

Note to Reviewer.

These 30% design plans were prepared based upon the published FEMA 100-Year base flood elevation of 10.0 NAVD. As discussed in Section 4.2 of the *Smith Canal Closure Structure Early Implementation Program Project Report*, the 100-Year and 200-Year flood elevations for Smith Canal have been recently recalculated to be 9.4 and 9.5 respectively. The design plans will be revised at the 60% design stage to reflect the latest design water surface elevations.

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

SAN JOAQUIN AREA FLOOD CONTROL AGENCY:

JAMES GIOTTONINI
EXECUTIVE DIRECTOR

RECLAMATION DISTRICT 1614

Christopher Neudeck

RECLAMATION DISTRICT 828

Thomas Rosten

HDR ENGINEERING:

Keith DE Lapp, RCE No. C48214
HDR Engineering

PBI ENGINEERING:

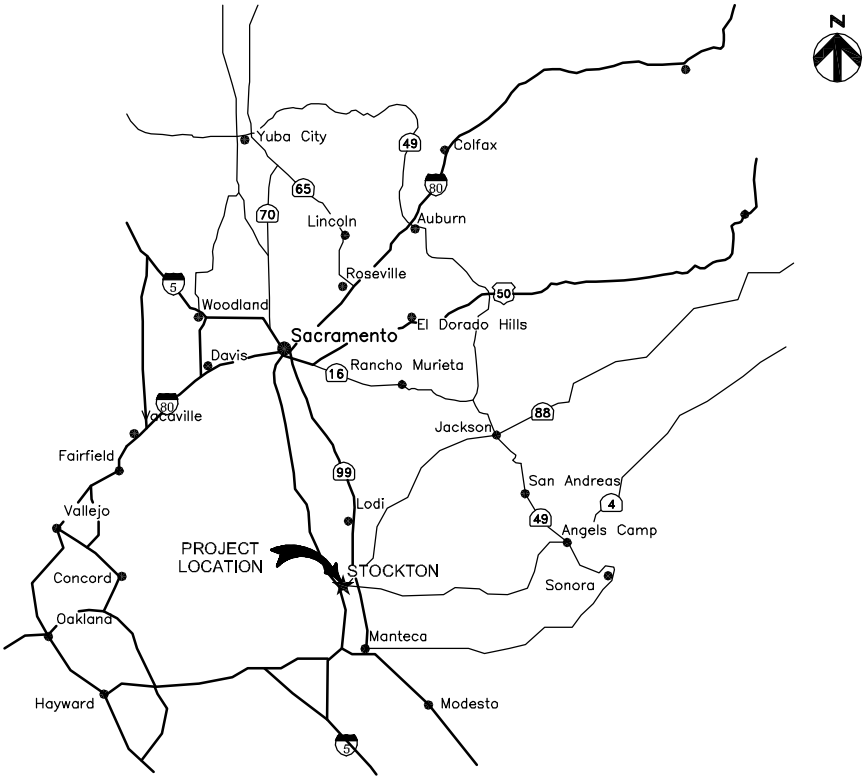
Finbarr J O'Regan, RCE No. C57527
PBI Engineering

UTILITY CONTACT INFORMATION

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

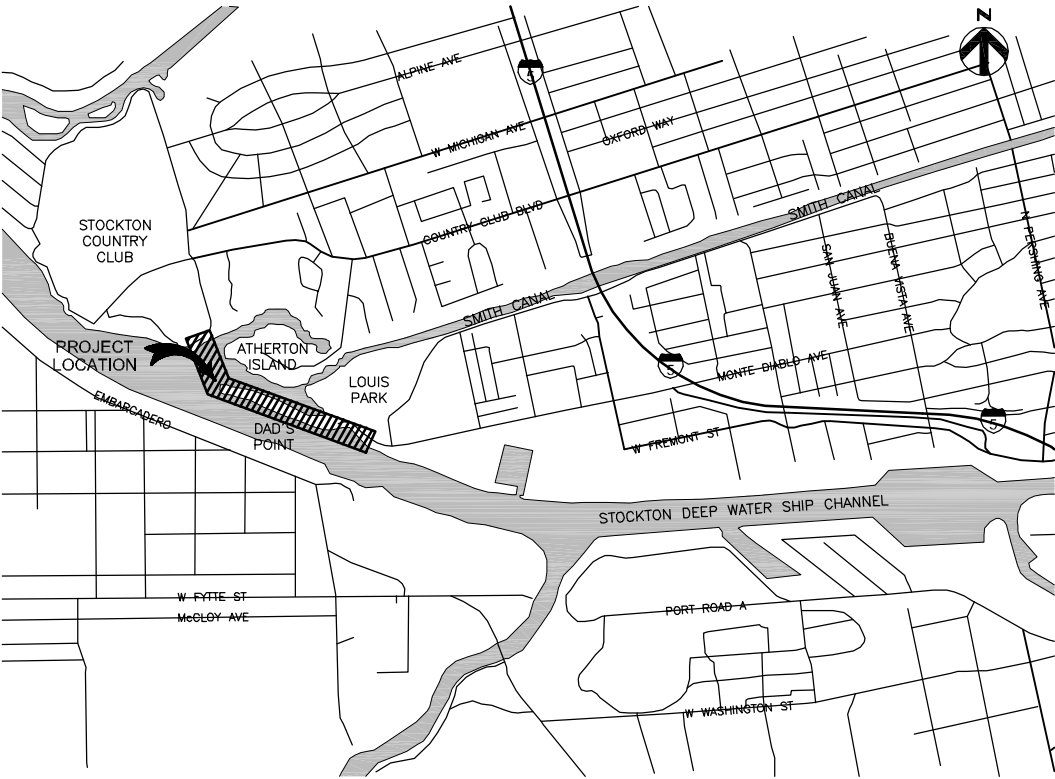


WARNING: CONTRACTOR TO USE EXTREME CAUTION. EXACT DEPTH AND LOCATION OF UNDERGROUND UTILITIES ARE UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY CONFLICT. CONTRACTOR SHALL CALL USA AT 1-800-227-2600 AT LEAST TWO WORKING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



LOCATION MAP

NTS



VICINITY MAP

NTS

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING

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

HDR
HDR Engineering Inc.



REV	DATE	BY	DESCRIPTION

SJARCA
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
DESIGNED BY: K. DE LAPP
DRAWN BY: V. RUSSO
CHECKED BY:
DATE:

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.

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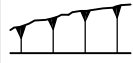
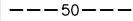
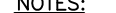
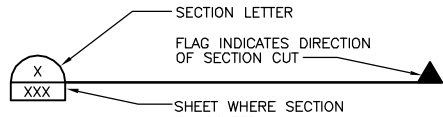
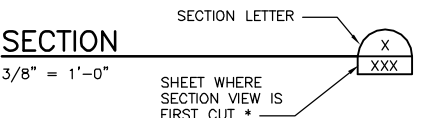
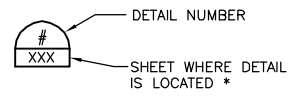
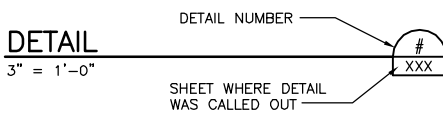
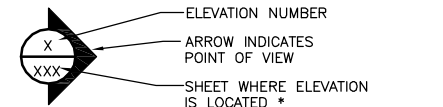
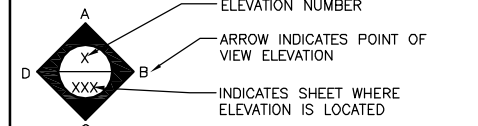
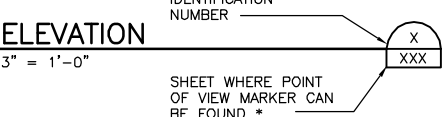
MECHANICAL:

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 ENGINEERING . CONSULTING 1180 Iron Point Rd. Suite 260 Folsom, CA 95630 PH: (916)608-2212 Fax: (916)608-2232	 HDR HDR Engineering Inc.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">REV</th> <th style="text-align: left;">DATE</th> <th style="text-align: left;">BY</th> <th style="text-align: left;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td>-</td><td> </td><td>-</td><td> </td></tr> </tbody> </table>	REV	DATE	BY	DESCRIPTION																									-		-			SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION SHEET INDEX	SAN JOAQUIN AREA FLOOD CONTROL AGENCY <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">SCALE: NO SCALE</td> <td>CHECKED BY:</td> <td>DATE:</td> </tr> <tr> <td>DESIGNED BY: K. DE LAPP</td> <td rowspan="3"></td> <td rowspan="3"></td> </tr> <tr> <td>DRAWN BY: V. RUSSO</td> </tr> <tr> <td>CHECKED BY:</td> </tr> <tr> <td>DATE:</td> <td colspan="2">SIGNATOR'S NAME, COMPANY NAME</td> </tr> </table>	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
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SITE PLAN SYMBOLOGY		MATERIALS IN PLAN/SECTION		GENERAL SYMBOLOGY		IDENTIFICATION SYMBOLOGY		SHEET NAMING CONVENTION	
 EMBANKMENT SLOPE  NEW CONTOUR  EXISTING CONTOUR  VEGETATION (SIZE)  CLEANOUT  MANHOLE  MONITORING WELL  PIEZOMETER  STORM DRAIN CATCH BASIN  UTILITY VAULT  POWER POLE  TELEPHONE POLE  FIRE HYDRANT  YARD HYDRANT  EXISTING SPOT ELEVATION  FINISHED SPOT ELEVATION  HORIZONTAL CONTROL POINT  BENCHMARK  IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE  DOWNGUY  EXTERIOR PAD MOUNTED TRANSFORMER  POLE - MOUNTED TRANSFORMER  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).  TELEPHONE LINE  ELECTRIC LINE  FIBER OPTIC  COMMUNICATION  HANDRAIL AND GUARDRAIL  PIPELINE  LARGE PIPELINE  UTILITY BENEATH STRUCTURE  RAILROAD  DRAINAGE FLOW  NATURAL WATERWAY  CHAIN LINK FENCE  FIELD FENCE  PROPERTY LINE  CENTERLINE  ROCK BERM  SILT FENCE  EASEMENT  LIMITS OF CONSTRUCTION  ROW  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) ARROW INDICATES DIRECTION OF PLAN NORTH  PLAN 1/4" = 1'-0" PLAN TITLE SECTION LETTER FLAG INDICATES DIRECTION OF SECTION CUT  SECTION CUT MARKER SECTION LETTER SHEET WHERE SECTION VIEW IS FIRST CUT *  SECTION 3/8" = 1'-0" SECTION TITLE DETAIL NUMBER SHEET WHERE DETAIL IS LOCATED *  DETAIL MARKER FOR REFERENCING DETAILS INCLUDED IN DRAWING SET. XXXXXXXXXX DETAIL MARKER FOR REFERENCING DETAILS BOUND IN SPECIFICATIONS OR SEPARATE VOLUME. DETAIL NUMBER SHEET WHERE DETAIL WAS CALLED OUT  DETAIL 3" = 1'-0" 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 SHEET WHERE ELEVATION IS LOCATED *  SINGLE ELEVATION OR PHOTO MARKER ELEVATION NUMBER ARROW INDICATES POINT OF VIEW ELEVATION INDICATES SHEET WHERE ELEVATION IS LOCATED  MULTIPLE ELEVATION OR PHOTO MARKER ELEVATION IDENTIFICATION NUMBER SHEET WHERE POINT OF VIEW MARKER CAN BE FOUND *  ELEVATION 3" = 1'-0" ELEVATION TITLE TARGET ELEVATION  ARCHITECTURAL ROOM NAME XX-XX ROOM NUMBER  DOOR NUMBER  COLUMN GRID LINE  WALL TYPE  WINDOW TYPE  LOUVER  ACCESSORY, FURNITURE, AND MISCELLANEOUS EQUIPMENT IDENTIFIER KEY NOTE DESIGNATION KEY NOTE NUMBER  4-HOUR FIRE RATED WALL 3-HOUR FIRE RATED WALL 2-HOUR FIRE RATED WALL 1-HOUR FIRE RATED WALL COLUMN GRID LINE/CENTERLINE FIGURE EXAMPLE 36-PLE 36" SERVICE PLANT EFFLUENT PIPING FIGURE EXAMPLE NPWP2023 INDICATES NON-POTABLE WATER INDICATES PUMP BUILDING OR STRUCTURE NUMBER BUILDING 20 EQUIPMENT NUMBER PUMP 23 EQUIPMENT IDENTIFICATION FIGURE EXAMPLE NPWP-23 INDICATES NON-POTABLE WATER INDICATES PUMP EQUIPMENT NUMBER PUMP 23 ALTERNATIVE 2 AREA DESIGNATION DISCIPLINE DESIGNATOR SHEET TYPE DESIGNATOR SHEET NUMBER 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 GENERAL (SYMBOLS, LEGENDS) PLANS ELEVATIONS SECTIONS LARGE SCALE VIEWS DETAILS SCHEDULES AND DIAGRAMS PROFILES 3D REPRESENTATIONS 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.									

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 KJELDSSEN, 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.



PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING

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



HDR
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**

GENERAL NOTES

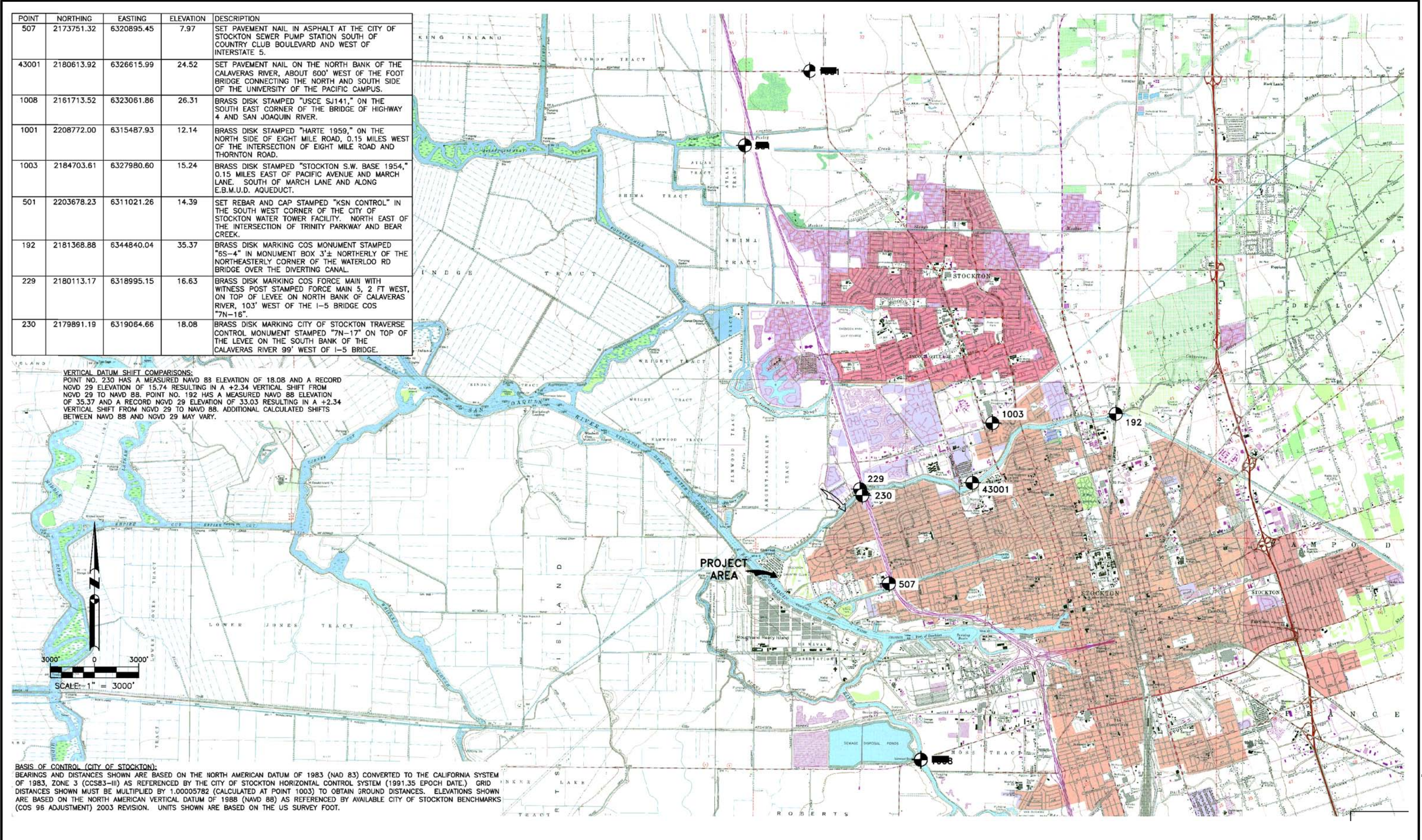
SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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

SHEET
G-005
OF
XX
SHEETS

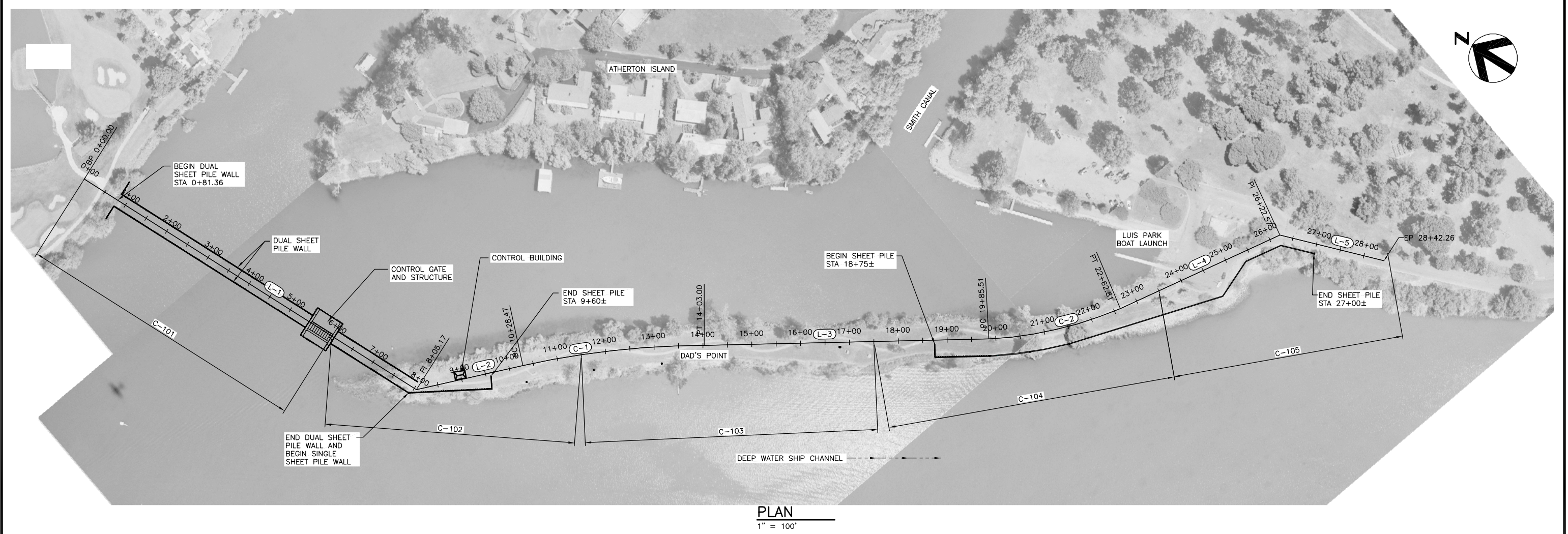


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 PETERSON . BRUSTAD . INC. ENGINEERING . CONSULTING 1180 Iron Point Rd. Suite 260 Folsom, CA 95630 PH: (916)608-2212 Fax: (916)608-2232	 HDR HDR Engineering Inc.		REV	DATE	BY	DESCRIPTION
 San Joaquin Area Flood Control Agency						
SMITH CANAL CLOSURE STRUCTURE PRELIMINARY DESIGN FOR CONDITIONAL LETTER OF MAP REVISION						
CONTROL SHEET						
SAN JOAQUIN AREA FLOOD CONTROL AGENCY			SHEET V-002			
SCALE: NO SCALE DESIGNED BY: K. DE LAPP DRAWN BY: V. RUSSO CHECKED BY: DATE:			CHECKED BY: _____ DATE: _____ SIGNATOR'S NAME, COMPANY NAME			

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



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):

BEARINGS AND DISTANCES SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CONVERTED TO THE CALIFORNIA SYSTEM OF 1983, ZONE 3 (CCS83-111) 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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**SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL
LETTER OF MAP REVISION**

**TOPOGRAPHIC SURVEY/
ALIGNMENT CONTROL No. 1**

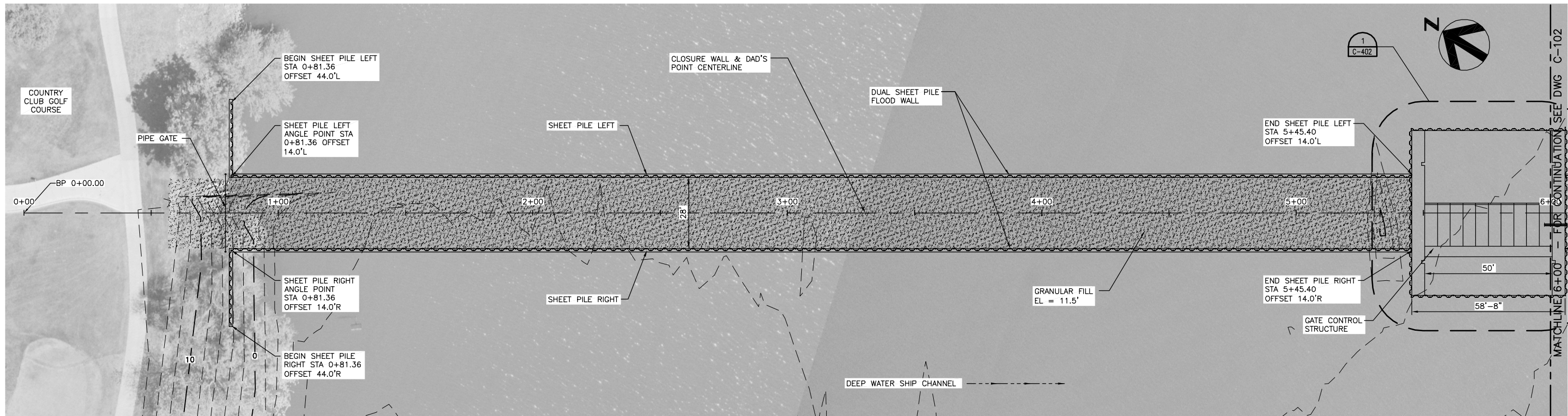
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SHEET
V-003

OF
XX

SHEETS

IF THIS BAR DOES NOT MEASURE 1" THEN
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1/2
0

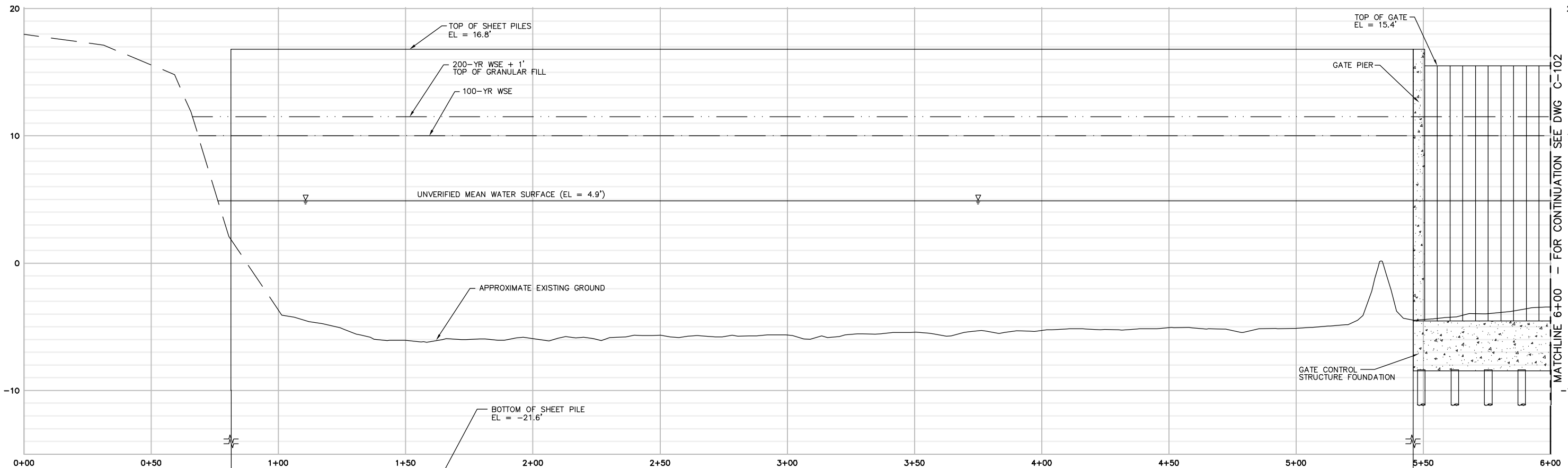


NOTES:

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

PLAN

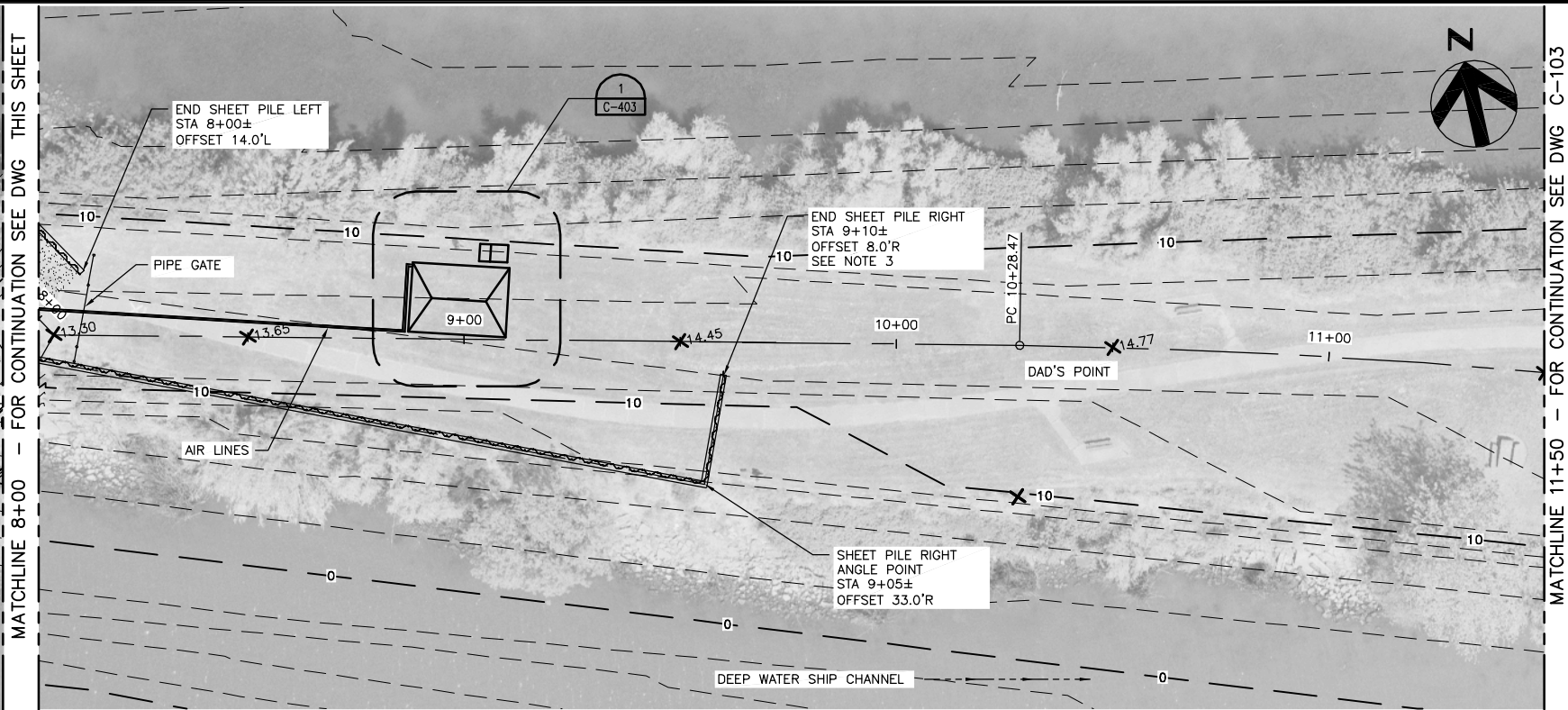
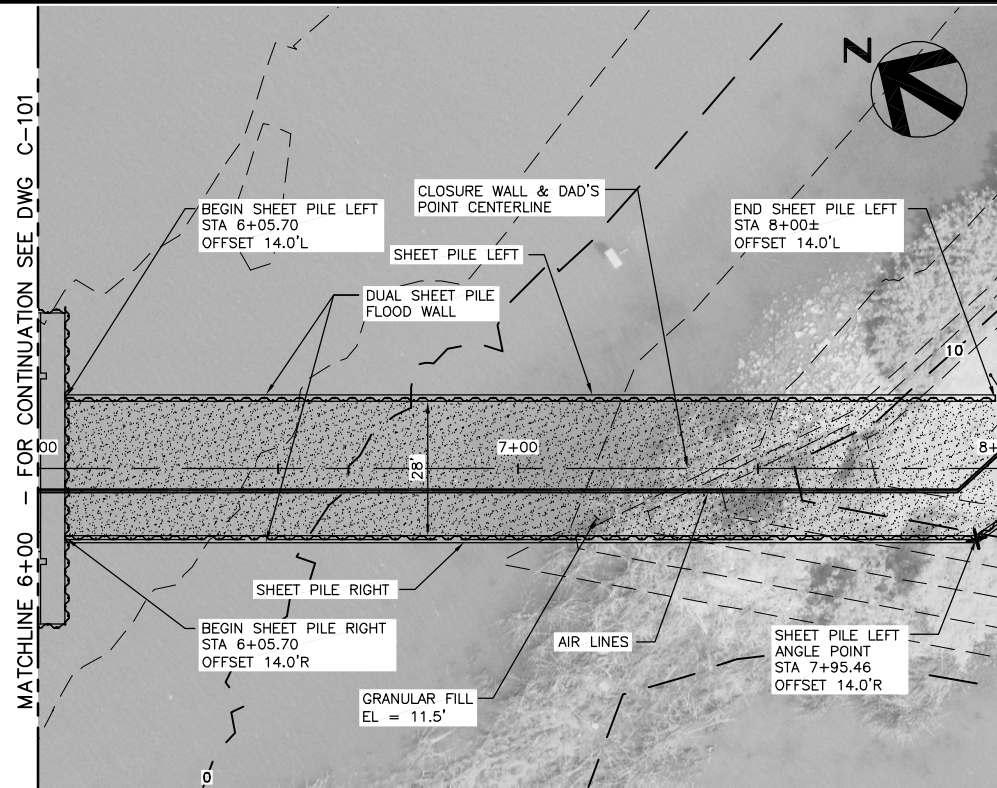
1" = 20'



PROFILE

1" = 20'

REV	DATE	BY	DESCRIPTION

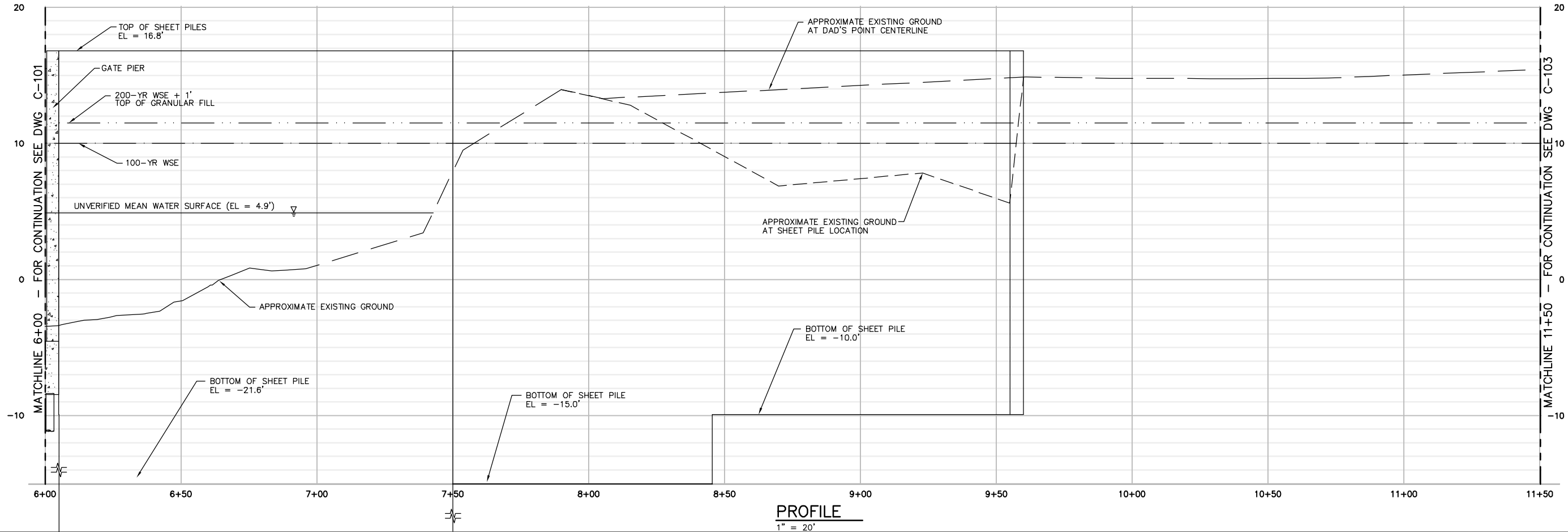


NOTES:

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'

REV	DATE	BY	DESCRIPTION

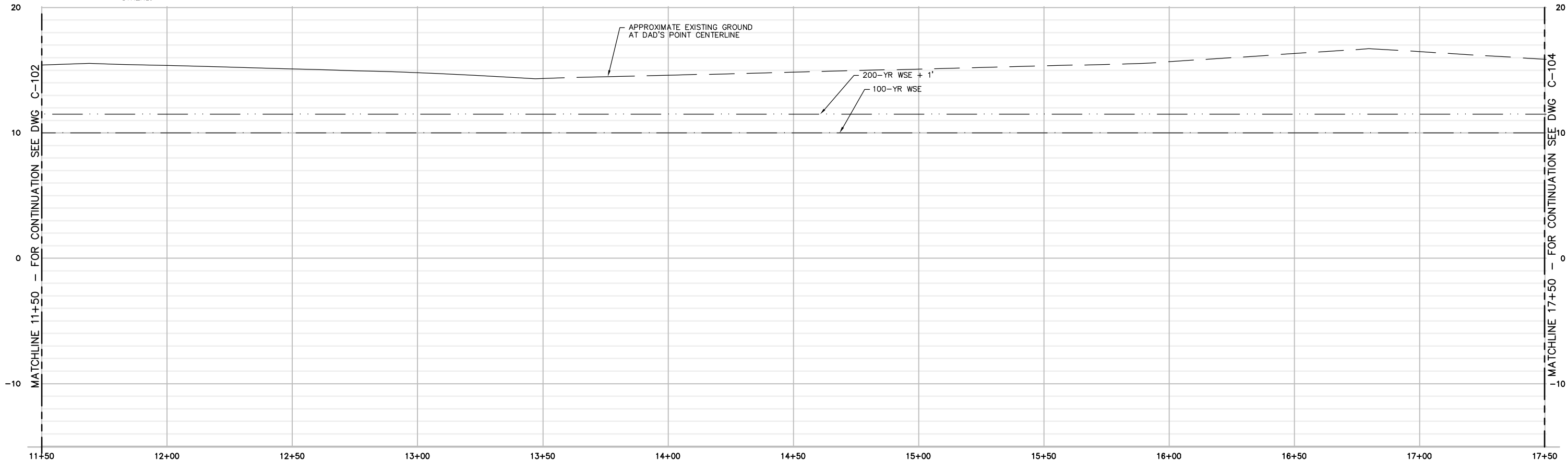


NOTES:

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

PLAN

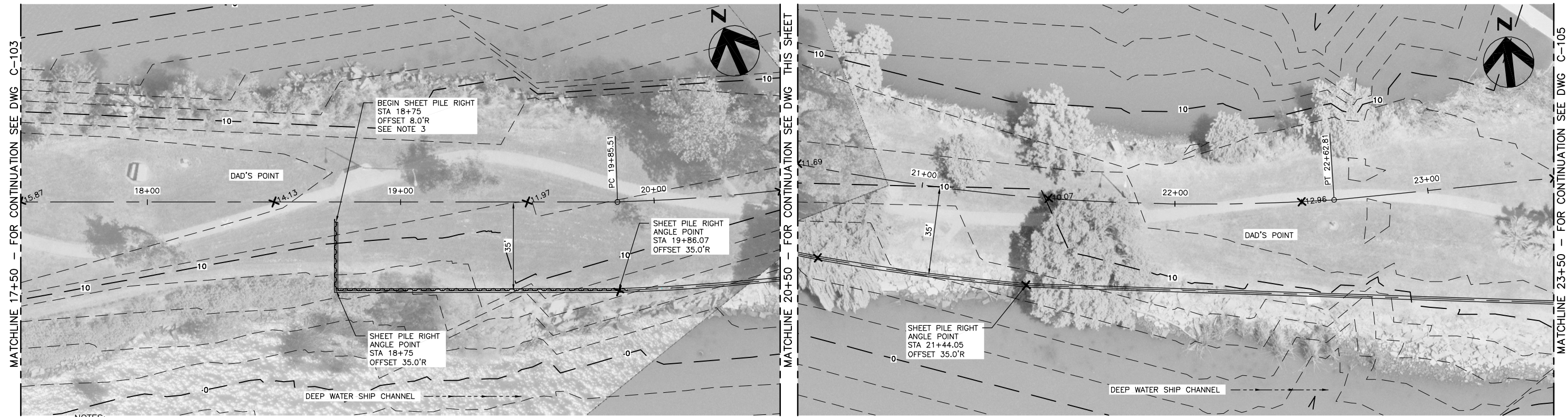
1" = 20'



PROFILE

1" = 20'

REV	DATE	BY	DESCRIPTION

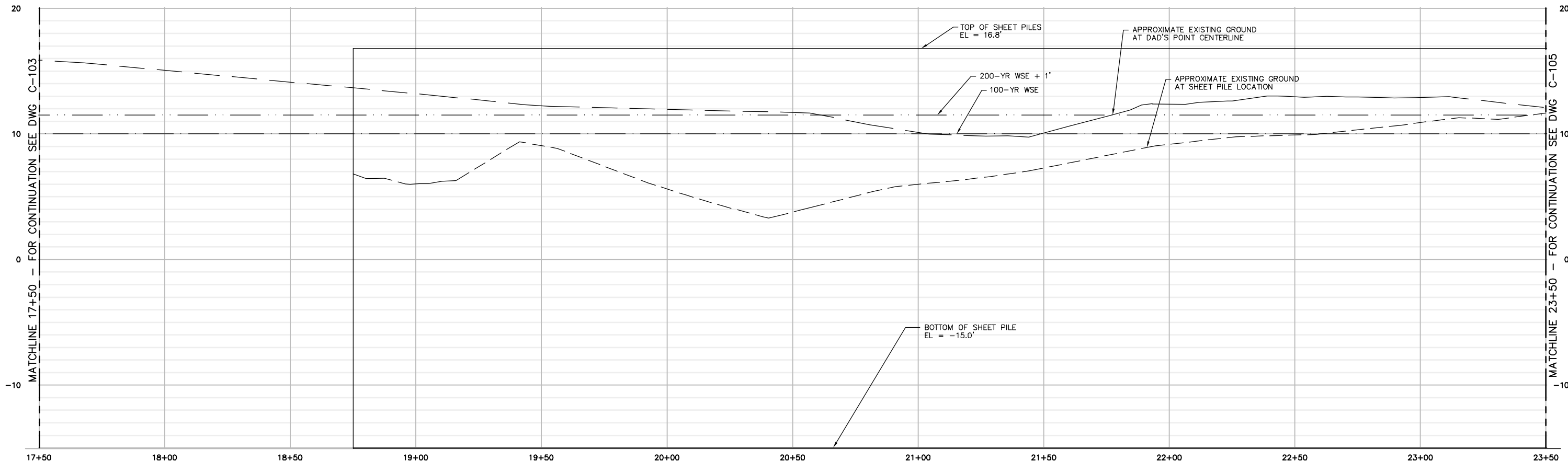


NOTES:

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'

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

REV	DATE	BY	DESCRIPTION

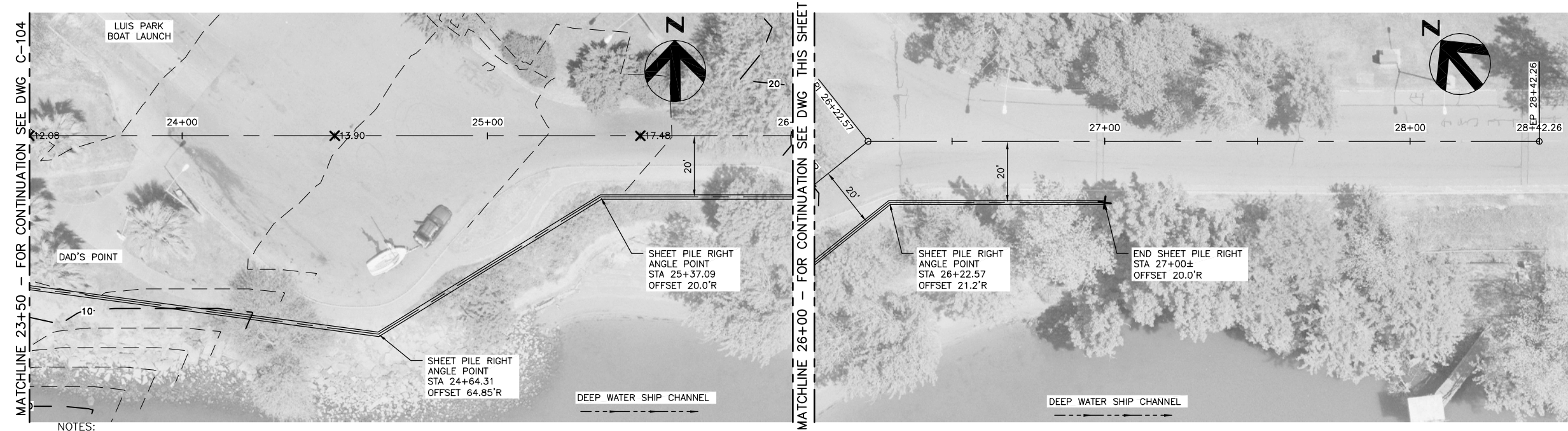
SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL
LETTER OF MAP REVISION

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	

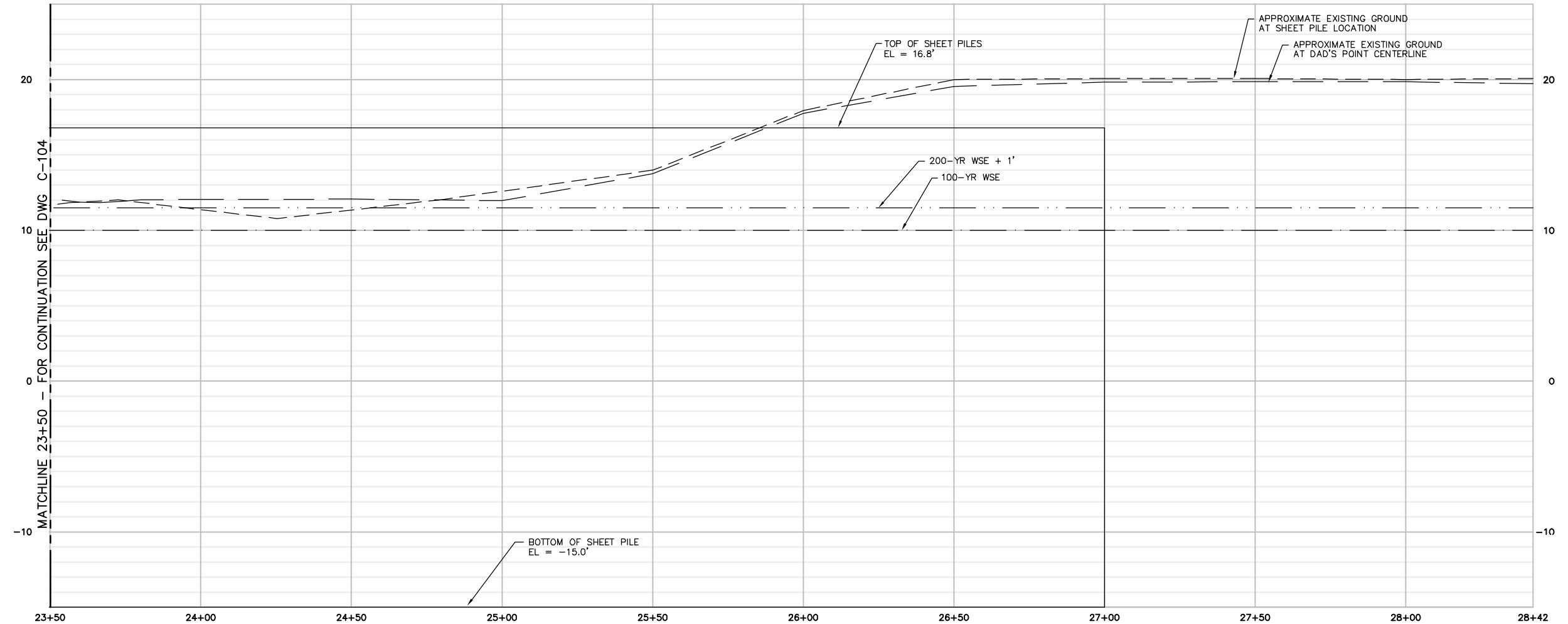
SHEET
C-104
OF
XX
SHEETS



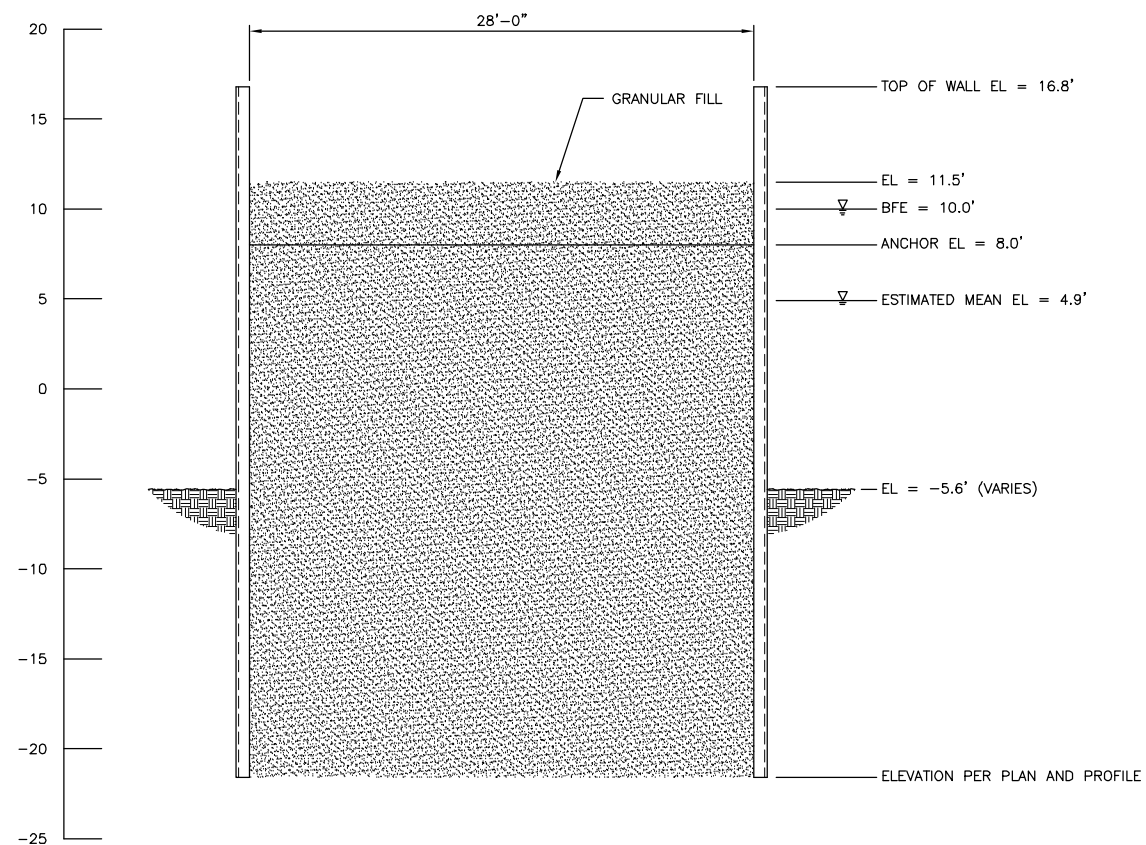
NOTES:

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'

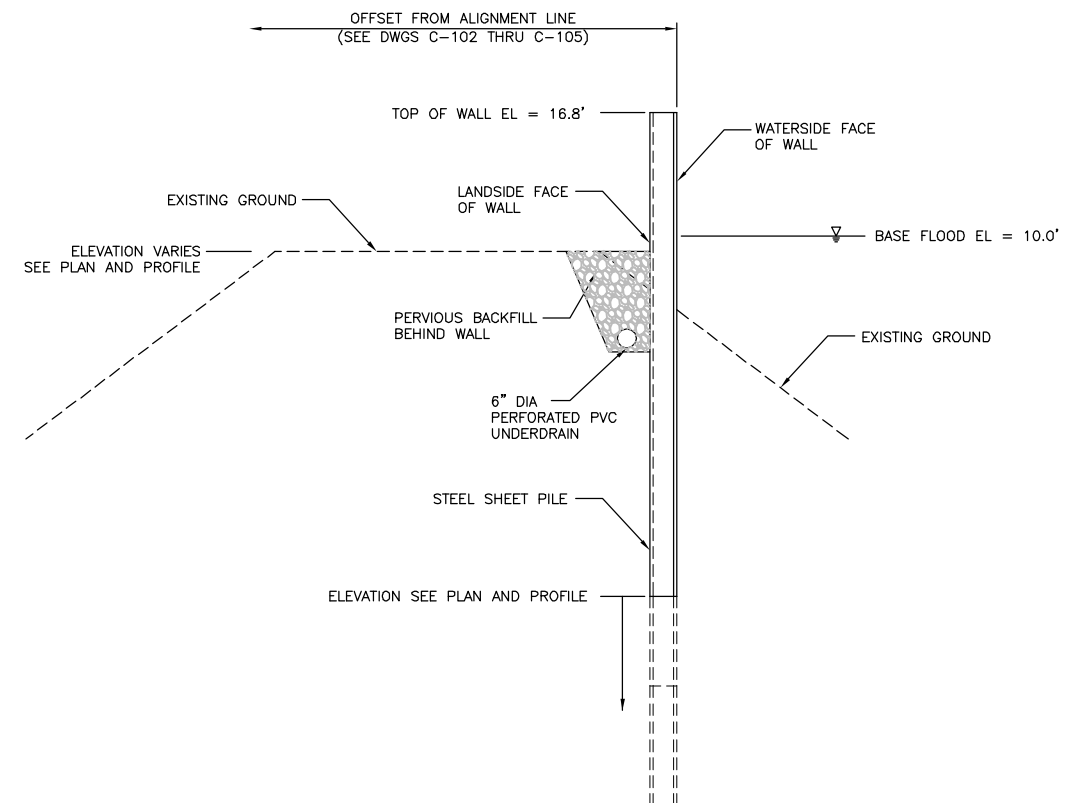


TYPICAL DUAL SHEET PILE

NTS

A diagram of a semi-circle with the number 1 inside.

C-301



SINGLE STEEL SHEET PILE FLOODWALL

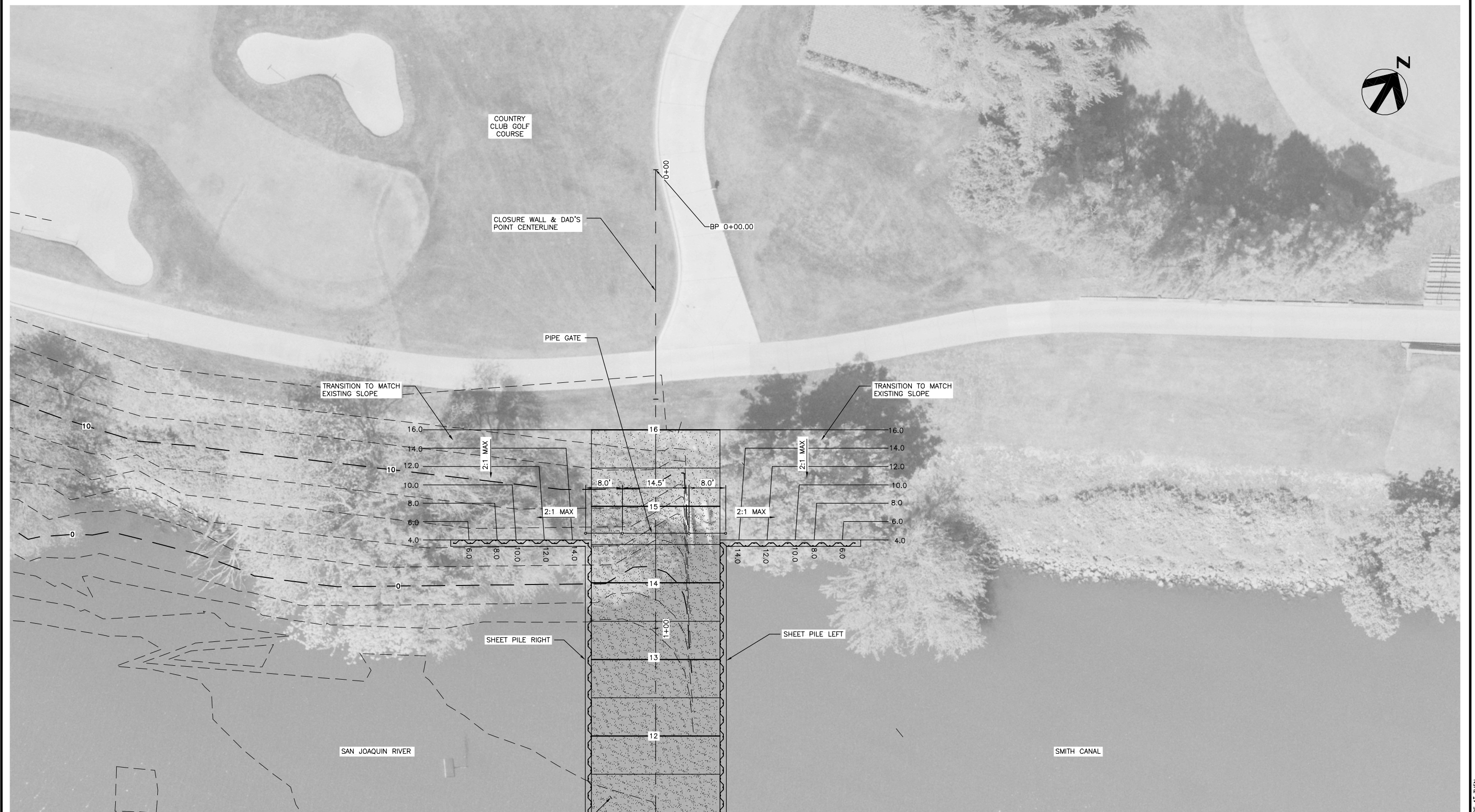
NTS

2

C-3

NOTE:

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



GRANULAR FILL
EL = 11.5'

PLAN
1" = 10'

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

HDR
HDR Engineering Inc.



REV	DATE	BY	DESCRIPTION



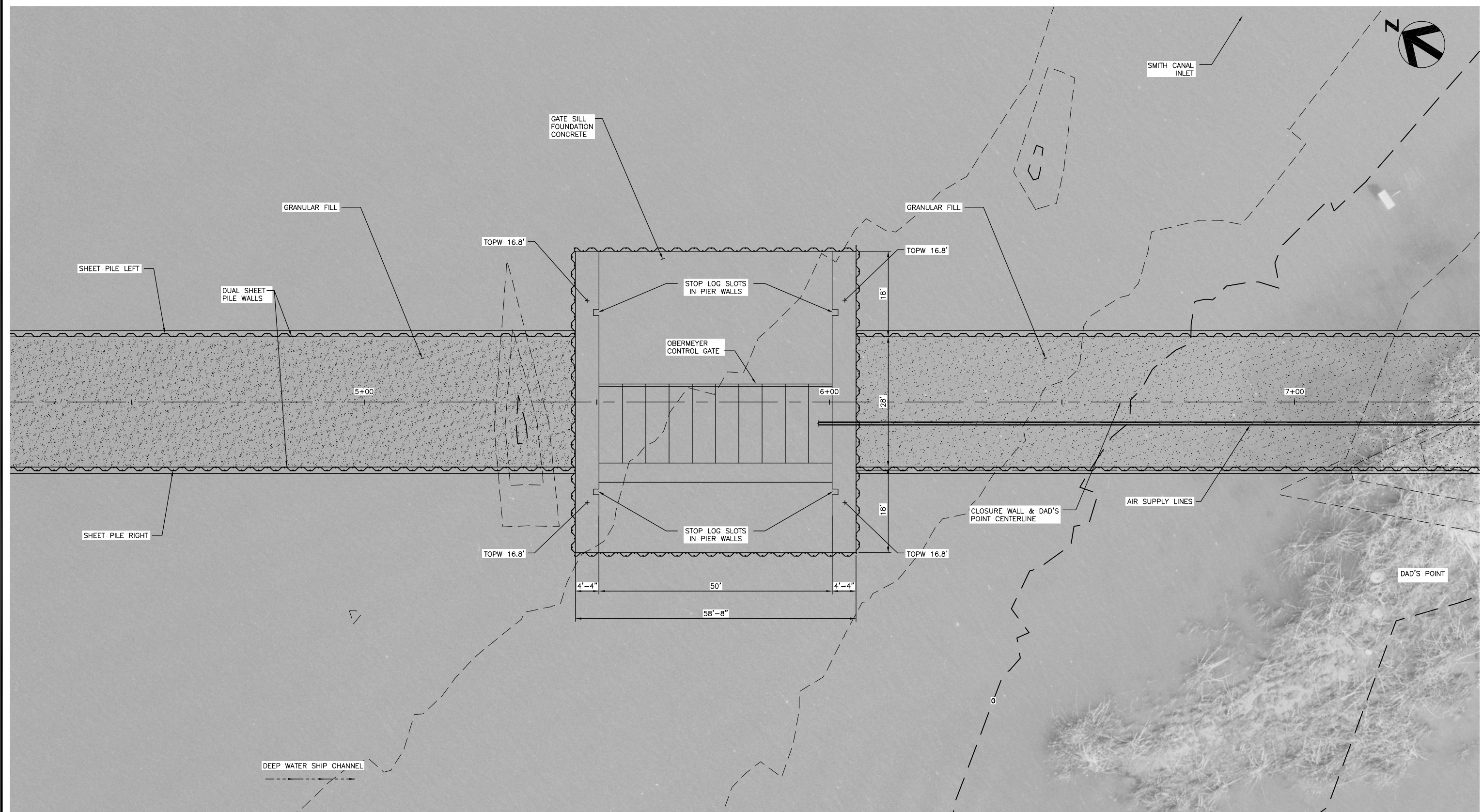
**SMITH CANAL CLOSURE STRUCTURE
PRELIMINARY DESIGN FOR CONDITIONAL
LETTER OF MAP REVISION**

**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 1/2



PLAN
1" = 10'

- NOTES:
- 1. SEE S-401 FOR ADDITIONAL GATE SILL INFORMATION

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

HDR Engineering Inc.

REV	DATE	BY	DESCRIPTION

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



PLAN
1" = 10'

- 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

PETERSON . BRUSTAD . INC
ENGINEERING . CONSULTING

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

HDR
HDR Engineering Inc.

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

REV	DATE	BY	DESCRIPTION

SJARCA
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.
1/2
0



PLAN
1" = 10'



PETERSON . BRUSTAD . INC.
ENGINEERING . CONSULTING

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



HDR
HDR Engineering Inc.



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

REV	DATE	BY	DESCRIPTION



SJARCA
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

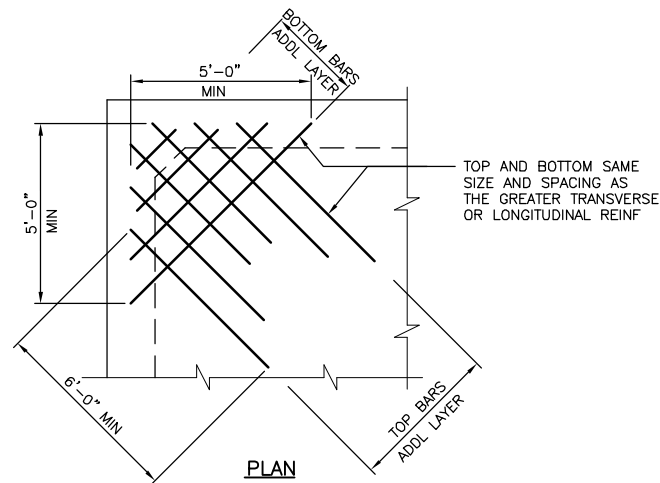
SCALE: AS NOTED	CHECKED BY: _____	DATE: _____
DESIGNED BY: K. DE LAPP		
DRAWN BY: V. RUSSO		
CHECKED BY: _____		
DATE: _____	SIGNATOR'S NAME, COMPANY NAME	

SHEET
C-404

OF
XX

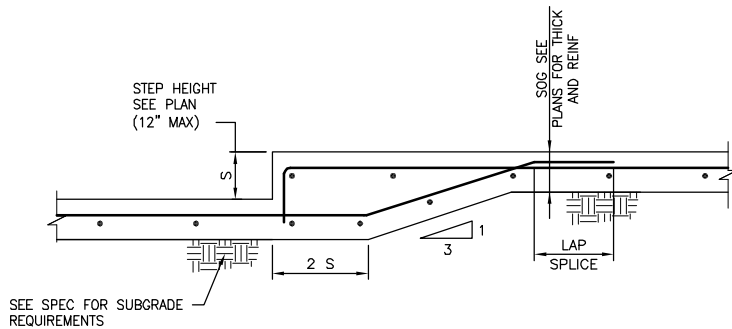
SHEETS

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



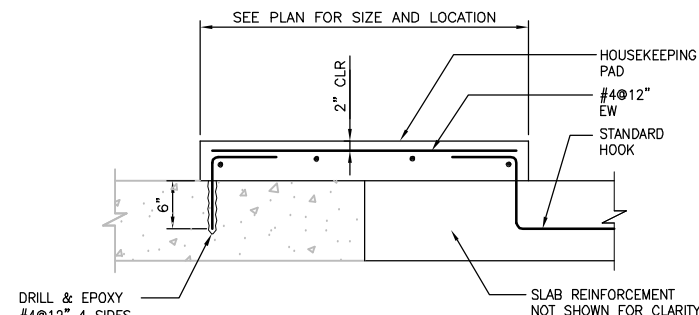
TYPICAL EXTERIOR BUILDING SLAB CORNER DETAIL

NTS



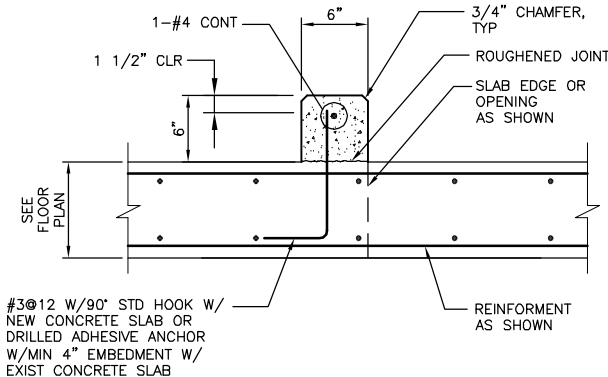
TYPICAL SLAB-ON-GRADE DEPRESSION (FOR ONE LAYER OF REBAR)

NTS



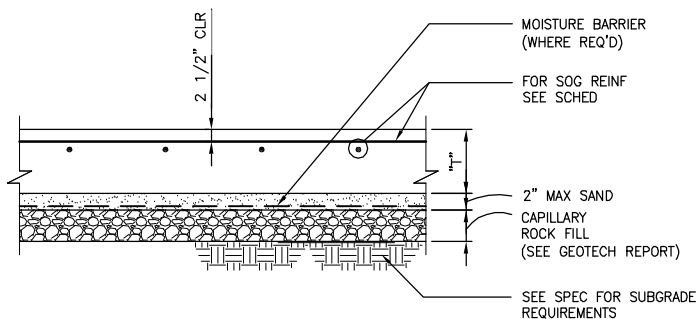
TYPICAL HOUSEKEEPING PAD DETAIL

NTS



CONCRETE CURB

NTS

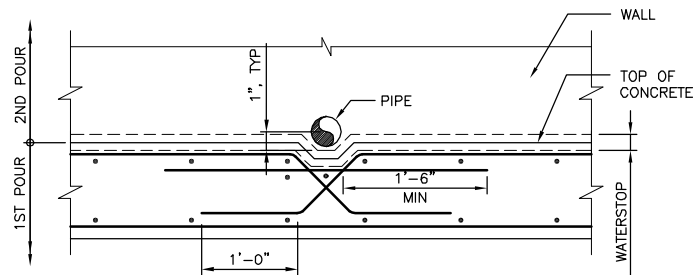


THICK "t"	REINFORCEMENT
6"	#4 @ 12" EA WAY
8"	#5 @ 12" EA WAY

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

TYPICAL BUILDING SLAB-ON-GRADE

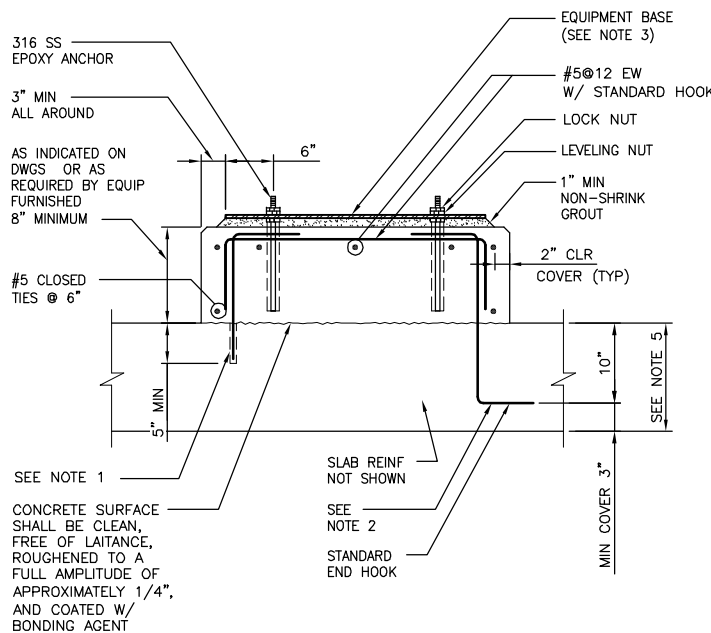
NTS



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

TYPICAL WALL HORIZ CONST JOINT JOINT AT PIPE INTERFERENCE

NTS

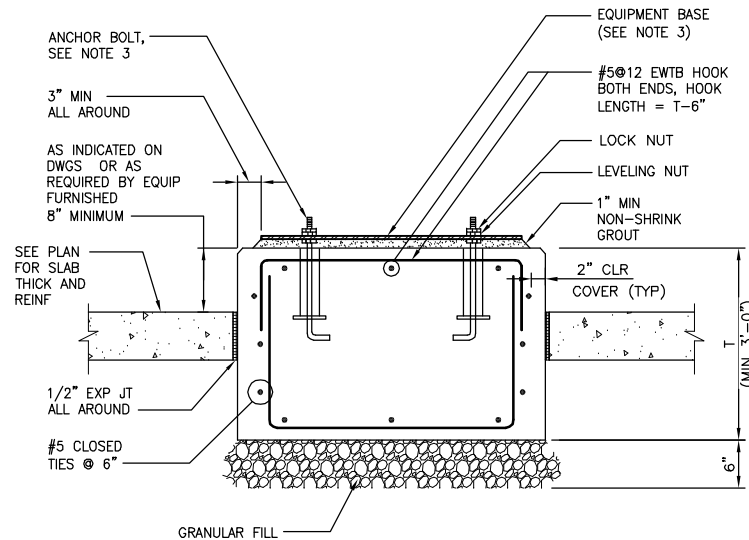


NOTES:

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

NTS



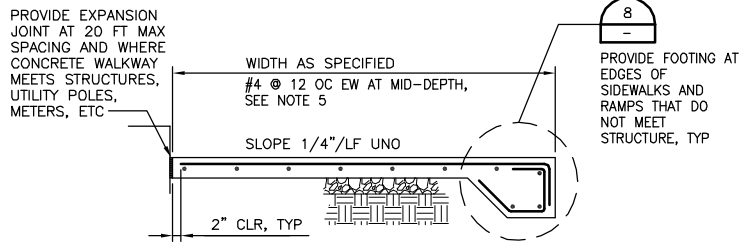
NOTES:

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

3/4" = 1'-0"

10

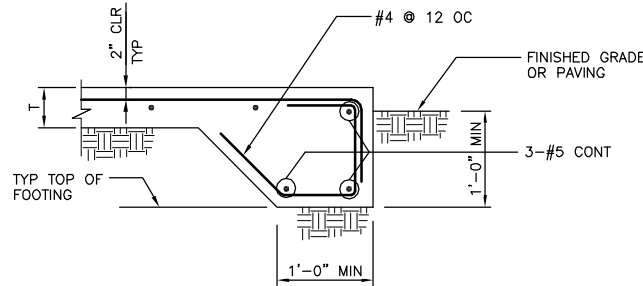


NOTES:

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

NTS



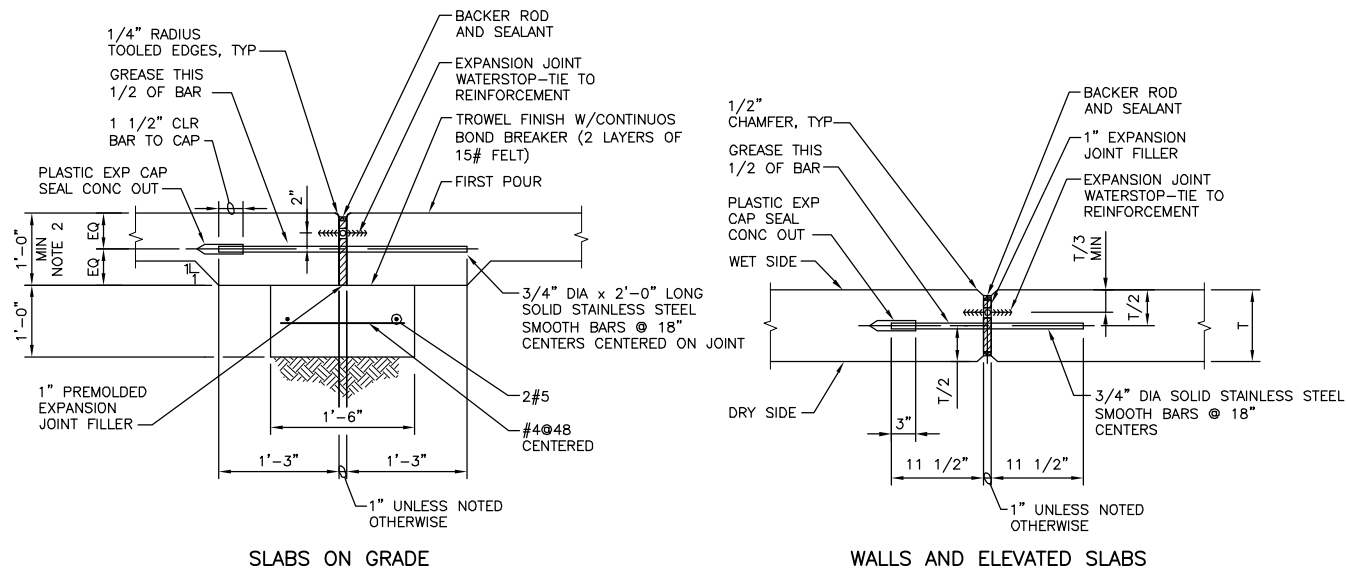
TYPICAL BUILDING SLAB EDGE

NTS

TYPICAL CONCRETE DETAILS I

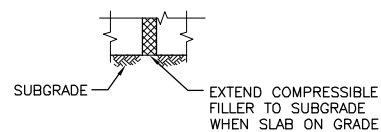
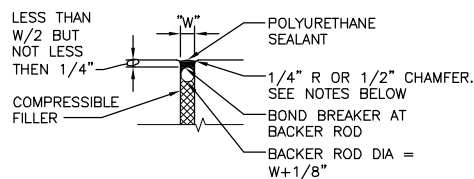
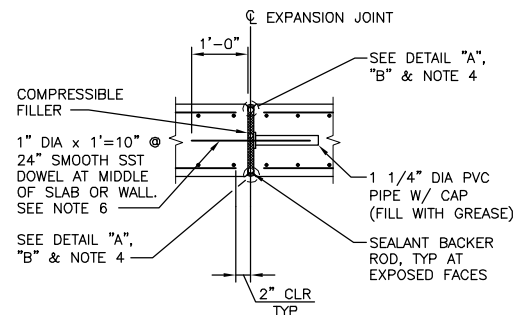
NTS

REV	DATE	BY	DESCRIPTION



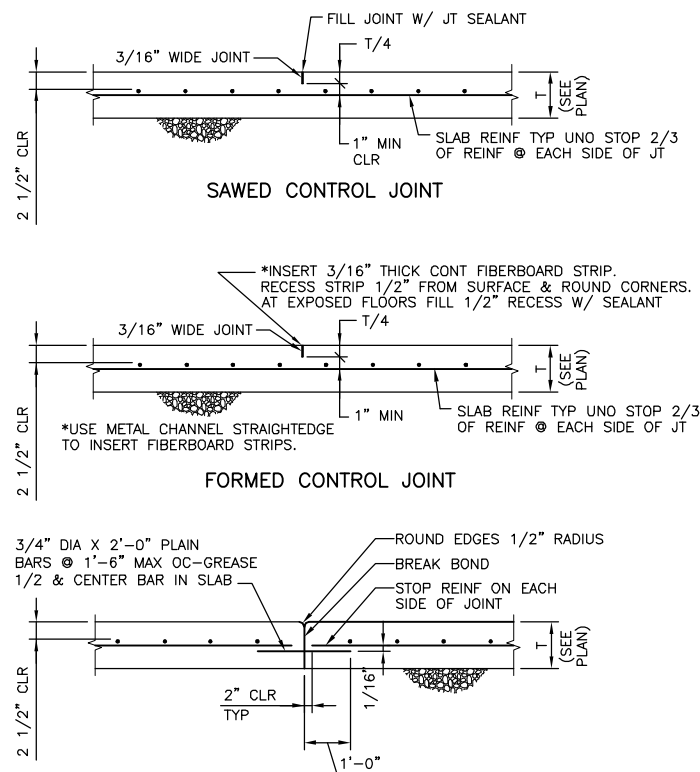
- NOTES:**
1. SLAB AND WALL REINFORCEMENT NOT SHOWN. TERMINATE ALL SLAB AND WALL REINFORCING 2" CLEAR TO EDGE OF EXPANSION JOINT.
 2. THICKEN SLAB ONLY WHERE SLAB THICKNESS IS GREATER THAN 1'-0"

EXPANSION JOINTS (EJ)



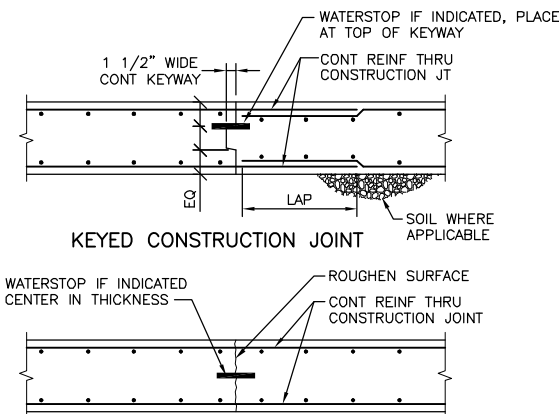
- NOTES:**
1. FOR WALLS, FORM ALL JOINT EDGES AT 1/2" CHAMFER.
 2. FOR UNDER SIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/2" CHAMFER.
 3. FOR SLABS, PROVIDE 1/4" RADIUS TOOLED EDGES AT TOP SURFACE
 4. USE DETAIL "B" AT UNDERSIDE OF SLABS ON GRADE ONLY. USE DETAIL "A" AT ALL OTHER LOCATIONS.
 5. "W" = 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)



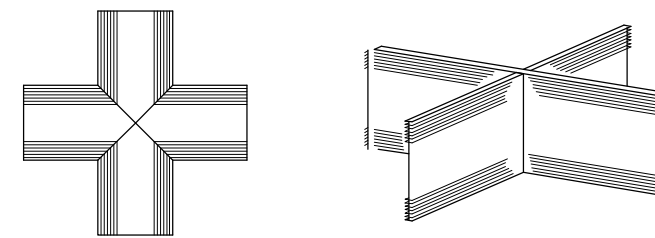
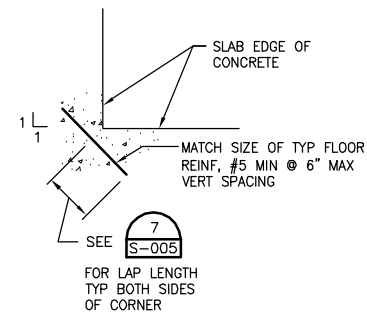
- NOTE:**
1. ANY ONE OF THE DETAILS ABOVE MAY BE USED AT LOCATIONS INDICATED ON DRAWINGS AS "SJ," AT CONTRACTOR'S OPTION.
 2. WHERE "DSJ" IS INDICATED ON PLAN, THE "DSJ" SHALL BE USED.

SLAB-ON-GRADE JOINT (SJ)

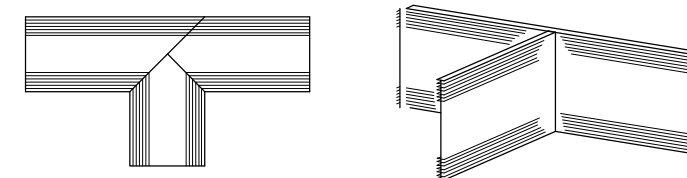


- NOTE:**
1. SEE SPECIFICATION FOR REQUIREMENT TO TIE WATERSTOPS IN PLACE TO PREVENT MOVEMENT OR FOLDING OVER.

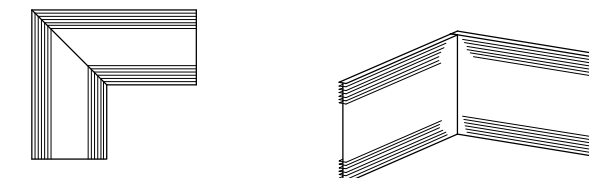
CONSTRUCTION JOINT (CJ)



FLAT CROSS VERTICAL CROSS



FLAT TEE VERTICAL TEE

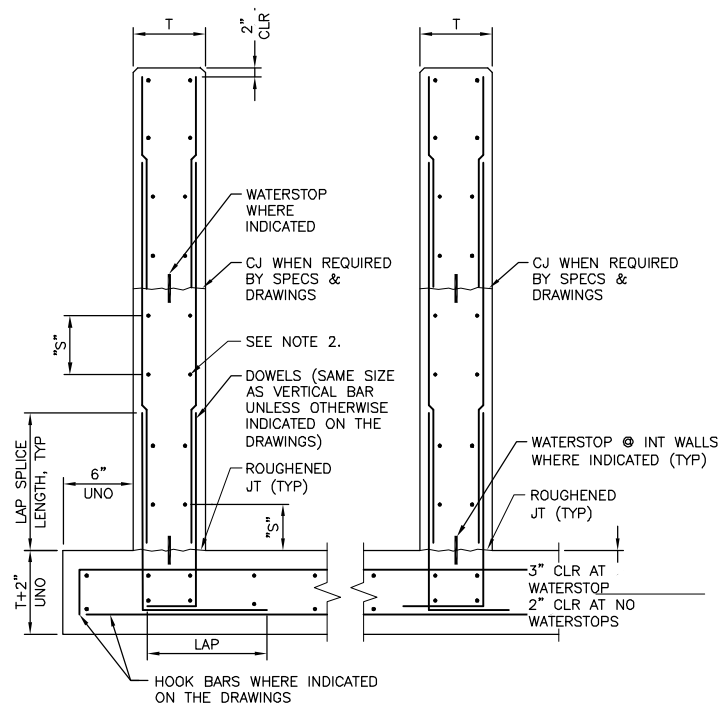


FLAT ELL VERTICAL ELL

- 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

REV	DATE	BY	DESCRIPTION

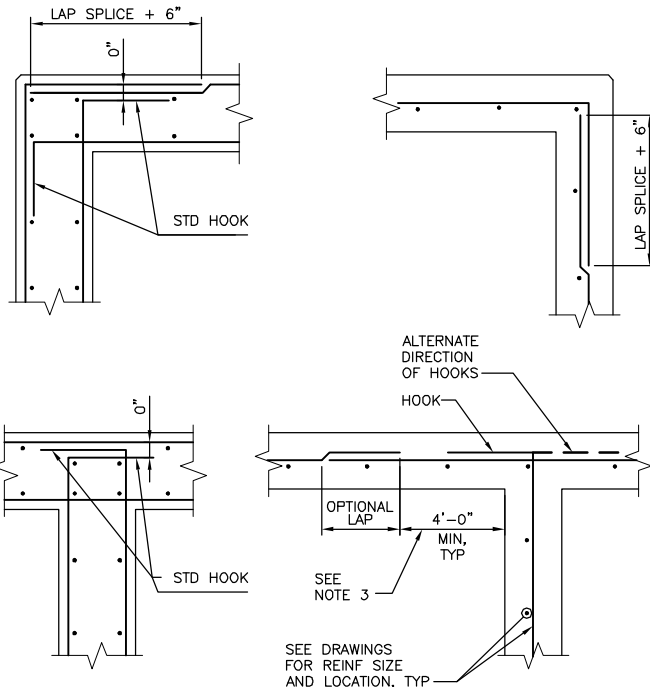


NOTES:

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

NTS

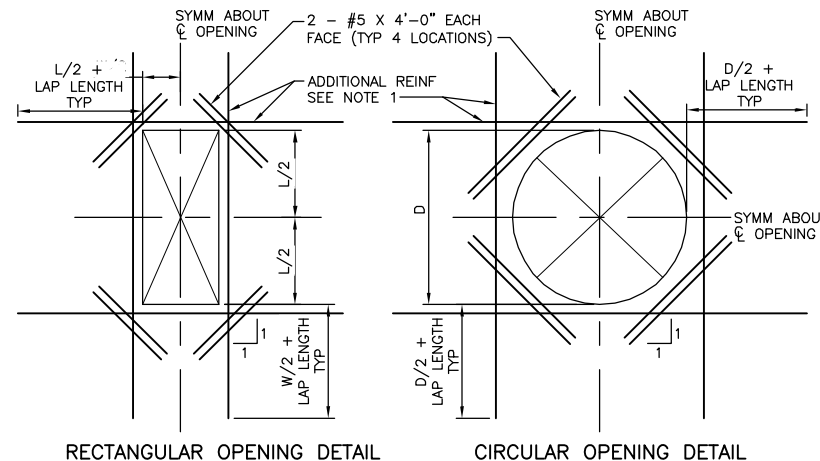


NOTES:

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

NTS

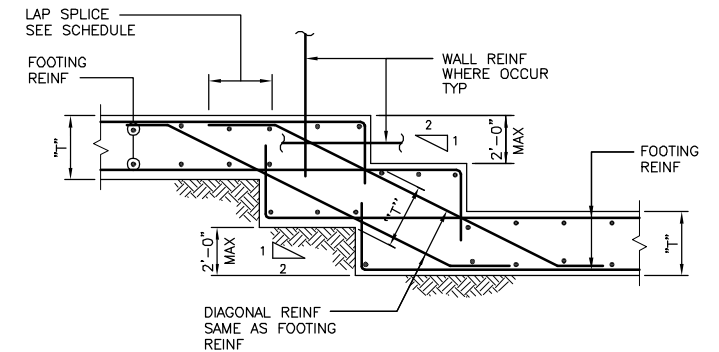


NOTES:

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

NTS

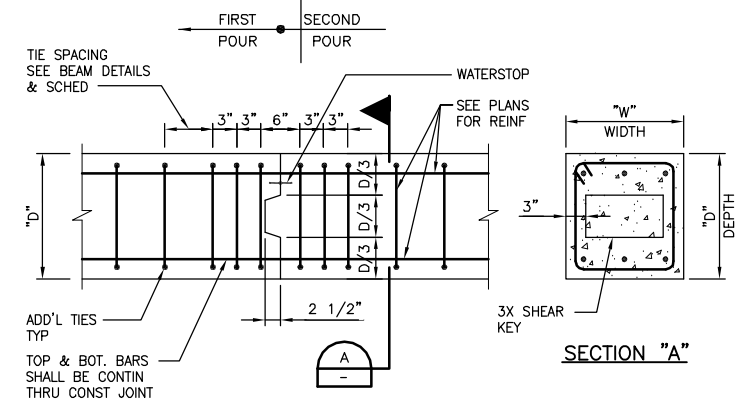


NOTES:

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

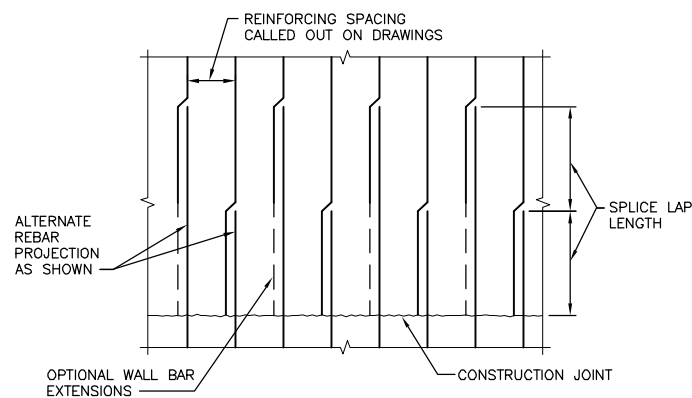
TYPICAL STEPPED FOOTING DETAIL

NTS



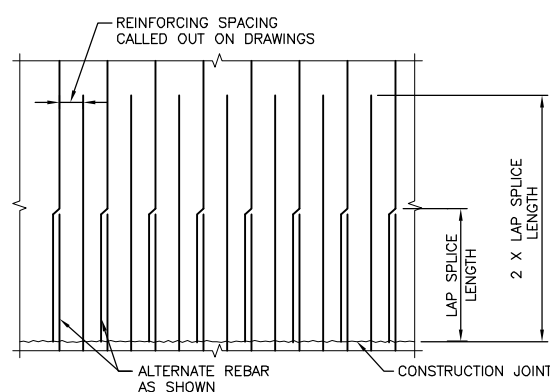
TYPICAL CONCRETE BEAM CONSTRUCTION JOINT DETAIL

NTS



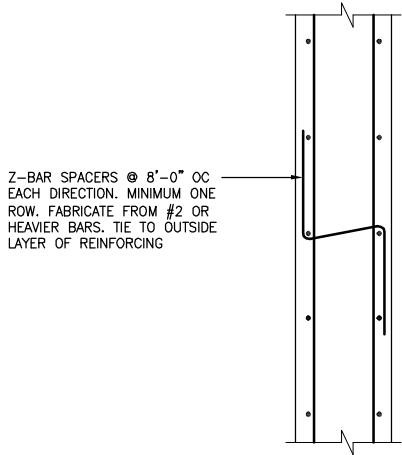
STAGGERED REINFORCING AT CONSTRUCTION JOINT

NTS



WALL VERTICAL REINFORCING AT CONSTRUCTION JOINT

NTS



SPACER FOR WALL REINFORCEMENT

NTS

LOCATION

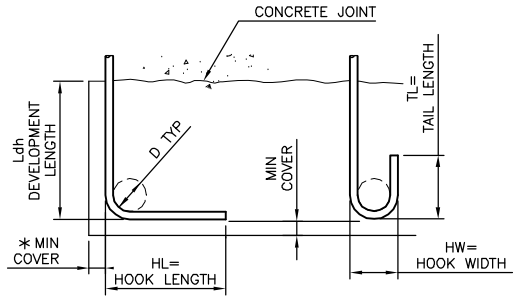
* MINIMUM COVER

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 #8 AND SMALLER	BAR DIA + 1/4" 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

NTS



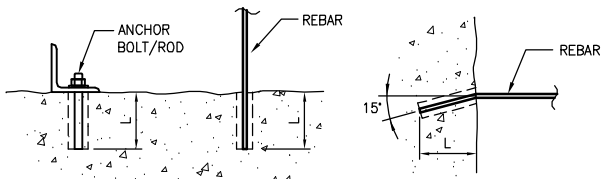
90° STD HOOK 180° STD HOOK

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

NTS



VERTICAL APPLICATION

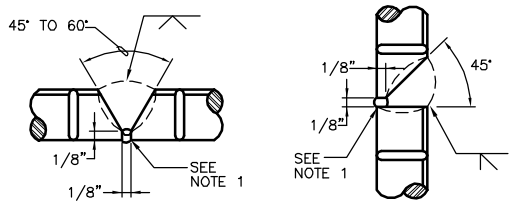
HORIZONTAL APPLICATION

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"		

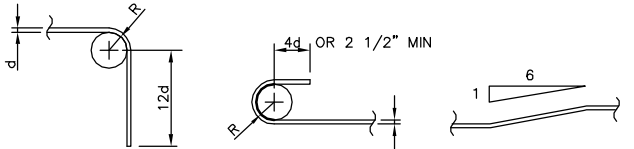
NOTES: 1. EPOXY TYPE IS SUBJECT TO APPROVAL OF THE ENGINEER OF RECORD.
2. EMBEDMENT LENGTHS SHOWN ARE MINIMUM. PROVIDE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

ADHESIVE ANCHOR DETAILS & SCHEDULE

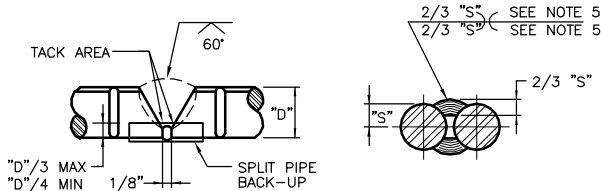
NTS



HORIZONTAL POSITION - A VERTICAL POSITION - B



90° BEND 180° BEND MAX OFFSET BEND

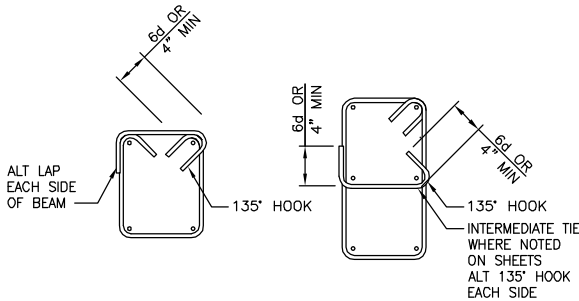


HORIZONTAL AND VERTICAL POSITION - C HORIZONTAL AND VERTICAL POSITION - D

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

WELDED SPLICE OF REINFORCING BARS

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

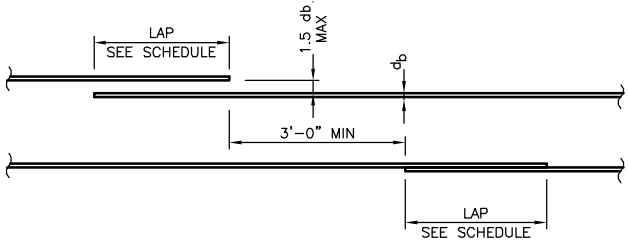
TYPICAL STIRRUPS & TIES

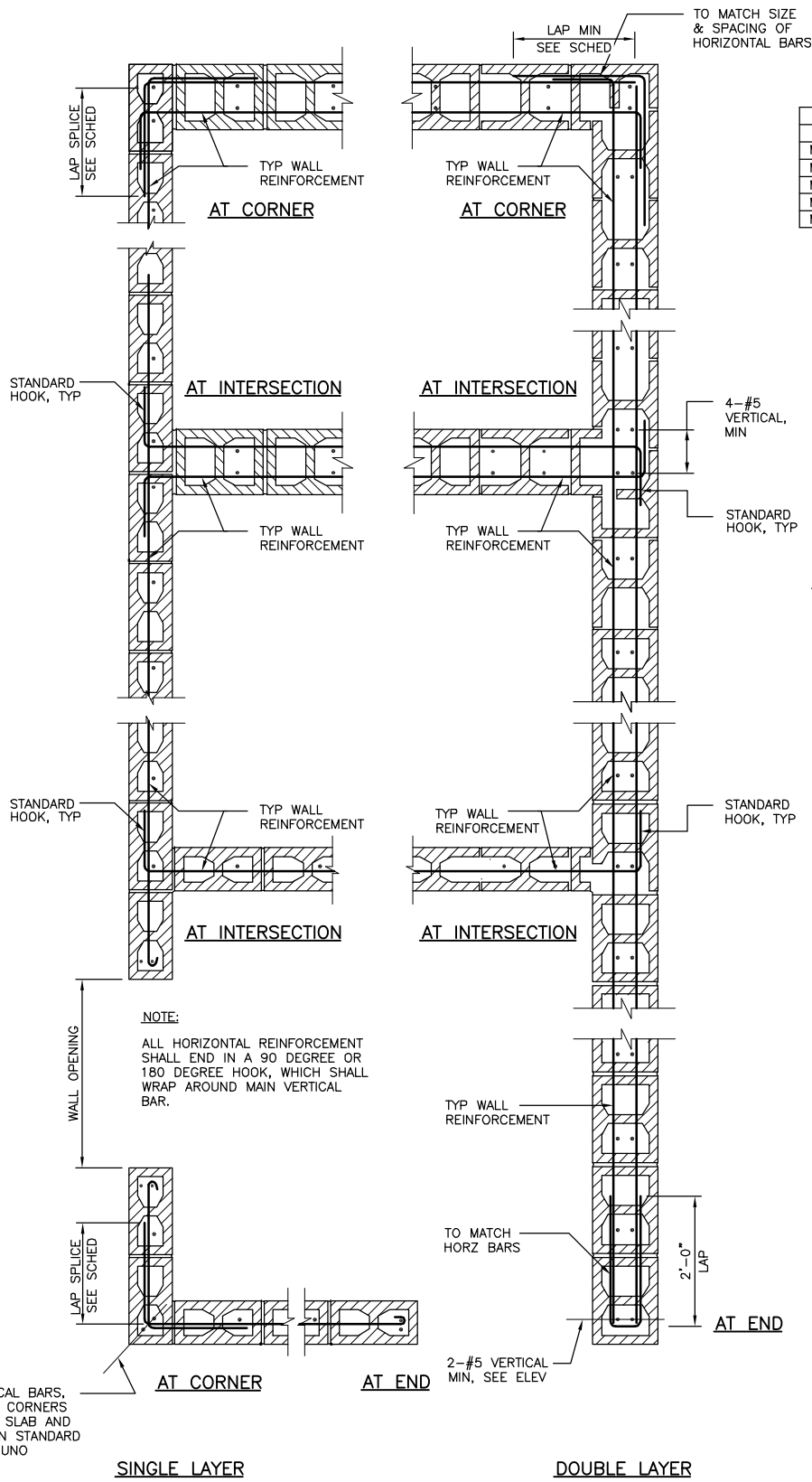
NTS

- NOTES:
- LAP LENGTHS SHOWN ARE FOR CLASS "B" TENSION SPLICES.
 - 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.
 - IF SPACING IS < 5 TIMES BAR DIAMETER, INCREASE LAP LENGTH AND EMBEDMENT SHOWN BY 25%.
 - TOP REINFORCING IS HORIZONTAL STEEL SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING.

REINFORCING LAP SCHEDULE

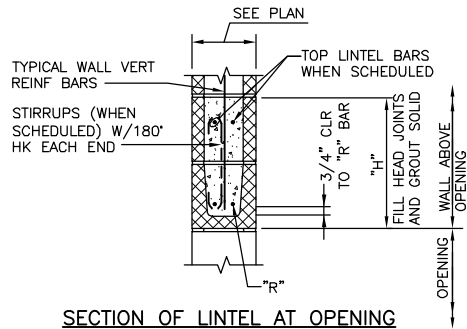
NTS





TYPICAL REINFORCEMENT AT CMU WALL
NTS

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"	

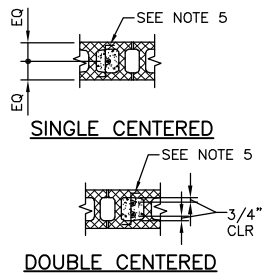


SECTION OF LINTEL AT OPENING

- NOTES:**
- OPENINGS 8" OR LESS WIDE MAY OCCUR WITHOUT LINTEL REINFORCING AS LONG AS NO REINFORCING IS INTERRUPTED.
 - ML-1 TO BE USED ONLY AT NON-LOAD BEARING SITUATIONS.
 - 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.

CMU REINFORCING SEISMIC DESIGN CATEGORY "D" AND ABOVE

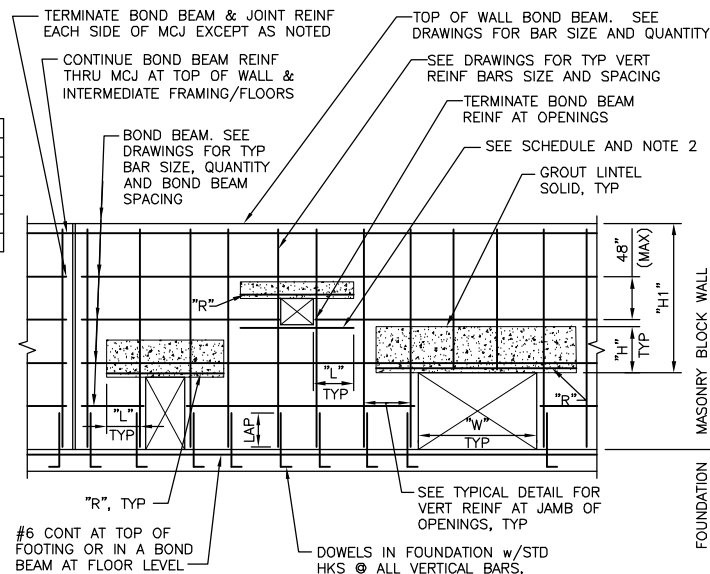
STRUCTURE/WALL LOCATION		MISC	PUMPING STATION	REMARKS
TYPE	REINFORCING LOCATION	8" WALL THK	12" WALL THK	
VERTS	VERTICAL BARS	1#5 @16" OC SINGLE CENTERED	2#6 @24" OC DOUBLE CENTERED	
	JAMBS	SEE 1&2/S-007	SEE 1&2/S-007	
	CORNERS/INTERSECTIONS	2-#5 SINGLE CENTERED	2-#6 DOUBLE CENTERED	
	MCJ	1-#5 OC SINGLE 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	TYP, SEE 2 AND 4 THIS	
	INTERMEDIATE BOND BEAMS	2-#4 AT 24" VERT SPACING	2-#5 AT 24" VERT SPACING	



- NOTES:**
- PROVIDE REINFORCING NOTED FOR ALL MASONRY WALLS UNLESS OTHERWISE NOTED ON PLAN.
 - MAINTAIN MINIMUM 3"x3" CONTINUOUS VERTICAL CELL AT EACH REBAR. PLACE WALLS TO MAXIMUM 4'-0" HEIGHT BEFORE GROUTING.
 - PLACE REBAR IN WALL WITH LAP SPLICE LENGTH PER OTHER DETAIL.
 - 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.
 - PROVIDE WIRE REBAR POSITIONERS TO HOLD BARS IN PLACE.
 - STOP GROUT POUR 1/2" BELOW TOP OF COURSE AT EACH GROUT LIFT.

CMU REINFORCING SCHEDULE

NTS

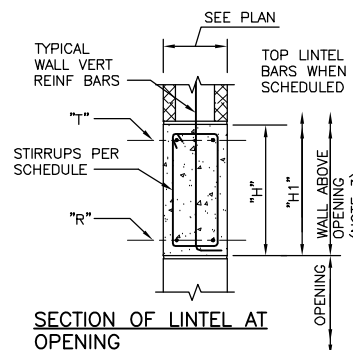


WALL ELEVATION

NOTES:

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

2



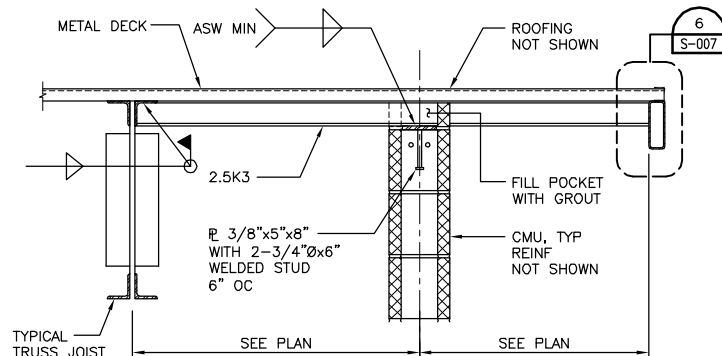
SECTION OF LINTEL AT OPENING

NOTES:

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

CAST-IN-PLACE CONCRETE LINTEL DETAIL & REINFORCING

NTS



DETAIL AT 2.5K3 SUPPORT

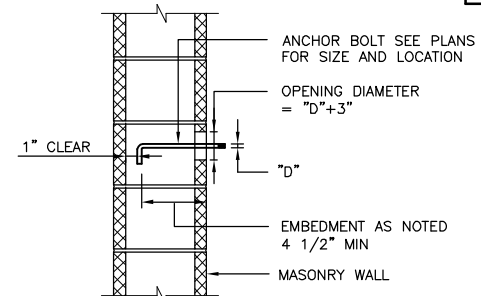
NTS

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



NOTES:

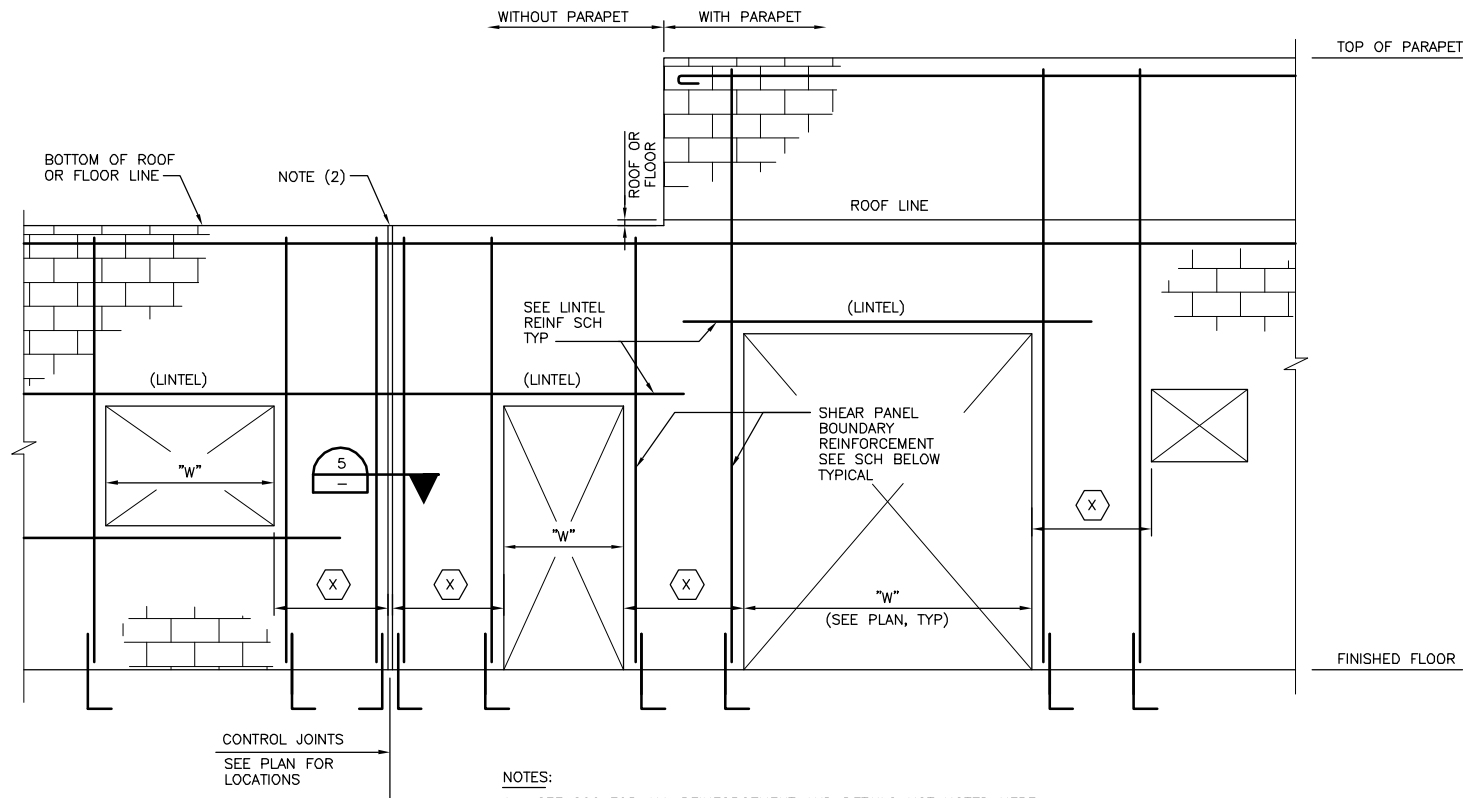
- SET ANCHOR BOLTS WITH TEMPLATE.
- CUT BLOCK WEB AS REQUIRED TO ALLOW PLACEMENT OF ANCHOR BOLT WITH 1/2" MINIMUM GROUT BETWEEN ANCHOR BOLT AND BLOCK.

ANCHOR BOLT IN MASONRY

NTS

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"	#3@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"	

7



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

TYPICAL CMU WALL ELEVATION

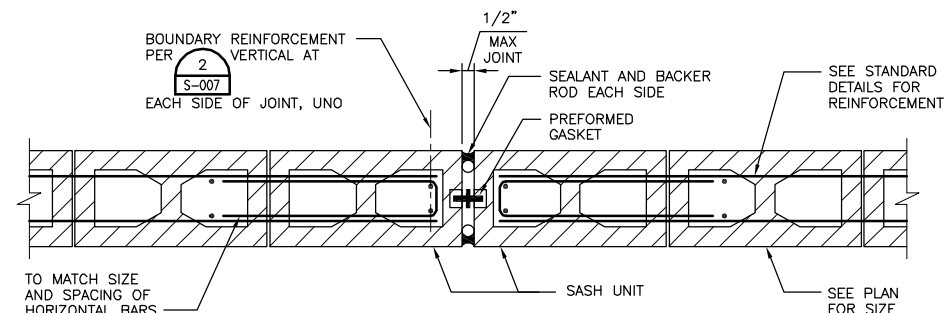
NTS

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

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

SHEAR PANEL BOUNDARY REINFORCEMENT SCHEDULE

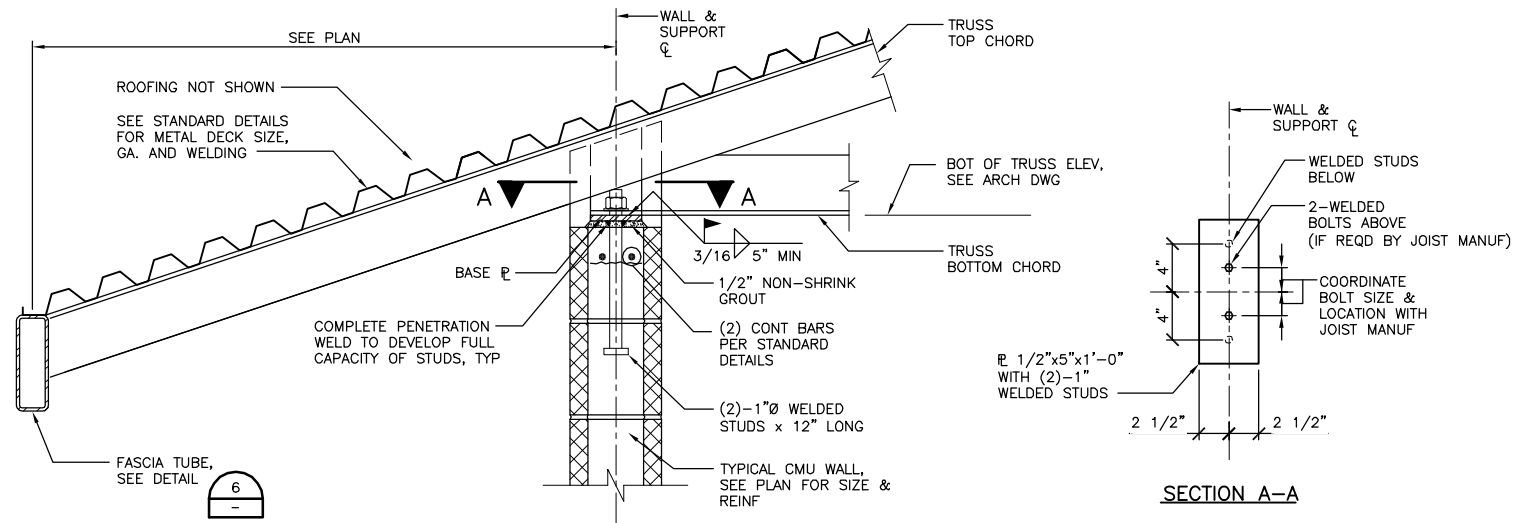
NTS



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

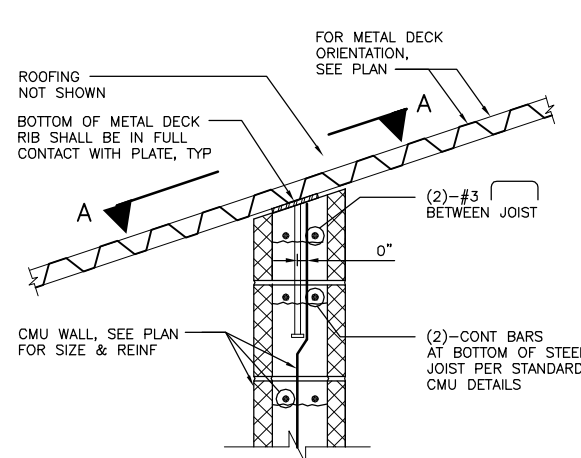
TYPICAL CONTROL JOINT DETAIL

NTS



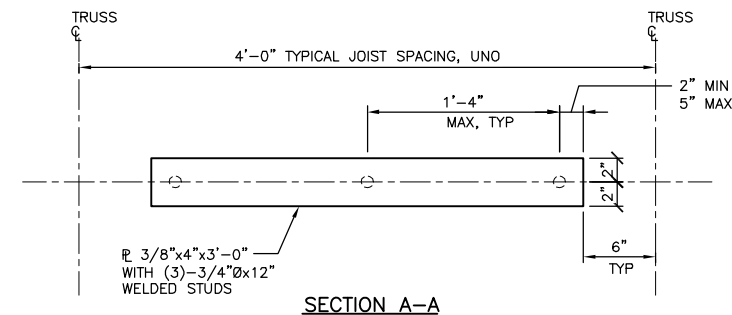
TYPICAL TRUSS JOIST DETAIL AT CMU WALL

NTS

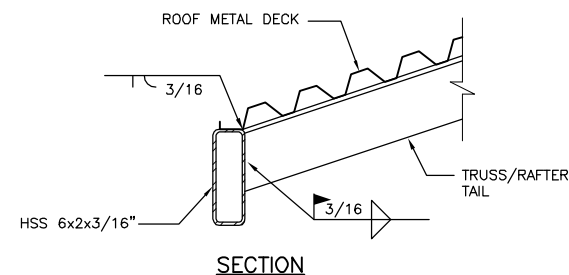


TYPICAL WALL DETAIL AT ROOF

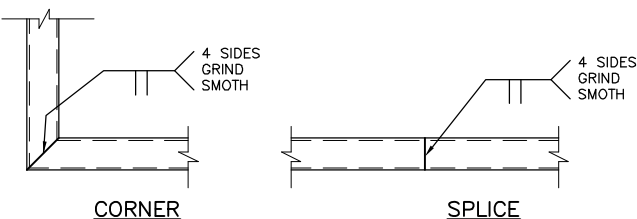
NTS



- NOTE:
- 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".
 - FOR DECK SIZE, WELDING AND PROPERTIES SEE TYPICAL METAL DECK DETAILS.
 - FOR EASE OF CONSTRUCTION COORDINATE LOCATION OF STUDS WITH CENTER OF CMU CELL.

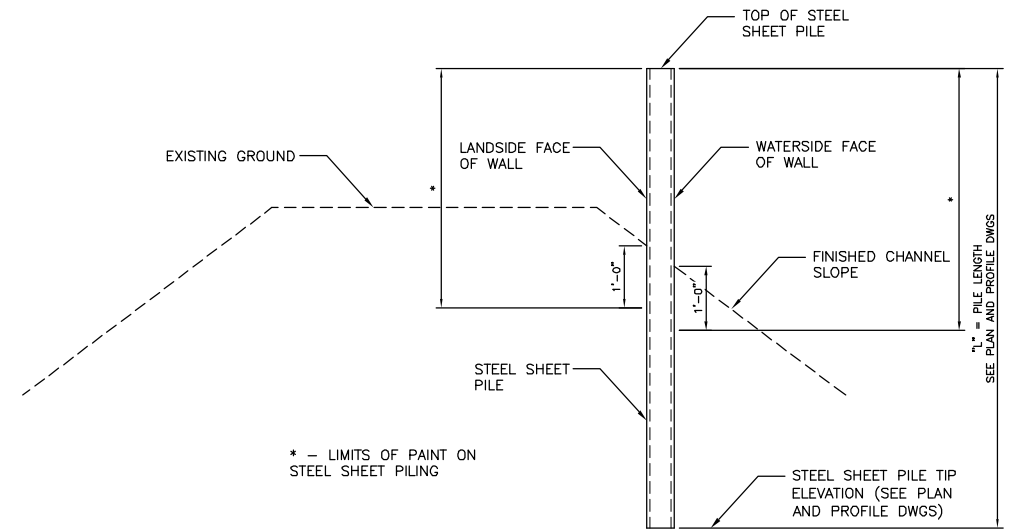


SECTION



FASCIA TUBE DETAILS

NTS



TYPICAL SINGLE STEEL SHEET PILE FLOODWALL

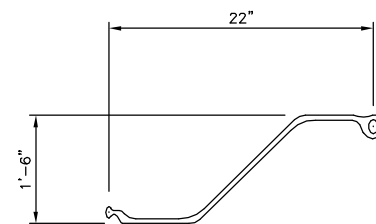
NTS



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		MOMENT OF INERTIA (IN ⁴ /FT)	SECTION MODULUS (IN ³ /FT)	COATING AREA	
			PER SINGLE (LBS/FT)	PER WALL (LBS/FT ²)			PER SINGLE (FT ² /FT)	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





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



SJARCA
San Joaquin Area FLOOD CONTROL Agency

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

**TYPICAL SHEET PILE
WALL SECTION NO. 1**

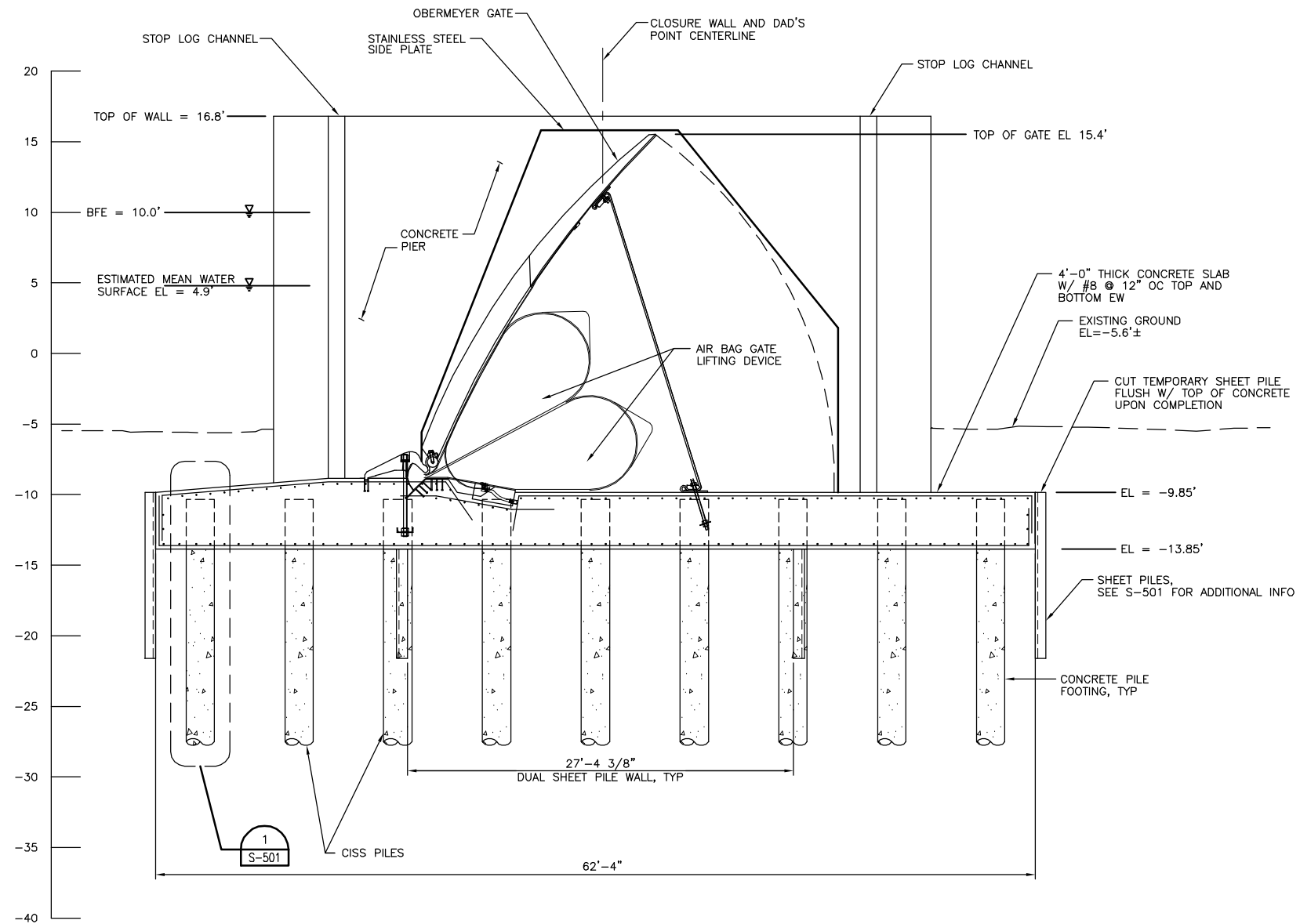
SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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

SHEET
S-301
OF
XX
SHEETS

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





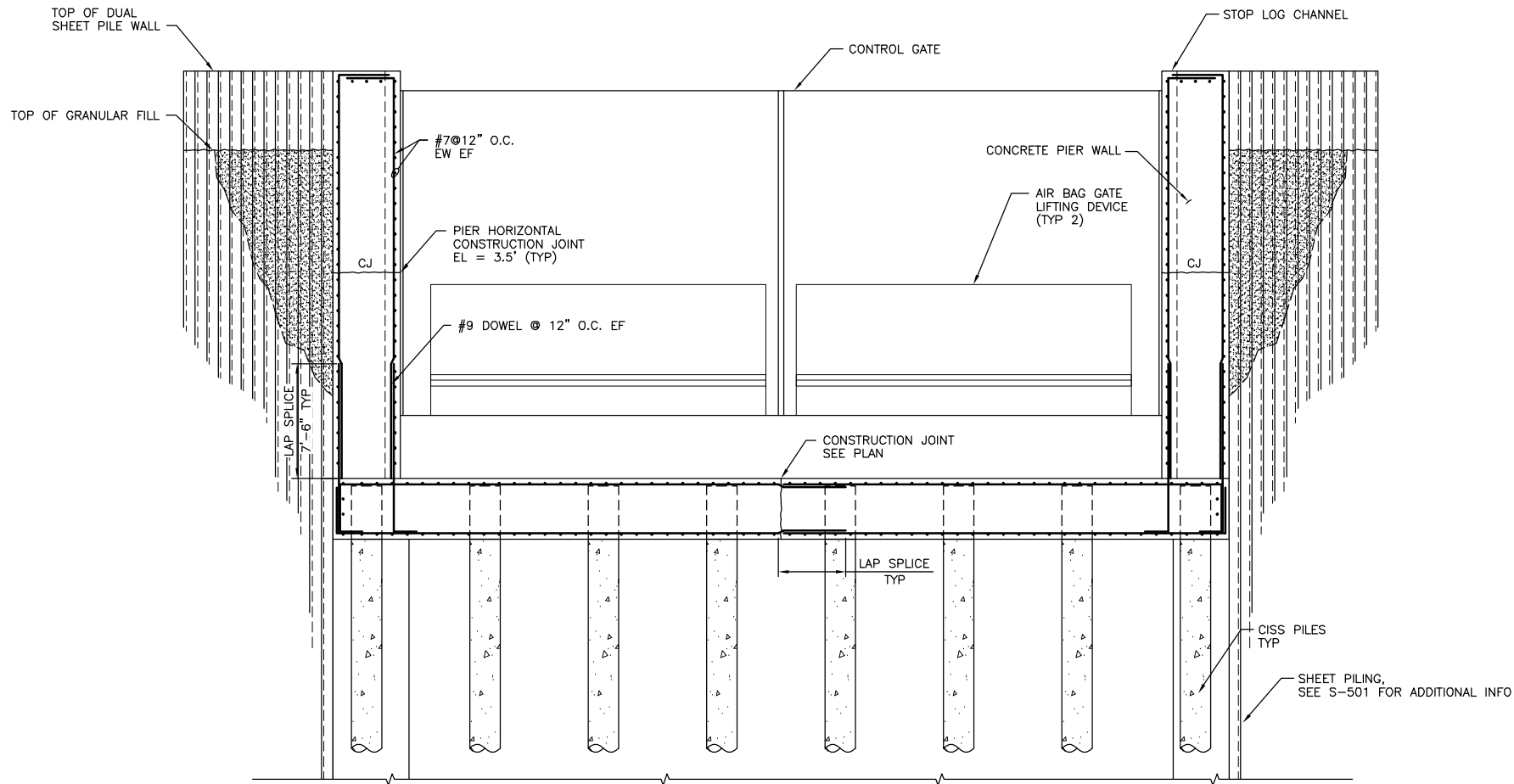
CONTROL GATE STRUCTURE

3/16" = 1'-0"



REV	DATE	BY	DESCRIPTION

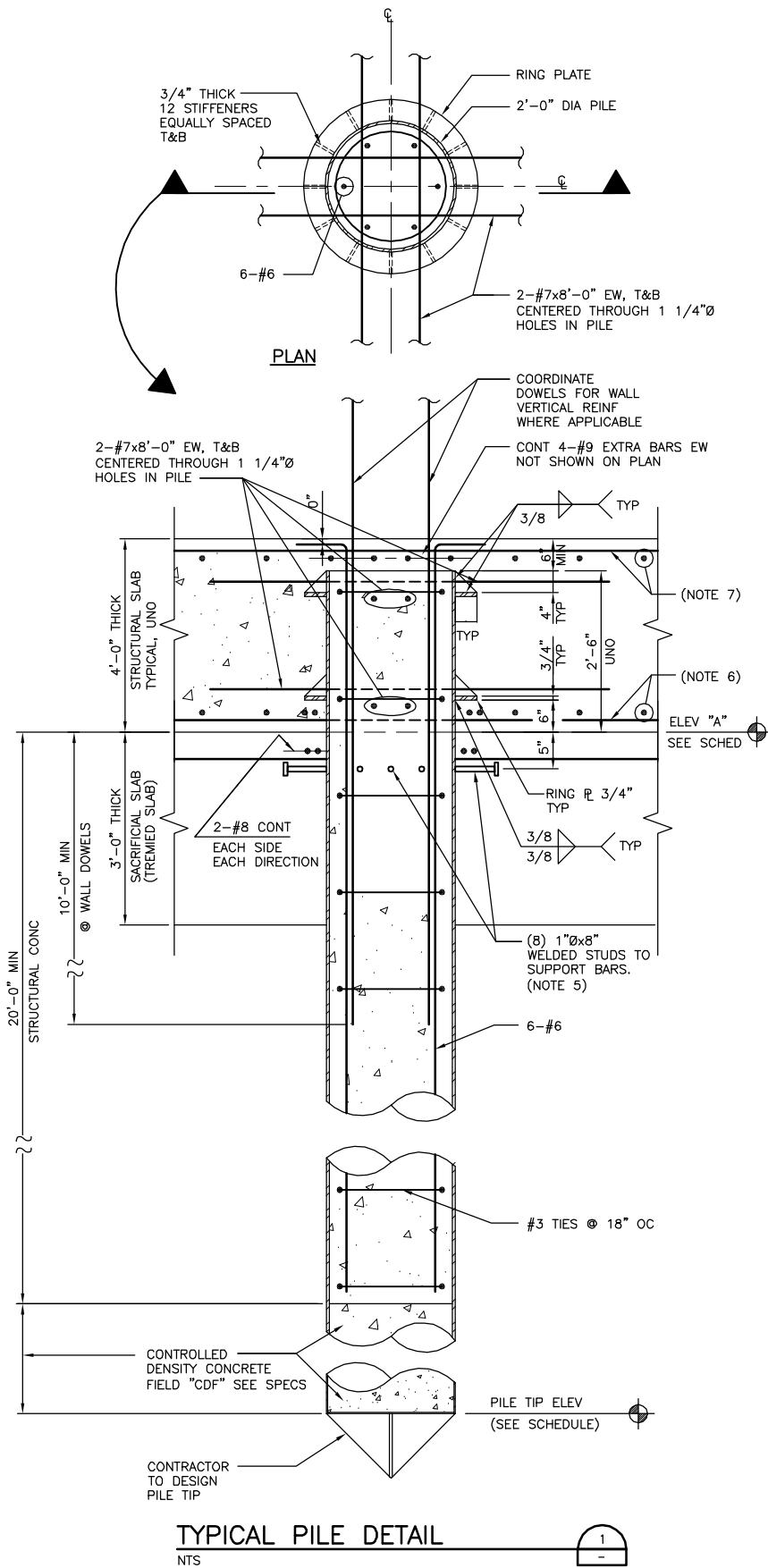
- NOTES:
1. FOR ADDITIONAL INFORMATION SEE SHEETS S-401 & S-402.



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



REV	DATE	BY	DESCRIPTION

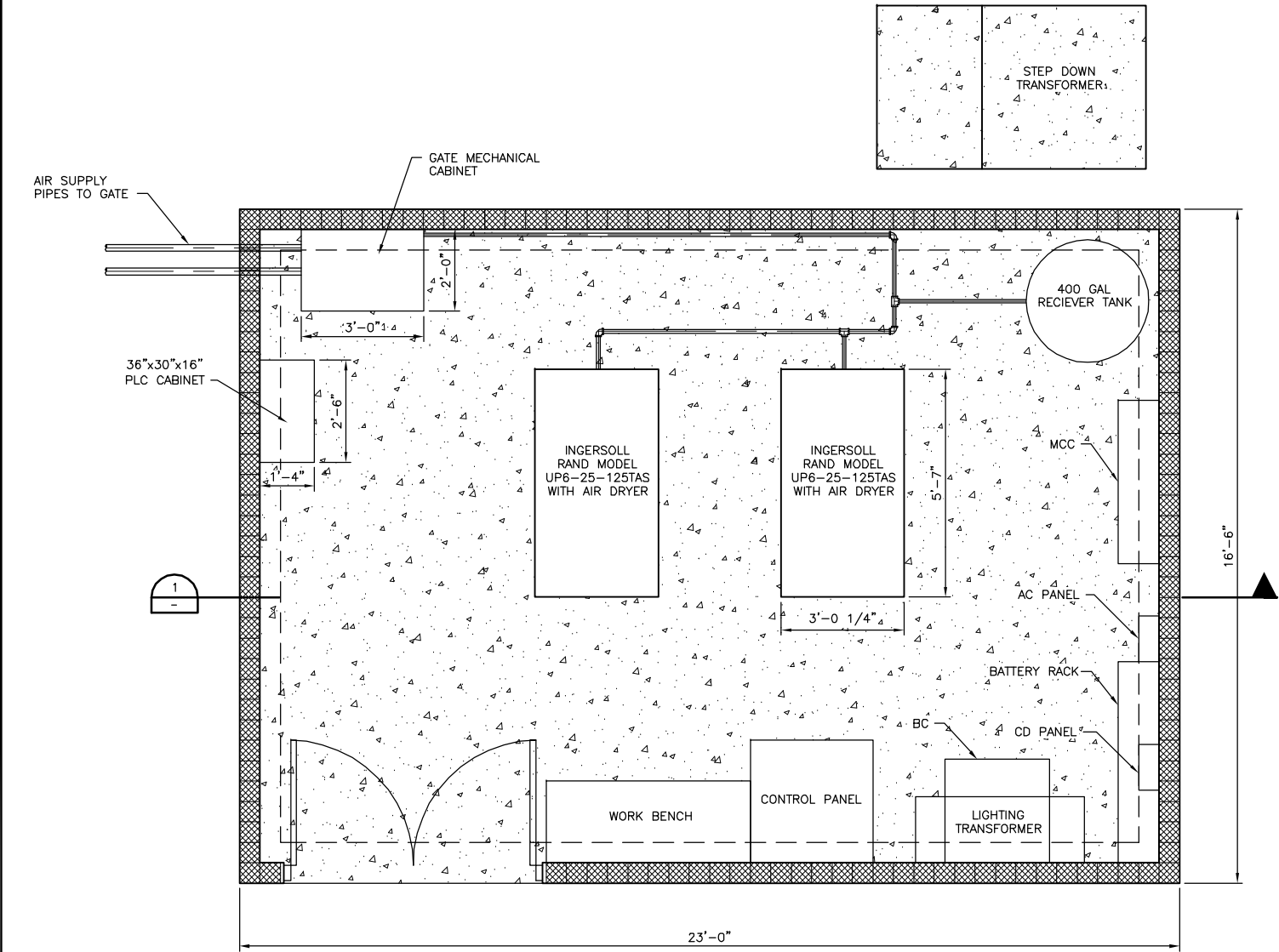


PILE SCHEDULE (P)				
MARK	TYPE	REFERENCE ELEV "A" (FEET)	TIP ELEV (FEET)	REMARK
P-1	24"Øx3/4"	-13.85	-65.0	NOTES 1,3,4,8,9
P-2	24"Øx3/4"	-13.85	-65.0	
P-3	24"Øx3/4"	-13.85	-65.0	
P-4	24"Øx3/4"	-13.85	-65.0	
P-5	24"Øx3/4"	-13.85	-65.0	
P-6	24"Øx3/4"	-13.85	-65.0	
P-7	24"Øx3/4"	-13.85	-65.0	
P-8	24"Øx3/4"	-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

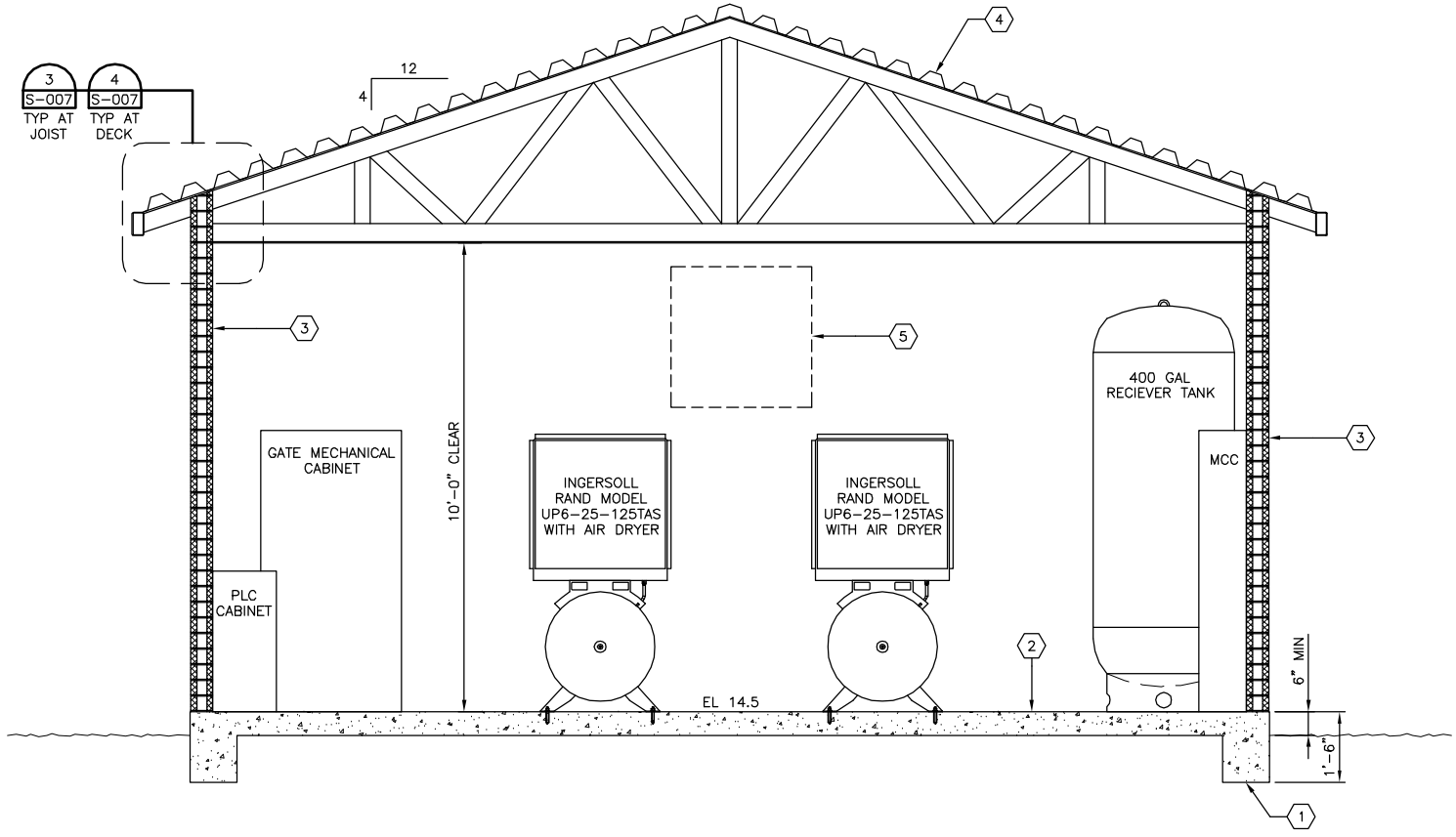
PILE SCHEDULE (P) (CONT)				
MARK	TYPE	REFERENCE ELEV "A" (FEET)	TIP ELEV (FEET)	REMARK
P-54	24"Øx3/4"	-13.85	-65.0	NOTES 1,3,4,8,9
P-55	24"Øx3/4"	-13.85	-65.0	
P-56	24"Øx3/4"	-13.85	-65.0	
P-57	24"Øx3/4"	-13.85	-65.0	
P-58	24"Øx3/4"	-13.85	-65.0	
P-59	24"Øx3/4"	-13.85	-65.0	
P-60	24"Øx3/4"	-13.85	-65.0	
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:
- "P" DENOTES PILE
 - PILES SHALL BE 3/4" IN THICKNESS. MINIMUM LENGTH OF PILES SHALL BE DETERMINED BY THE CONTRACTOR BASED ON SCHEDULED INFORMATION.
 - 3'-0" SACRIFICIAL BASE SLAB, SEE S-501 FOR INFO.
 - ELEVATION "A" REFER TO BOTTOM OF STRUCTURAL SLAB.
 - PROVIDE 8 SUPPORTING 1"Øx8" WELDED HEADED STUDS @ EQUAL 45' SPACING. CENTERLINE OF STUDS SHALL BE 5" BELOW TOP OF SACRIFICIAL SLAB
 - TYPICAL BOTTOM MAT REINF. SEE PLAN AND SECTIONS FOR SIZE AND SPACING. DOUBLE THE FIRST BAR ON EITHER SIDE, EITHER DIRECTION.
 - TYPICAL TOP MAT REINF SEE PLAN AND SECTIONS FOR SIZE AND SPACING.
 - FOR TYPICAL PILE CONSTRUCTION, SEE DETAIL S-501.
 - ALL CIRCULAR PILES SHALL BE FILLED WITH STRUCTURAL CONCRETE / CDF PER DETAIL S-501.
 - SEE PLANS FOR ALL TOP OF CONCRETE ELEVATIONS.

REV	DATE	BY	DESCRIPTION



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

REV	DATE	BY	DESCRIPTION