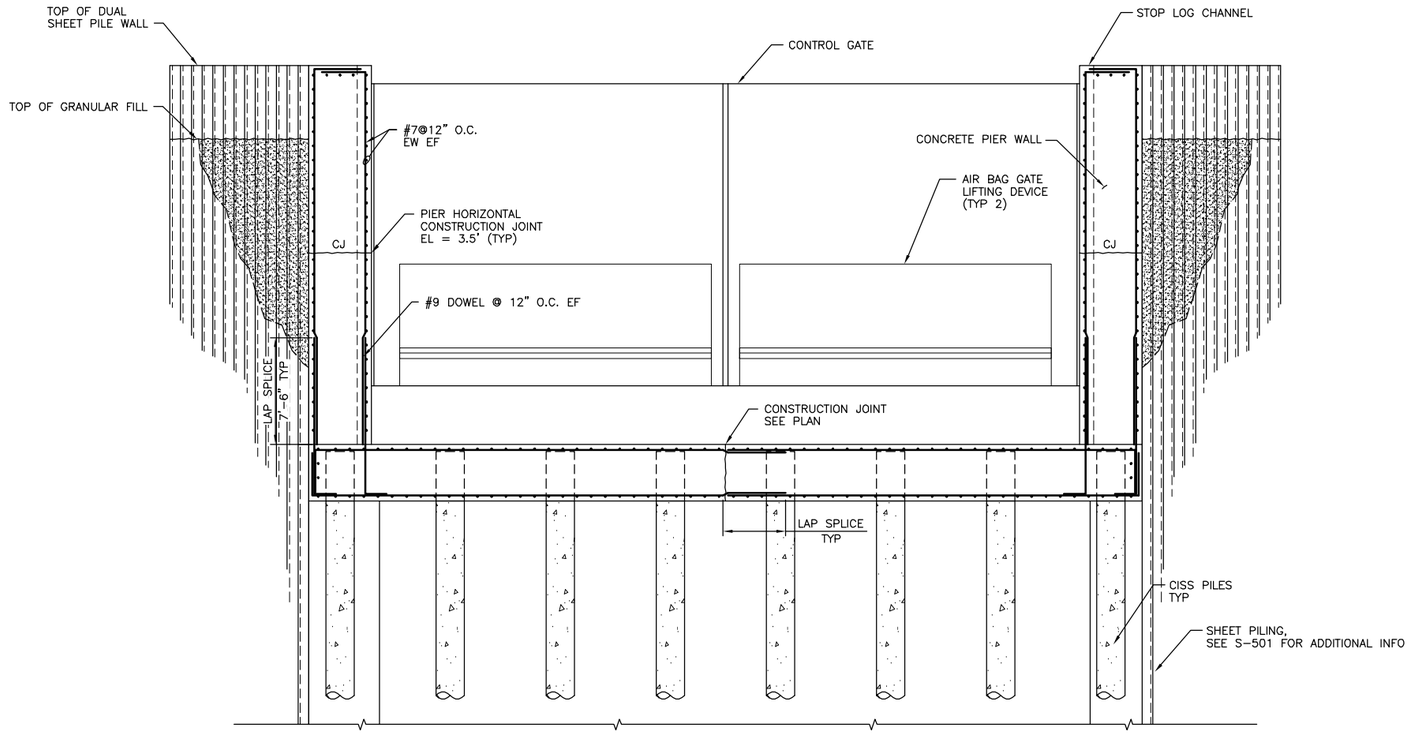
SCALE: 3/16" = 1' – 0"	CHECKED BY:	DATE:
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY:		
DATE:	SIGNATOR'S NAME, COMPANY NAME	

SHEET
S-402
OF
XX
SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1

NOTES:

1. FOR ADDITIONAL INFORMATION SEE SHEETS S-401 & S-402.



CONTROL GATE STRUCTURE
3/16" = 1'-0"

1

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Folsom, CA 95630
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SJAFCA
San Joaquin Area FLOOD CONTROL Agency

SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

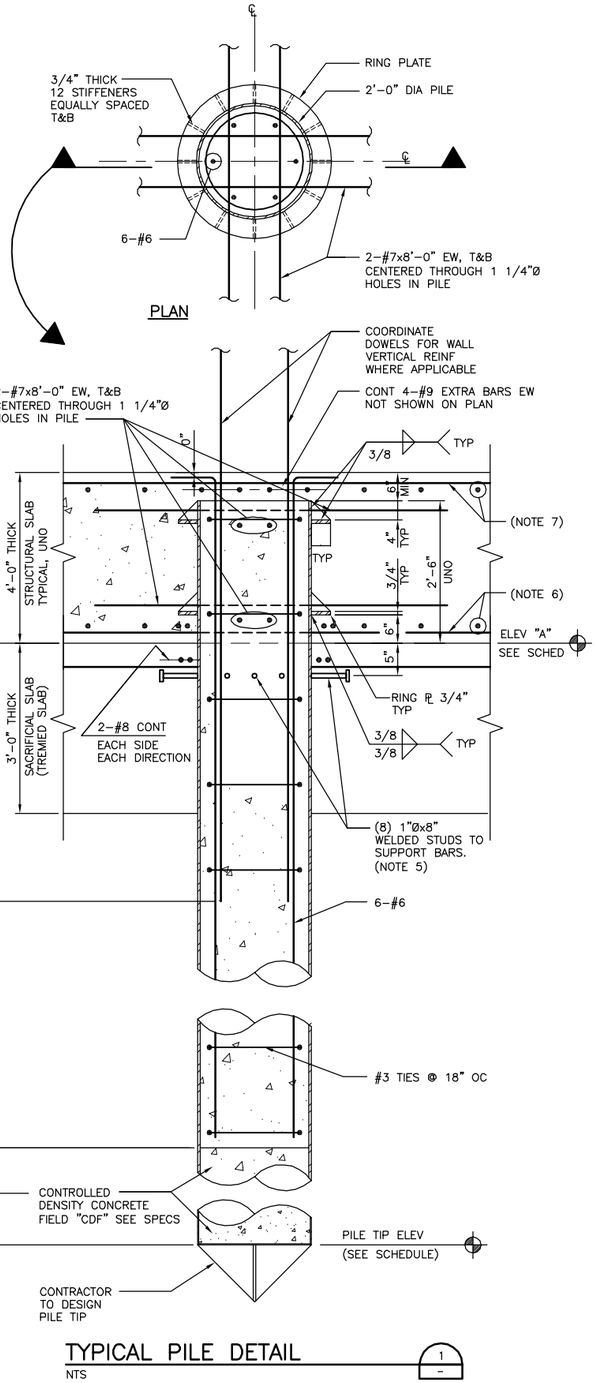
CONTROL GATE AND STRUCTURE SECTION II

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

SCALE: 3/16" = 1' – 0"	CHECKED BY: DATE:
DESIGNED BY: K. DE LAPP	
DRAWN BY: V. RUSSO	
CHECKED BY:	
DATE:	SIGNATOR'S NAME, COMPANY NAME

SHEET **S-403** OF XX SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



TYPICAL PILE DETAIL

NTS

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PILE SCHEDULE (P)

MARK	TYPE	REFERENCE ELEV "A" (FEET)	TIP ELEV (FEET)	REMARK
P-1	24"Øx3/4"	-13.85	-65.0	NOTES 1,3,4,8,9
P-2	24"Øx3/4"	-13.85	-65.0	
P-3	24"Øx3/4"	-13.85	-65.0	
P-4	24"Øx3/4"	-13.85	-65.0	
P-5	24"Øx3/4"	-13.85	-65.0	
P-6	24"Øx3/4"	-13.85	-65.0	
P-7	24"Øx3/4"	-13.85	-65.0	
P-8	24"Øx3/4"	-13.85	-65.0	
P-9	24"Øx3/4"	-13.85	-65.0	
P-10	24"Øx3/4"	-13.85	-65.0	
P-11	24"Øx3/4"	-13.85	-65.0	
P-12	24"Øx3/4"	-13.85	-65.0	
P-13	24"Øx3/4"	-13.85	-65.0	
P-14	24"Øx3/4"	-13.85	-65.0	
P-15	24"Øx3/4"	-13.85	-65.0	
P-16	24"Øx3/4"	-13.85	-65.0	
P-17	24"Øx3/4"	-13.85	-65.0	
P-18	24"Øx3/4"	-13.85	-65.0	
P-19	24"Øx3/4"	-13.85	-65.0	
P-20	24"Øx3/4"	-13.85	-65.0	
P-21	24"Øx3/4"	-13.85	-65.0	
P-22	24"Øx3/4"	-13.85	-65.0	
P-23	24"Øx3/4"	-13.85	-65.0	
P-24	24"Øx3/4"	-13.85	-65.0	
P-25	24"Øx3/4"	-13.85	-65.0	
P-26	24"Øx3/4"	-13.85	-65.0	
P-27	24"Øx3/4"	-13.85	-65.0	
P-28	24"Øx3/4"	-13.85	-65.0	
P-29	24"Øx3/4"	-13.85	-65.0	
P-30	24"Øx3/4"	-13.85	-65.0	
P-31	24"Øx3/4"	-13.85	-65.0	
P-32	24"Øx3/4"	-13.85	-65.0	
P-33	24"Øx3/4"	-13.85	-65.0	
P-34	24"Øx3/4"	-13.85	-65.0	
P-35	24"Øx3/4"	-13.85	-65.0	
P-36	24"Øx3/4"	-13.85	-65.0	
P-37	24"Øx3/4"	-13.85	-65.0	
P-38	24"Øx3/4"	-13.85	-65.0	
P-39	24"Øx3/4"	-13.85	-65.0	
P-40	24"Øx3/4"	-13.85	-65.0	
P-41	24"Øx3/4"	-13.85	-65.0	
P-42	24"Øx3/4"	-13.85	-65.0	
P-43	24"Øx3/4"	-13.85	-65.0	
P-44	24"Øx3/4"	-13.85	-65.0	
P-45	24"Øx3/4"	-13.85	-65.0	
P-46	24"Øx3/4"	-13.85	-65.0	
P-47	24"Øx3/4"	-13.85	-65.0	
P-48	24"Øx3/4"	-13.85	-65.0	
P-49	24"Øx3/4"	-13.85	-65.0	
P-50	24"Øx3/4"	-13.85	-65.0	
P-51	24"Øx3/4"	-13.85	-65.0	
P-52	24"Øx3/4"	-13.85	-65.0	
P-53	24"Øx3/4"	-13.85	-65.0	NOTES 1,3,4,8,9

PILE SCHEDULE (P) (CONT)

MARK	TYPE	REFERENCE ELEV "A" (FEET)	TIP ELEV (FEET)	REMARK
P-54	24"Øx3/4"	-13.85	-65.0	NOTES 1,3,4,8,9
P-55	24"Øx3/4"	-13.85	-65.0	
P-56	24"Øx3/4"	-13.85	-65.0	
P-57	24"Øx3/4"	-13.85	-65.0	
P-58	24"Øx3/4"	-13.85	-65.0	
P-59	24"Øx3/4"	-13.85	-65.0	
P-60	24"Øx3/4"	-13.85	-65.0	
P-61	24"Øx3/4"	-13.85	-65.0	
P-62	24"Øx3/4"	-13.85	-65.0	
P-63	24"Øx3/4"	-13.85	-65.0	
P-64	24"Øx3/4"	-13.85	-65.0	
P-65	24"Øx3/4"	-13.85	-65.0	
P-66	24"Øx3/4"	-13.85	-65.0	
P-67	24"Øx3/4"	-13.85	-65.0	
P-68	24"Øx3/4"	-13.85	-65.0	
P-69	24"Øx3/4"	-13.85	-65.0	
P-70	24"Øx3/4"	-13.85	-65.0	
P-71	24"Øx3/4"	-13.85	-65.0	
P-72	24"Øx3/4"	-13.85	-65.0	NOTES 1,3,4,8,9

NOTES:

1. "P" DENOTES PILE
2. PILES SHALL BE 3/4" IN THICKNESS. MINIMUM LENGTH OF PILES SHALL BE DETERMINED BY THE CONTRACTOR BASED ON SCHEDULED INFORMATION.
3. 3'-0" SACRIFICIAL BASE SLAB, SEE S-501 FOR INFO.
4. ELEVATION "A" REFER TO BOTTOM OF STRUCTURAL SLAB.
5. PROVIDE 8 SUPPORTING 1"Øx8" WELDED HEADED STUDS @ EQUAL 45° SPACING. CENTERLINE OF STUDS SHALL BE 5" BELOW TOP OF SACRIFICIAL SLAB
6. TYPICAL BOTTOM MAT REINF. SEE PLAN AND SECTIONS FOR SIZE AND SPACING. DOUBLE THE FIRST BAR ON EITHER SIDE, EITHER DIRECTION.
7. TYPICAL TOP MAT REINF SEE PLAN AND SECTIONS FOR SIZE AND SPACING.
8. FOR TYPICAL PILE CONSTRUCTION, SEE DETAIL S-501.
9. ALL CIRCULAR PILES SHALL BE FILLED WITH STRUCTURAL CONCRETE / CDF PER DETAIL S-501.
10. SEE PLANS FOR ALL TOP OF CONCRETE ELEVATIONS.

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING
1180 Iron Point Rd. Suite 260
Folsom, CA 95630
PH: (916)608-2212 Fax: (916)608-2232

HDR Engineering Inc.

REGISTERED PROFESSIONAL ENGINEER
KEITH F. DE LAPP
No. 48214
Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REV	DATE	BY	DESCRIPTION
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PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION

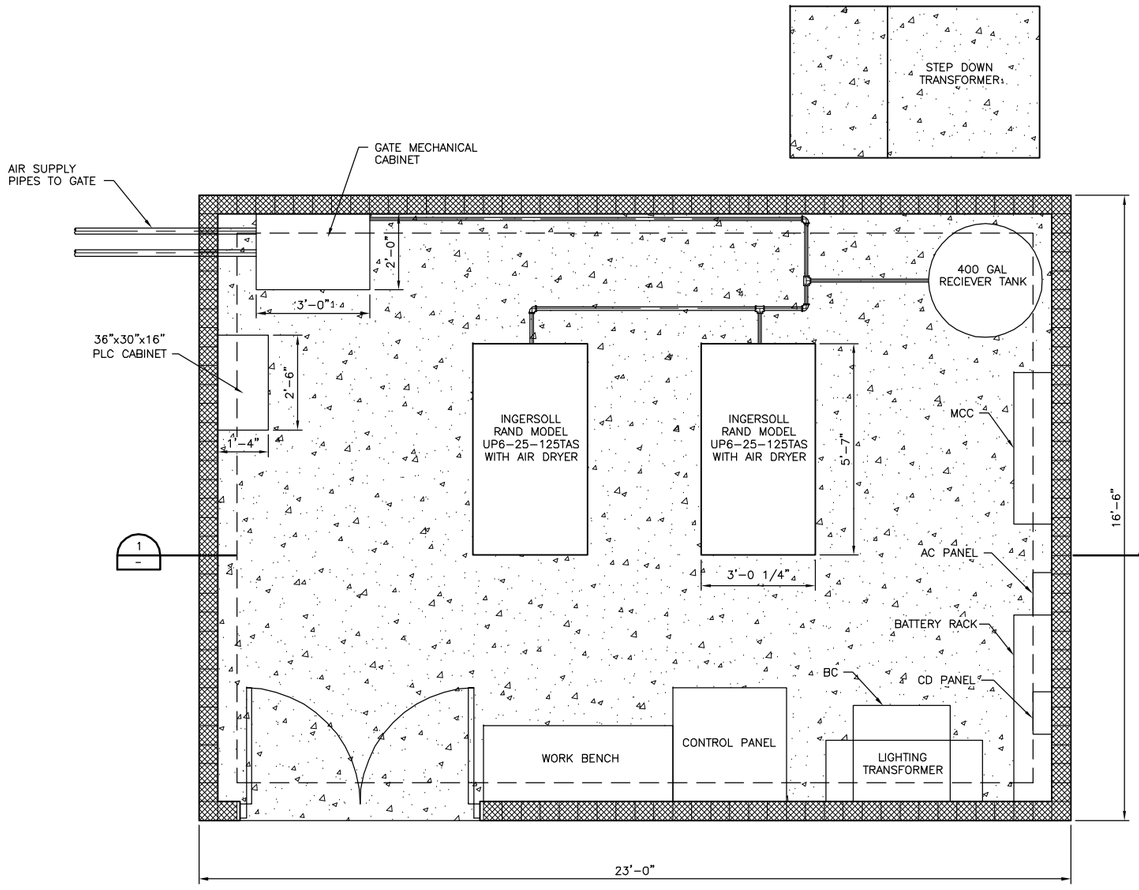
PILE SCHEDULES AND DETAILS

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

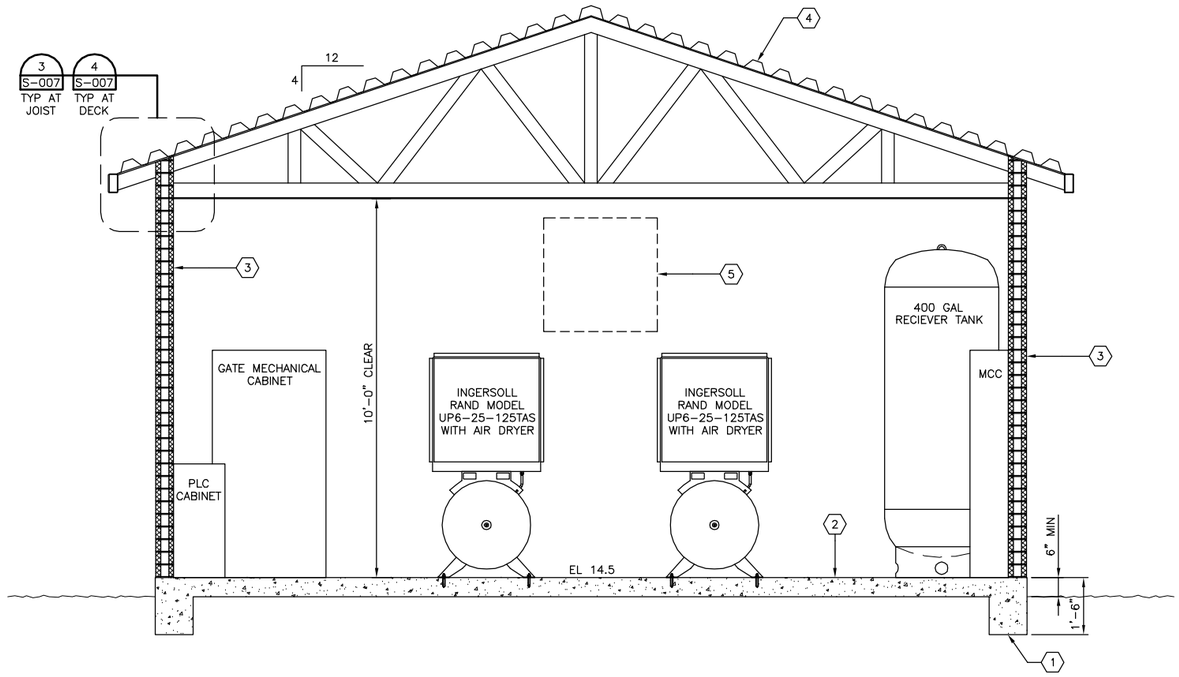
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DRAWN BY: V. RUSSO		
CHECKED BY:		
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SHEET
S-501
OF
XX
SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
0 1/2 1



CONTROL BUILDING PLAN
1/2" = 1'-0"



CONTROL BUILDING SECTION
1/2" = 1'-0"

NOTES:

1. 1'-0"W x 1'-0"DP CONCRETE FOOTING W/ 2-#5 T&B AND #5 VERT AT 16" OC.
2. 8" CONCRETE SLAB W/ #5 AT 12" OC EW CENTERED IN SLAB
3. 8" CMU, FOR REINFORCEMENT SEE TYPICAL DETAILS, SHEET S-007, MISC LOCATIONS
4. COMPOSITION ROOFING OVER CORRUGATED METAL DECK OVER STEEL BAR JOIST TRUSSES.
5. 3'-0" x 3'-0" BACKDRAFT DAMPER W/ LOUVER COVER

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CONTROL BUILDING MECHANICAL PLAN AND SECTION

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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SHEET M-401 OF XX SHEETS

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