

HOEER, WARREN, 1/9/2013 11:26 AM
DRAWING PATH: N:\Projects\22241248_Santa_Maria_Contine\Sub_00\9.0_Constr_Design\Plan_Sheets\Spillway\Continental Dam_G-01_Cover Sheet.dwg

DESIGN DRAWINGS
FOR
CONTINENTAL DAM REHABILITATION
PREPARED FOR
SANTA MARIA RESERVOIR COMPANY

SECTION 21, TOWNSHIP 42N, RANGE 3W OF THE NEW MEXICO P.M.
HINSDALE COUNTY, COLORADO
WATER DIVISION 3, WATER DISTRICT 20, DAM ID. 200110

URS
URS Center
8181 East Tufts Avenue
Denver, Co. 80237-2637
303-694-2770 (phone)
303-694-3946 (fax)

SANTA MARIA
RESERVOIR
COMPANY

CONTINENTAL DAM
REHABILITATION

COLORADO PROFESSIONAL
ENGINEER CERTIFICATION

I HEREBY CERTIFY THAT THESE DRAWINGS FOR THE
CONTINENTAL DAM REHABILITATION WERE PREPARED BY
ME (OR UNDER MY DIRECT SUPERVISION) FOR THE
OWNERS THEREOF.

EDWIN A. TOMS COLORADO PE #27078

COLORADO STATE ENGINEER

APPROVED ON THE ____ DAY OF _____, 20____.

STATE ENGINEER

BY: _____, PE #_____
CHIEF, SAFETY OF DAMS PROGRAM

ENGINEER OF RECORD

THESE PLANS REPRESENT THE AS-CONSTRUCTED
CONDITIONS OF THE TERRACE RESERVOIR SPILLWAY TO
THE BEST OF OUR KNOWLEDGE AND JUDGEMENT, BASED
IN PART ON INFORMATION FURNISHED BY OTHERS AS OF
THE ____ DAY OF _____ 20____.

ENGINEER

SIGNATURE

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

NO.	DESCRIPTION	DATE
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URS PROJECT NO: 22241248

DRAWN BY: WDH

DESIGNED BY: CJW

CHECKED BY: EAT

DATE CREATED: 12/2011

PLOT DATE: 12/2011

SCALE: AS SHOWN

ACAD VER: 2012

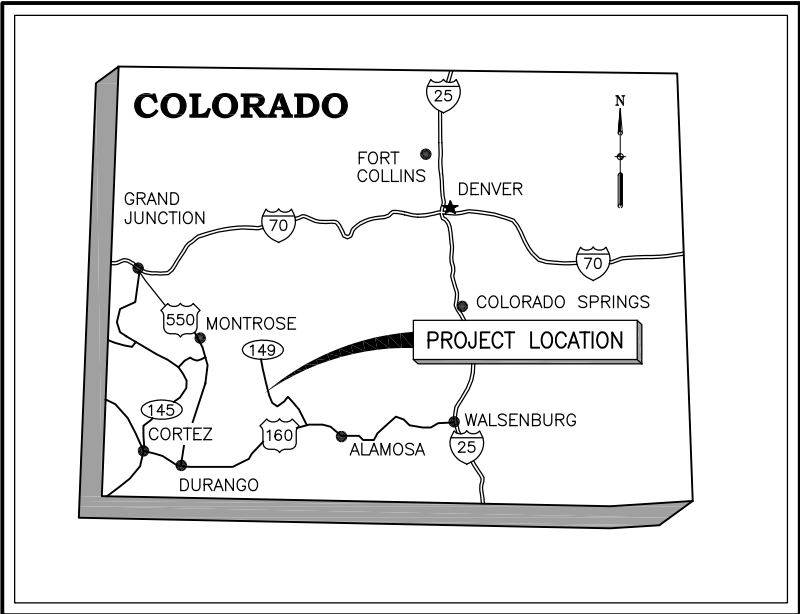
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COVER SHEET

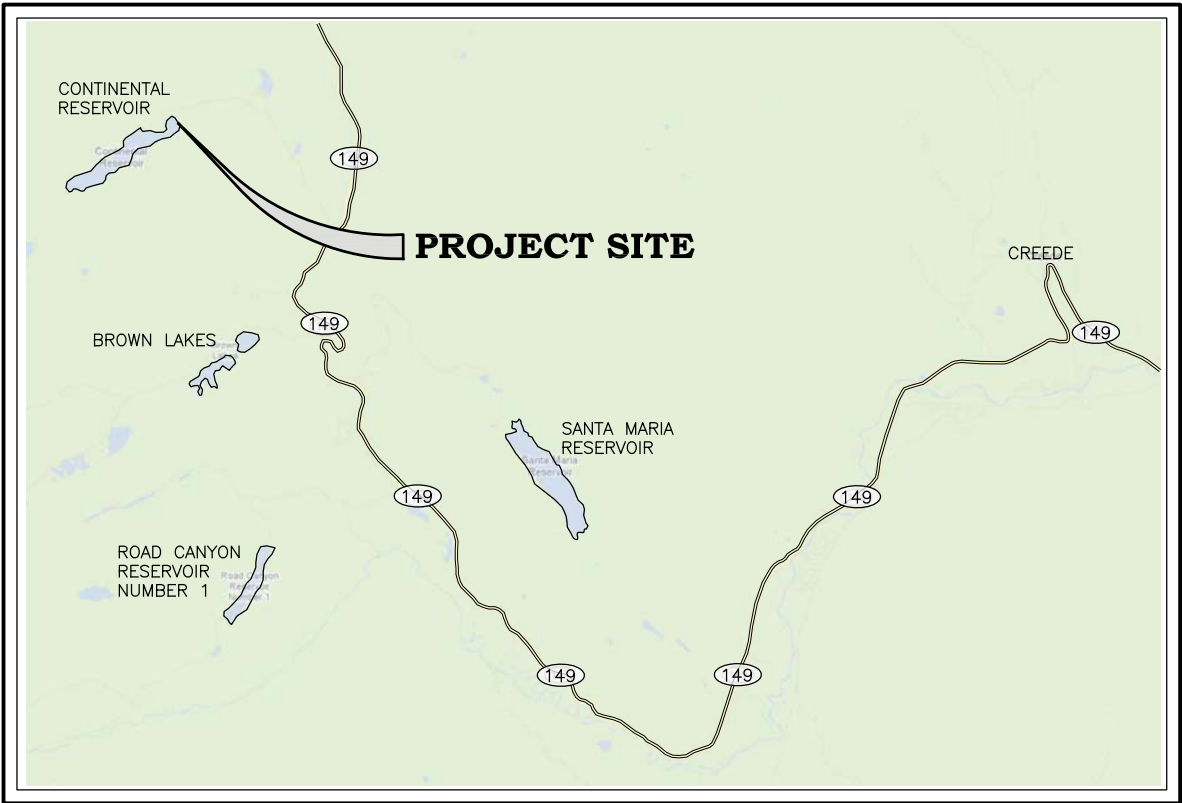
G-1

SHEET 1 OF 34

SEO FILE NO. C-259C



STATE MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

[illegible]

HOER, WARREN, 1/9/2013 11:21 AM

DRAWING PATH: N:\Projects\22241248_Santa_Maria_Confine\Sub_00\9.0_Constr_Design\Plan_Sheets\Spillage\Continental Dam_G-03_Structural Notes.dwg

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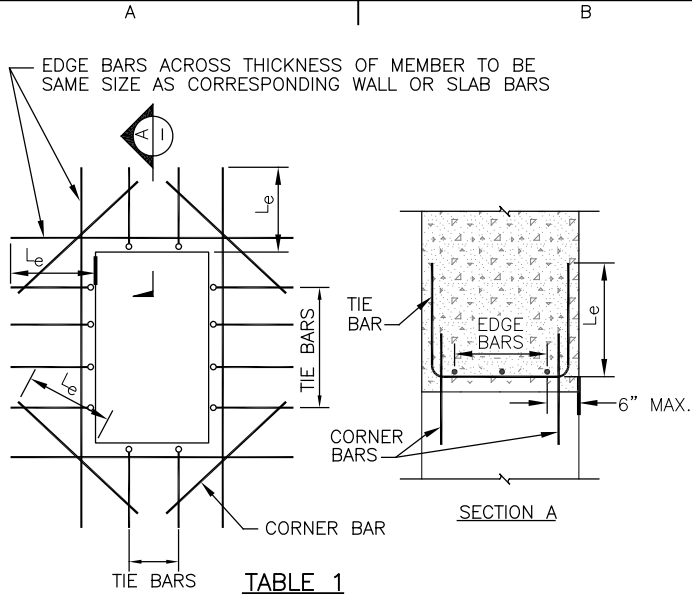
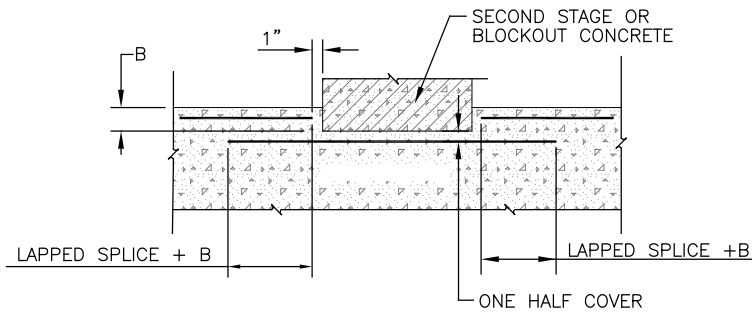


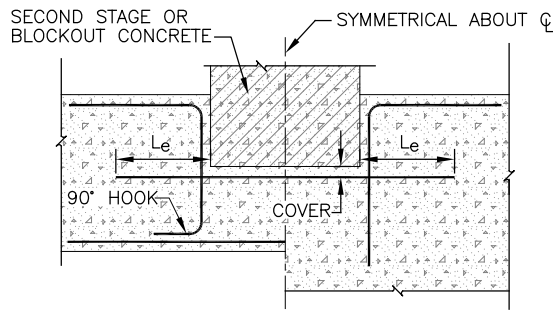
TABLE 1 TABLE FOR REINFORCEMENT AROUND OPENINGS			
MEMBER THICKNESS	TIE BAR	EDGE BARS	CORNER BARS
LESS THAN 10"	NONE	1-CTR.	1-#4 CTR.
10" THRU 1'-6"	NONE	2-(1-EF)	2-#4 (1EF)
1'-7" THRU 3'-0"	#4 @1'-0"	3-EQ. SPC.	2-#6 (1EF)
OVER 3'-0"	#6 @1'-0"	SPC.@1'-0"	2-#8 (1EF)

- OMIT EDGE BARS AND TIE BARS ALONG SIDES OF OPENINGS WHERE DIMENSION IS LESS THAN 18".
- OMIT CORNER BARS AT SIDES OF OPENINGS ADJACENT TO FLOORS, WALLS, OR BEAMS.
- CORNER BARS REQUIRED IF EITHER DIMENSION OF OPENING IS GREATER THAN 18".
- USE CORNER BARS IN FACE OF RECESSES DEEPER THAN 4" IF EITHER DIMENSION OF RECESS IS GREATER THAN 18".

ADDITIONAL REINFORCEMENT AROUND OPENINGS



RECESS 3" TO 8" DEEP

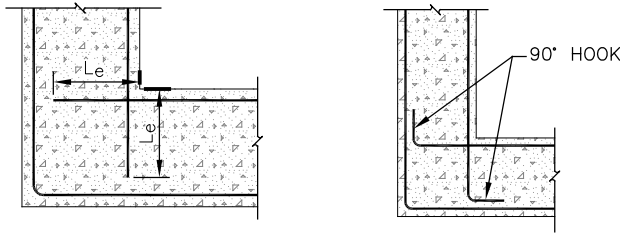


RECESS GREATER THAN 8"

TYPICAL BLOCKOUT RECESS OR OFFSET DETAILS

GENERAL NOTE

- UNLESS OTHERWISE SHOWN ON THE REINFORCEMENT DESIGN DRAWINGS, THE DETAILS AND NOTES SHOWN ON THIS DRAWING ARE TYPICAL FOR ALL REINFORCEMENT DRAWINGS.



TYPICAL CORNER DETAILS

ABBREVIATIONS

BF = BOTTOM FACE
TF = TOP FACE
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
IF = INSIDE FACE
OF = OUTSIDE FACE
CJ = CONSTRUCTION JOINT
OCJ = OPTIONAL CONSTRUCTION JOINT
CTJ = CONTROL JOINT

CRJ = CONTRACTION JOINT
EJ = EXPANSION JOINT
BR = BOTTOM ROW
TR = TOP ROW
NR = NEAR ROW
FR = FAR ROW
ER = EACH ROW
IR = INSIDE ROW
OR = OUTSIDE ROW
MR = MIDDLE ROW

BL = BOTTOM LAYER
TL = TOP LAYER
ML = MIDDLE LAYER
NS = NEAR SIDE
FS = FAR SIDE
ES = EACH SIDE
EW = EACH WAY
EC = EACH CORNER
 L_e = EMBEDMENT LENGTH
 d_b = NOMINAL DIAMETER OF REINFORCING BAR

SPC. = SPACE OR SPACES
EQ. SPC. = EQUALLY SPACED, EQUAL SPACES
D = NORMAL DIAMETER OF REINFORCING BAR
UV = UNIFORMLY VARYING LENGTHS OF BARS BETWEEN LENGTHS SHOWN
CL. = CLEAR
CTR. = CENTER OR CENTERS

SYMBOLS

○ AN OPEN CIRCLE AT THE END OF A BAR INDICATES A BEND WITH THE BAR TURNED AWAY FROM THE OBSERVER.

● A CLOSED CIRCLE AT THE END OF A BAR INDICATES A BEND WITH THE BAR TURNED TOWARDS THE OBSERVER.

SPICES SHOWN THUS \equiv INDICATE A LAPPED SPLICE, NOT A BEND IN THE BAR.

DIMENSIONS

DIMENSIONS ARE TO THE CENTERLINE OF THE BARS UNLESS OTHERWISE SHOWN. CLEAR COVER DIMENSIONS ARE MARKED "CL".

COVER

PLACE THE REINFORCEMENT SO THAT THE CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST REINFORCEMENT IS 2" FOR #5 BARS AND SMALLER, 3" FOR #6 BARS AND LARGER. PROVIDE 3" CLEAR DISTANCE FROM FACE OF CONCRETE FOR ALL BARS WHEN THE CONCRETE IS PLACED AGAINST EARTH OR ROCK. CLEAR DISTANCE IS THE DESIGN DIMENSION LINE. REINFORCEMENT PARALLELING CONSTRUCTION JOINTS SHALL HAVE A MINIMUM OF 2" CLEAR COVER.

BENT BARS:

UNLESS OTHER RADIUS BENDS ARE INDICATED ON THE DRAWINGS, ALL REINFORCEMENT REQUIRING BENDING SHALL BE BENT AROUND A PIN HAVING THE FOLLOWING DIAMETER:

BAR NO.	TABLE 2 PIN DIAMETER IN INCHES							
	3	4	5	6	7	8	9	10
STANDARD BENDS	2 1/4	3	3 3/4	4 1/2	5 1/4	6	9 1/2	10 3/4
STIRRUP AND TIE BENDS	1 1/2	2	2 1/2	4 1/2	5 1/4	6	-	-

REINFORCEMENT DOWELS:

DOWELS INDICATED ON THE DRAWING, SUCH AS #8 (d), SHALL BE EMBEDDED A LENGTH EQUAL TO L_e AND SHALL HAVE A PROJECTION EQUAL TO THAT REQUIRED FOR TOP SPlicing TO A BAR OF THE SAME DIAMETER.

PLAIN DOWELS:

PLAIN DOWELS ACROSS CONTRACTION JOINTS SHALL BE SMOOTH BARS UNIFORMLY COATED WITH A FILM OF OIL BEFORE CONCRETE PLACEMENT. VISCOSITY OF THE OIL SHALL HAVE A SAE RATING OF NOT LESS THAN 250.

ACCESSORIES:

BAR SUPPORTS, SPACERS, AND OTHER ACCESSORIES ARE NOT SHOWN ON THE DRAWINGS. THE RECOMMENDATIONS OF THE CURRENT ACI DETAILING MANUAL OR OTHER APPROVED SUPPORTING SYSTEM MAY BE USED.

REFERENCE CODE:

UNLESS OTHERWISE SHOWN FOLLOW THE RECOMMENDATIONS ESTABLISHED BY THE AMERICAN CONCRETE INSTITUTE'S "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 315".

NOTES TO DETAILERS:

SPLICE LENGTHS SHOWN IN THE TABLES ON THIS DRAWING ARE FOR CLASS B SPLICES IN ACCORDANCE WITH ACI 318-02. SPLICES OR DEVELOPMENT LENGTHS OTHER THAN THOSE SHOWN IN THE TABLES MUST BE DETAILED ON THE REINFORCEMENT DESIGN DRAWINGS.

SPLICES:

THE MINIMUM LENGTH OF LAP FOR SPLICING PARALLEL BARS SHALL BE GIVEN IN THE APPLICABLE TABLE (TABLE 3). SPLICES SHALL BE STAGGERED TO GIVE 12 INCHES CLEAR BETWEEN ENDS OF ADJACENT SPLICES. BARS SPLICED BY NONCONTACT LAP SPLICES SHALL NOT BE SPACED TRANSVERSELY FARTHER APART THAN ONE-FIFTH THE REQUIRED LAP SPLICE LENGTH, NOR 6 IN. WHEN REINFORCING BARS OF DIFFERENT SIZE ARE TO BE SPLICED, THE LENGTHS OF LAP SHALL BE GOVERNED BY THE SMALLER DIAMETER BAR. SPLICES ARE TO BE MADE SO THAT THE REQUIRED CLEAR DISTANCES TO FACE OF CONCRETE CONCRETE WILL BE MAINTAINED.

PLACING:

REINFORCEMENT AT SMALL OPENINGS (MAX. 1'-5") IN WALLS AND SLABS MAY BE SPREAD APART NOT MORE THAN 1.5 TIMES THE BAR SPACING. REINFORCEMENT MAY BE ADJUSTED LATERALLY TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1" BETWEEN THE REINFORCEMENT AND KEYS, WATERSTOPS, ANCHOR BOLTS, FORM TIES, CONDUITS AND OTHER EMBEDDED MATERIALS. IN HEAVILY REINFORCED AREAS, RELOCATION OF THE EMBEDDED MATERIAL MUST BE CONSIDERED. WHEN BARS ARE BENT DUE TO OFFSETS LESS THAN 3" DEEP, THE SLOPE OF THE INCLINED PORTION MUST NOT EXCEED 6 TO 1. REINFORCEMENT PARALLEL TO ANCHOR BOLTS OR OTHER EMBEDDED MATERIAL SHALL BE PLACED TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1.33 TIMES THE MAXIMUM SIZE AGGREGATES.

SPACING:

THE FIRST AND LAST BARS IN WALLS AND SLABS, STIRRUPS IN BEAMS, AND TIES IN COLUMNS ARE TO START AND END AT A MAXIMUM OF ONE HALF OF THE ADJACENT BAR SPACING. A MINIMUM OF $2.5d_b$ CLEAR FROM THE EDGE IS REQUIRED FOR #9, #10, AND #11 BARS IF SPLICE LENGTHS OR REDUCED DEVELOPMENT LENGTHS GIVEN IN TABLE 3 ARE TO BE USED.

STANDARD HOOKS:

HOOKS SHALL HAVE 180° BENDS AND EXTENSIONS OF 4-BAR DIAMETERS BUT NOT LESS THAN 2 1/2" PARALLEL TO THE MAIN LEG OF THE BAR, OR 90° BENDS AND EXTENSIONS OF AT LEAST 12-BAR DIAMETERS. HOOKS FOR STIRRUP AND TIE ANCHORAGE ONLY SHALL HAVE EITHER A 90° OR 135° BEND PLUS AN EXTENSION OF AT LEAST 6-BAR DIAMETERS BUT NOT LESS THAN 2 1/2" AT THE FREE END OF THE BAR. RADIUS OF BEND TO BE AS SPECIFIED IN THE TABLE OF PIN DIAMETERS.

TABLE 3
 $f'_c = 4,000$ psi $f'_c = 60,000$ psi

BAR SIZE #	EMBEDMENT LENGTH, L_e		CLASS B SPLICE LENGTH	
	OTHER BARS (INCHES)	TOP BAR* (INCHES)	OTHER BARS (INCHES)	TOP BAR* (INCHES)
3	12	12	16	16
4	12	15	16	20
5	15	19	19	25
6	18	23	23	30
7	25	33	33	43
8	29	37	38	49
9	36	46	47	61
10	44	57	58	75
11	53	68	69	90

* TOP BARS ARE HORIZONTAL BARS IN BEAMS AND SLABS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

NOTE:

- THESE LENGTHS ARE BASED ON THE PROVISIONS OF ACI 318, 2008 SECTIONS 12.2.3 AND 12.15.1 ASSUMING UNCOATED REINFORCEMENT, NORMAL WEIGHT CONCRETE, CONCRETE COVER CONSISTENT WITH THE REQUIREMENTS OF THIS DRAWING, AND A MINIMUM CLEAR BAR SPACING OF $2.0d_b$. CONDITIONS THAT ARE DIFFERENT FROM THOSE ASSUMED REQUIRE LONGER LAP LENGTHS CONSISTENT WITH ACI 318.

URS

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SANTA MARIA
RESERVOIR
COMPANY

CONTINENTAL DAM
REHABILITATION

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

NO.	DESCRIPTION	DATE
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URS PROJECT NO: 22241248

DRAWN BY: WDH

DESIGNED BY: CJW

CHECKED BY: EAT

DATE CREATED: 12/2011

PLOT DATE: 12/2011

SCALE: AS SHOWN

ACAD VER: 2012

DRAWING TITLE

STRUCTURAL NOTES

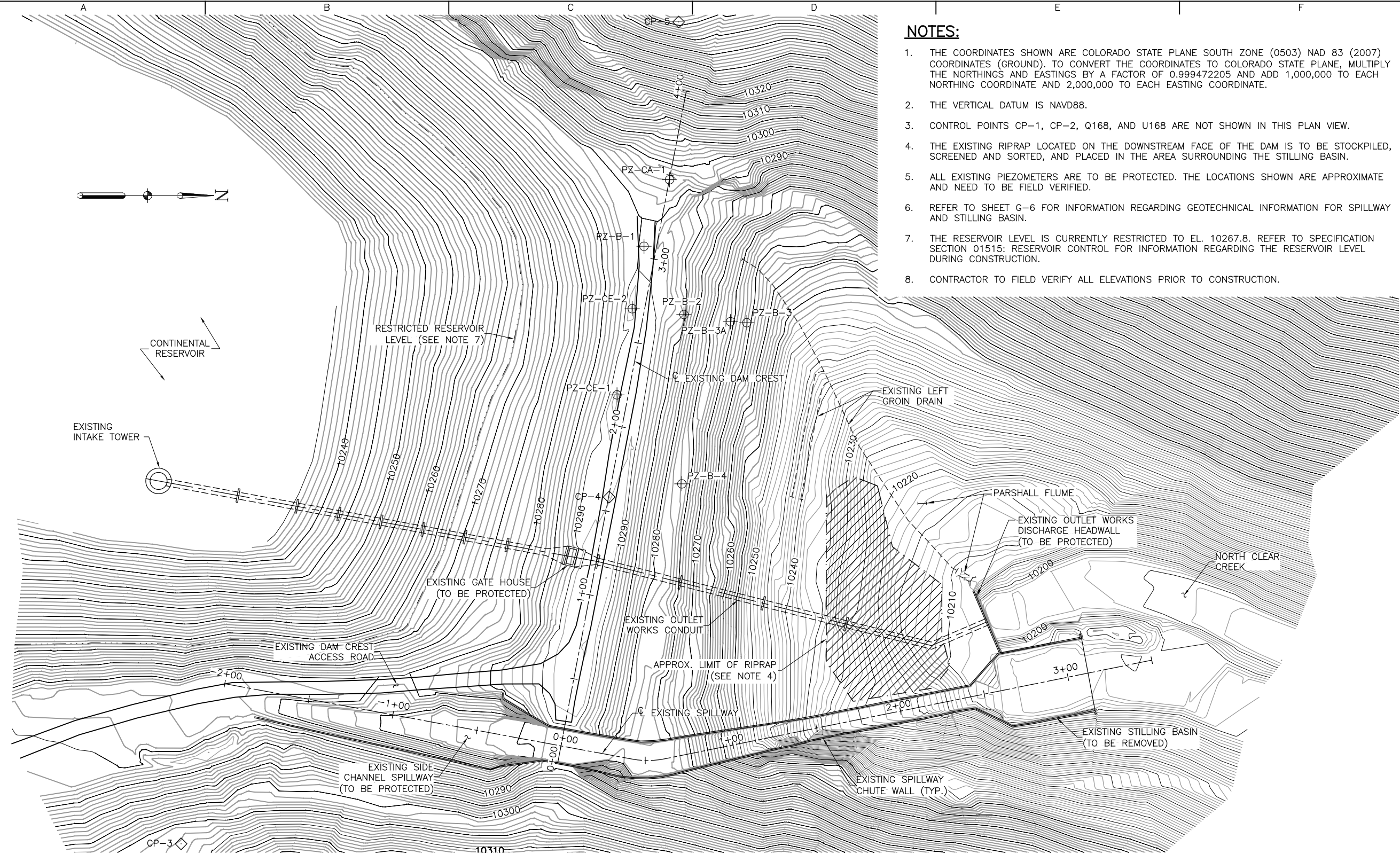
G-3

SHEET 3 OF 34

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HOER, WARREN, 1/9/2013 11:21 AM
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URS



CONTROL POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-1	428117.69	529922.46	9717.98	1.5" ALUMINUM CAP STAMPED "CONTROL POINT CP-1"
CP-2	425713.01	531211.53	9664.85	1.5" ALUMINUM CAP STAMPED "CONTROL POINT CP-2"
CP-3	448709.53	508005.70	10308.60	1.5" ALUMINUM CAP STAMPED "CONTROL POINT CP-3"
CP-4	448959.98	507802.84	10291.05	1.5" ALUMINUM CAP STAMPED "CONTROL POINT CP-4"
CP-5	449000.58	507524.89	10346.88	1.5" ALUMINUM CAP STAMPED "CONTROL POINT CP-5"
Q168	405772.31	533225.98	9005.24	USC & GS - BRASS CAP
U168	433591.14	523564.93	9970.01	USC & GS - BRASS CAP






PLAN

NOTES:

- THE COORDINATES SHOWN ARE COLORADO STATE PLANE SOUTH ZONE (0503) NAD 83 (2007) COORDINATES (GROUND). TO CONVERT THE COORDINATES TO COLORADO STATE PLANE, MULTIPLY THE NORTHINGS AND EASTINGS BY A FACTOR OF 0.999472205 AND ADD 1,000,000 TO EACH NORTHING COORDINATE AND 2,000,000 TO EACH EASTING COORDINATE.
- THE VERTICAL DATUM IS NAVD88.
- CONTROL POINTS CP-1, CP-2, Q168, AND U168 ARE NOT SHOWN IN THIS PLAN VIEW.
- THE EXISTING RIPRAP LOCATED ON THE DOWNSTREAM FACE OF THE DAM IS TO BE STOCKPILED, SCREENED AND SORTED, AND PLACED IN THE AREA SURROUNDING THE STILLING BASIN.
- ALL EXISTING PIEZOMETERS ARE TO BE PROTECTED. THE LOCATIONS SHOWN ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
- REFER TO SHEET G-6 FOR INFORMATION REGARDING GEOTECHNICAL INFORMATION FOR SPILLWAY AND STILLING BASIN.
- THE RESERVOIR LEVEL IS CURRENTLY RESTRICTED TO EL. 10267.8. REFER TO SPECIFICATION SECTION 01515: RESERVOIR CONTROL FOR INFORMATION REGARDING THE RESERVOIR LEVEL DURING CONSTRUCTION.
- CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS PRIOR TO CONSTRUCTION.

LEGEND

-  RIPRAP TO BE STOCKPILES
-  PZ-1 EXISTING PIEZOMETER
-  CP-1 EXISTING CONTROL POINT

SEO FILE NO. C-259C

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ACAD VER:	2012
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PLAN OF EXISTING
CONDITIONS

G-4

SHEET 4 OF 34

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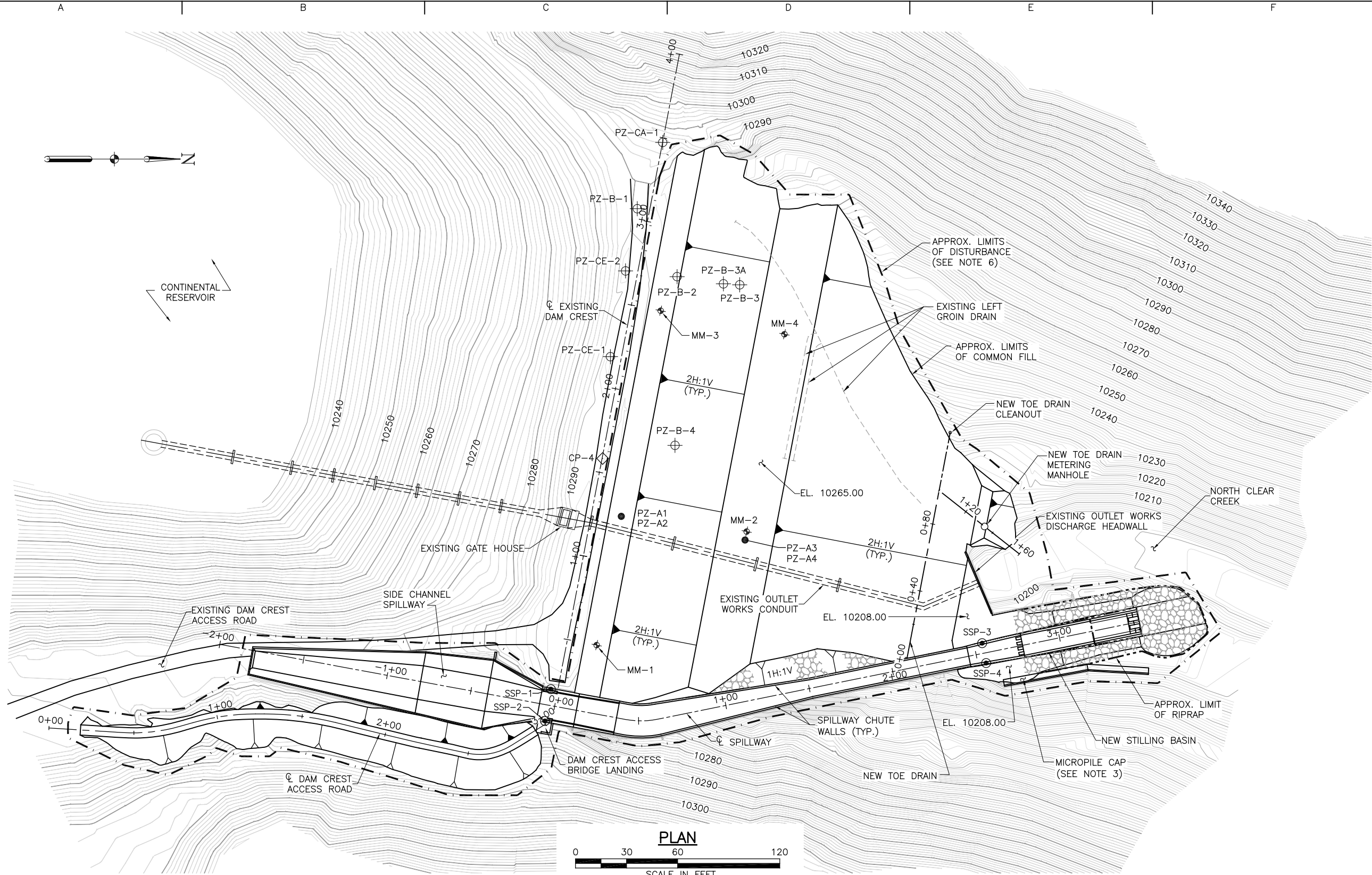
ACAD VER: 2012

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PLAN OF
MODIFICATIONS

G-5

SHEET 5 OF 34



NOTES:

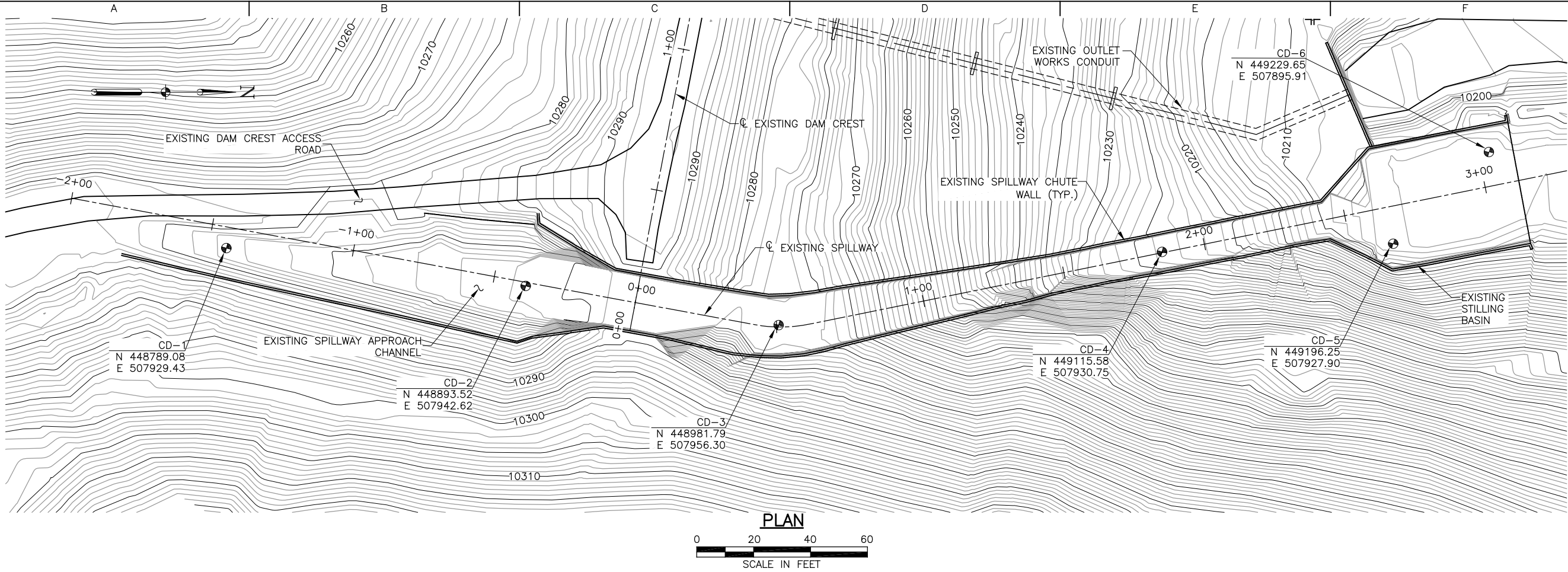
- ALL EXISTING PIEZOMETERS ARE TO BE RAISED BASED ON THE FINAL GRADING. REFER TO SHEET I-1 FOR INFORMATION REGARDING RAISING THE EXISTING PIEZOMETERS.
- REFER TO SHEETS C-6 AND C-7 FOR INFORMATION REGARDING THE TOE DRAIN.
- REFER TO SHEET S-15 FOR INFORMATION REGARDING THE MICROPILE WALL AND MICROPILE CAP.
- THE SPILLWAY UNDERDRAINS ARE NOT SHOWN FOR CLARITY. REFER TO THE STRUCTURAL DRAWINGS FOR INFORMATION REGARDING THE SPILLWAY UNDERDRAIN.
- THE SPILLWAY FOUNDATION ANCHORS ARE NOT FOR CLARITY. REFER TO SHEET S-11 FOR INFORMATION REGARDING FOUNDATION ANCHORS.
- DISTURBED AREAS TO BE RECLAIMED AND REVEGETATED PER SPECIFICATION 02920.

LEGEND

- PZ-1 EXISTING PIEZOMETER
- CP-1 CONTROL POINT
- MM-1 NEW MOVEMENT MONUMENT
- PZ-A1 NEW PIEZOMETER
- SSP-1 NEW STRUCTURAL SURVEY POINT

SEO FILE NO. C-259C

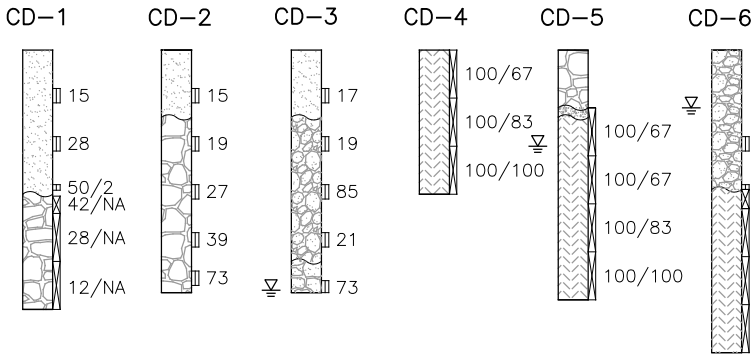
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LEGEND

- SAND, TRACE CLAY AND GRAVEL, VERY FINE TO COARSE GRAINED, MEDIUM DENSE, DRY TO MOIST, TAN TO PINK
- GRAVELLY SAND, FINE TO COARSE SAND, SUBANGULAR TO ANGULAR, MEDIUM DENSE TO VERY DENSE, DRY TO MOIST, TAN TO PINK
- COBBLES WITH A GRAVELLY SAND MATRIX, ANGULAR FINE TO COARSE SAND, SUBROUNDED GRAVEL AND COBBLES, MEDIUM DENSE TO VERY DENSE, TAN TO PINK
- VOLCANIC ASH LOW TUFF, HIGHLY WEATHERED TO FRESH, VERY WEAK TO MODERATELY HARD, TAN TO WHITE
- CONCRETE
- TOP OF BORING
- LITHOLOGIC CONTACT (APPROXIMATE)
- END OF BORING

- 9 INDICATES THAT 9 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2-INCH DIAMETER STANDARD SPLIT SPOON SAMPLER 12 INCHES UNLESS OTHERWISE NOTED (UNCORRECTED SPT BLOWCOUNT, N) A SAMPLER DRIVE LESS THAN 12 INCHES IS INDICATED BY THE BLOWS REQUIRED TO DRIVE THE SAMPLER A CERTAIN DISTANCE IN INCHES (50/3 INDICATES 50 BLOWS TO ADVANCE 3-INCHES)
- 100/67 INDICATES HQ SIZE CORE BARREL WAS USED TO ADVANCE HOLE. 100/67 INDICATES 100% CORE RECOVERY FOR INTERVAL INDICATED AND A ROCK QUALITY DESIGNATION (RQD) OF 67%. "NA" REFERS TO AREAS WHERE RQD IS NOT APPLICABLE (SOIL ZONES)
- APPROXIMATE CONTACT BETWEEN VARYING MATERIALS
- WATER LEVEL AT TIME OF DRILLING



SPILLWAY TEST HOLE LOGS



NOTES:

- THE TEST HOLE LOCATIONS ARE APPROXIAMTE.
- TEST HOLES WERE DRILLED WITH A CME 75 DRILL RIG. TEST HOLES WERE ADVANCED WITH A DOWN THE HOLE HAMMER WITH ODEX CASING OR NQ WIRELINE CORE BARREL.
- TEST HOLES CD-1 THROUGH CD-4 DRILLED THROUGH THE CONCRETE SPILLWAY CHUTE SLAB.

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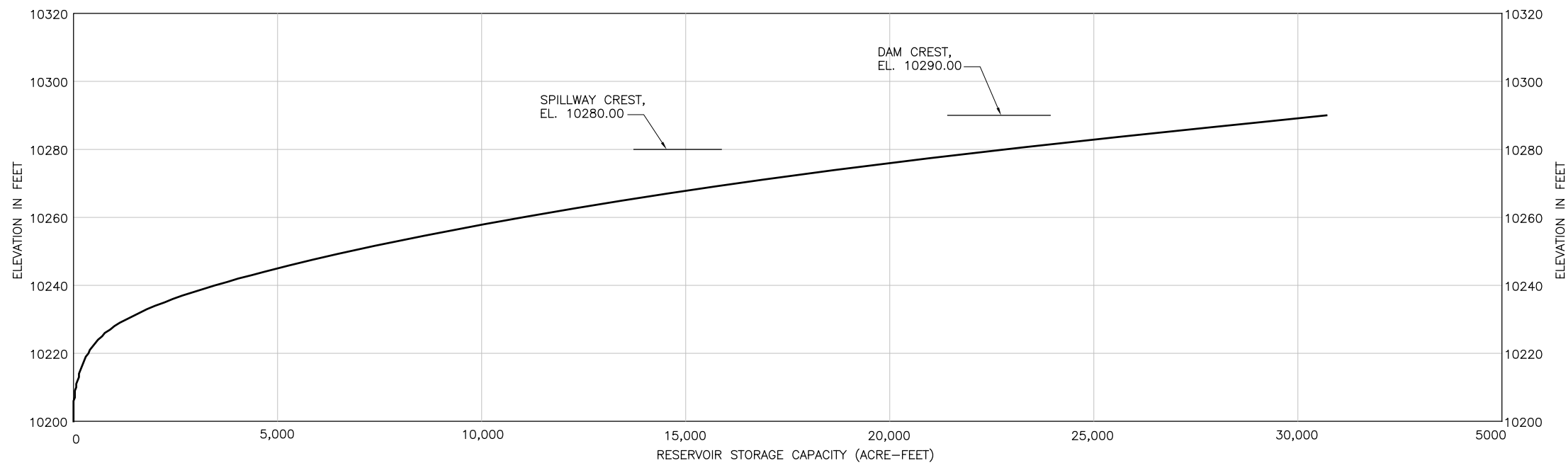
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DRAWING TITLE	

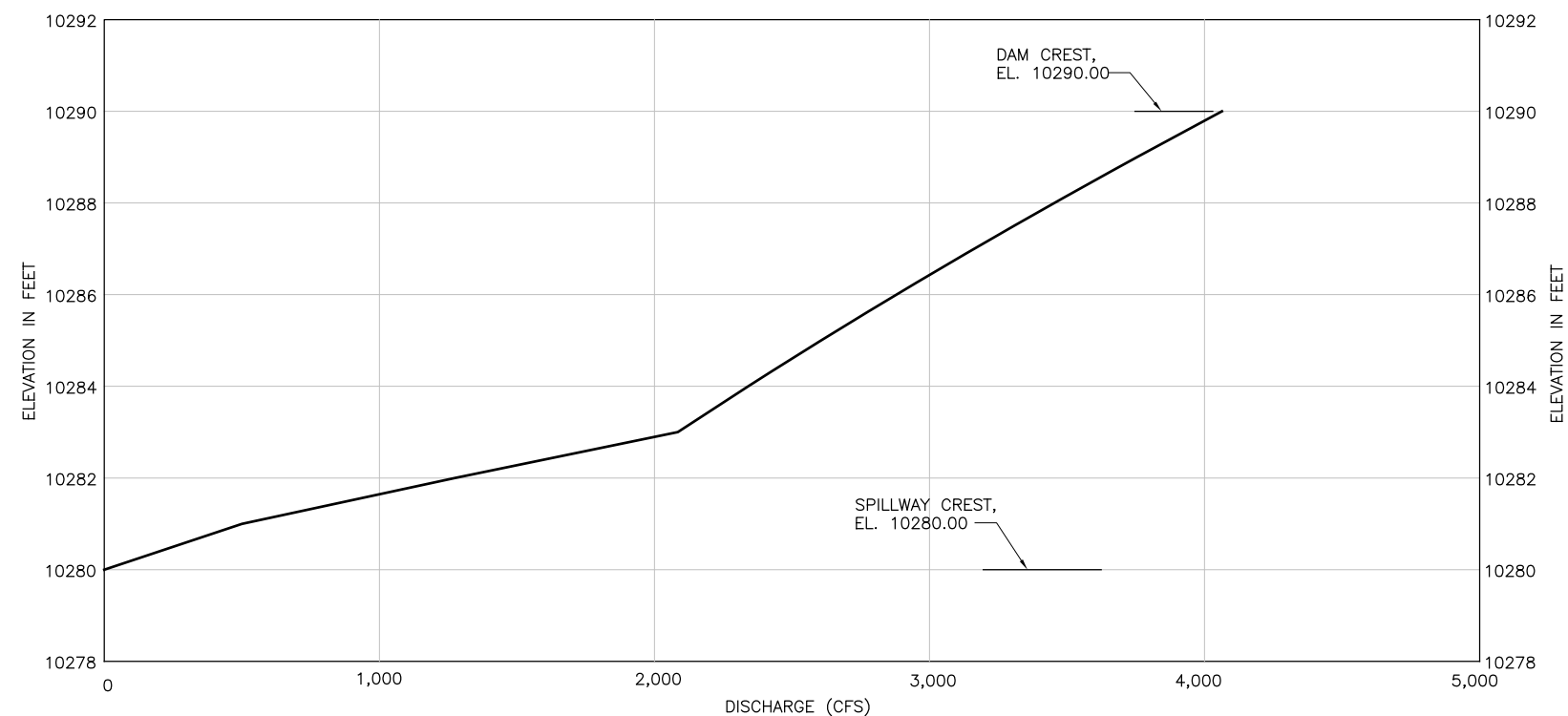
GEOTECHNICAL
INFORMATION

G-6

SHEET 6 OF 34



RESERVOIR STORAGE CAPACITY CURVE



SPILLWAY DISCHARGE CURVE

ELEVATION (FT)	DISCHARGE (CFS)
10280	0
10281	500
10282	1270
10283	2085
10284	2341
10285	2606
10286	2880
10287	3162
10288	3454
10289	3754
10290	4063

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URS PROJECT NO:	2224124
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DRAWN BY:	WD
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DESIGNED BY:	CJ
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CHECKED BY:	EA
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DATE CREATED: 12/201

PLOT DATE:	12/201
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SCALE: AS SHOWN

ACAD VER: 201

DRAWING TITLE

RESERVOIR CAPACITY AND SPILLWAY DISCHARGE CURVES

G-7

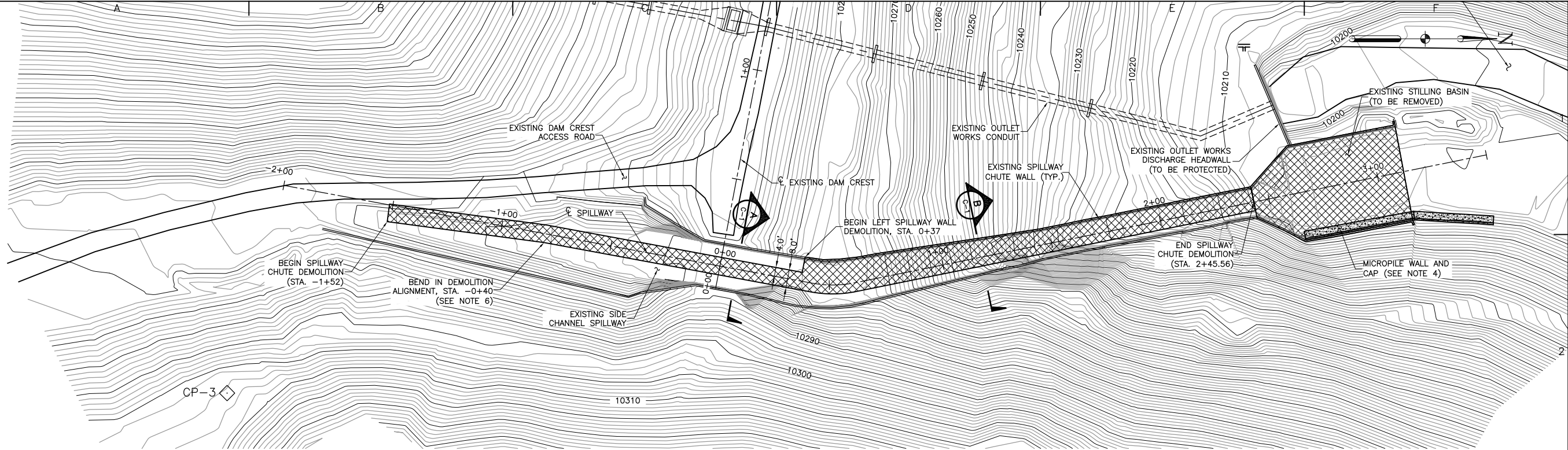
SHEET 7 OF 34

SEO FILE NO. C-259C

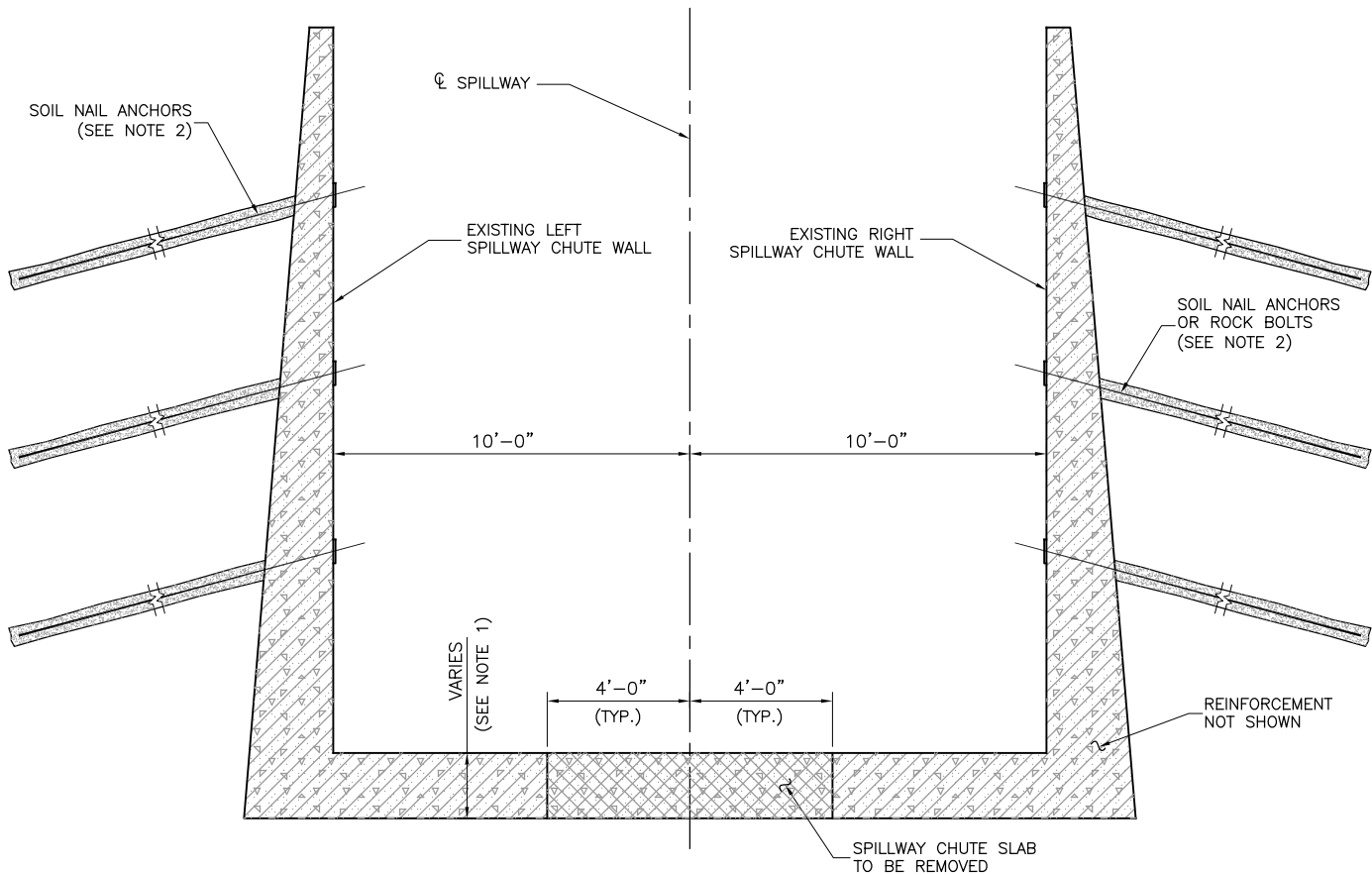
HOEER, WARREN, 1/9/2013 11:21 AM

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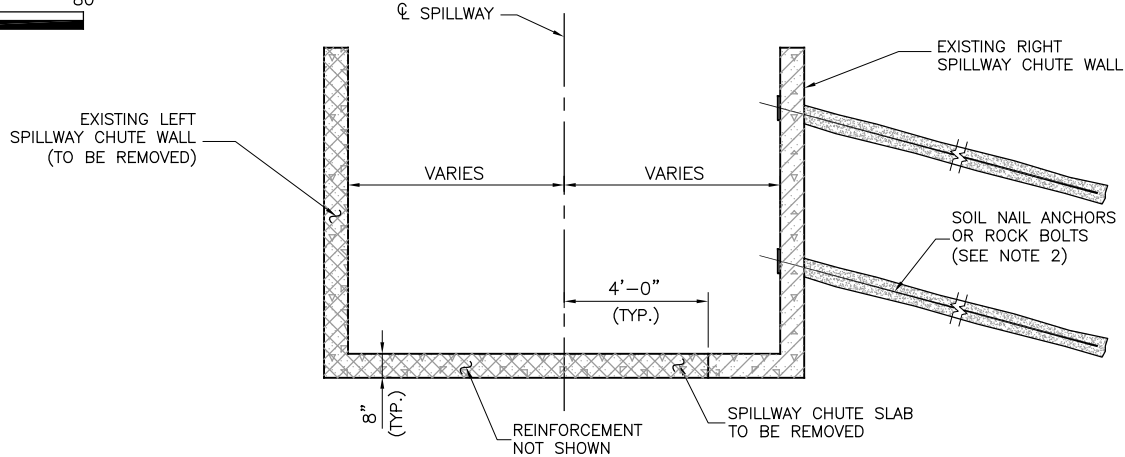
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PLAN
0 20 40 80
SCALE IN FEET



SPILLWAY CHUTE DEMOLITION SECTION A
0 2 4 8
SCALE IN FEET



SPILLWAY CHUTE DEMOLITION SECTION B
STA. 0+37.00 TO STA. 2+45.56
0 2 4 8
SCALE IN FEET

NOTES:

1. THE SPILLWAY CHUTE SLAB THICKNESS VARIES. REFER TO REFERENCE DRAWINGS R-1 AND R-2 FOR THE SPILLWAY CHUTE SLAB THICKNESS.
2. THE SOIL NAIL ANCHORS AND ROCK BOLTS ARE SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS S-13 AND S-14 FOR INFORMATION REGARDING SOIL NAIL ANCHORS AND ROCK BOLTS.
3. SOIL NAIL ANCHORS AND ROCK BOLTS SHALL BE INSTALLED PRIOR TO SAWCUTTING AND DEMOLISHING THE EXISTING SPILLWAY CHUTE SLABS THAT ARE TO BE REMOVED.
4. THE MICROPILE WALL AND MICROPILE CAP SHALL BE INSTALLED IN THE EXISTING STILLING BASIN PRIOR TO THE DEMOLITION OF THE EXISTING STILLING BASIN. REFER TO STRUCTURAL DRAWING S-15 FOR INFORMATION REGARDING THE MICROPILES AND THE MICROPILE CAP.
5. LOCALIZED DEMOLITION OF CONCRETE CUTOFFS BELOW THE EXISTING SPILLWAY CHUTE SLAB WILL BE REQUIRED. REFER TO REFERENCE DRAWING R-2 FOR THE LOCATIONS OF THE CONCRETE CUTOFFS.
6. COORDINATE THE LIMITS OF EXISTING SPILLWAY SLAB DEMOLITION WITH THE GEOMETRY OF THE SPILLWAY UNDERDRAIN SYSTEM THAT IS TO BE INSTALLED.

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COMPANY

CONTINENTAL DAM
REHABILITATION

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

NO.	DESCRIPTION	DATE
△		
△		
△		
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△		

URS PROJECT NO: 22241248

DRAWN BY: WDH

DESIGNED BY: CJW

CHECKED BY: EAT

DATE CREATED: 12/2011

PLOT DATE: 12/2011

SCALE: AS SHOWN

ACAD VER: 2012

DRAWING TITLE

DEMOLITION
PLAN, SECTIONS
AND DETAILS

C-1

SHEET 8 OF 34

SEO FILE NO. C-259C

HOER, WARREN, 1/9/2013 11:21 AM
DRAWING PATH: N:\Projects\22241248_Santa_Maria_Contine\Sub_00\9.0_Constr_Design\Plan_Sheets\Spillway-Seepage\Continental Dam_C-02_Filter Excavation Plan.dwg

EXCAVATION CONTROL POINT TABLE							
POINT NO.	NORTHING	EASTING	ELEVATION	POINT NO.	NORTHING	EASTING	ELEVATION
①	448943.44	507625.24	10290.00	⑬	449067.60	507928.55	10230.70
②	449003.79	507639.20	10290.00	⑭	449170.58	507908.33	10201.33
③	449030.56	507639.79	10277.78	⑮	449174.86	507929.44	10201.33
④	449063.7	507674.52	10255.93	⑯	449182.53	507900.94	10193.00
⑤	449080.12	507678.07	10247.55	⑰	449203.88	507899.13	10185.25
⑥	449100.30	507711.71	10238.25	⑱	449201.12	507927.74	10185.25
⑦	449100.49	507728.93	10232.77	⑲	449272.48	507885.23	10185.25
⑧	449126.74	507780.80	10215.00	⑳	449277.94	507912.19	10185.25
⑨	449099.84	507921.37	10215.00	㉑	449298.9	507879.88	10197.00
⑩	449151.51	507826.93	10193.00	㉒	449316.16	507904.45	10201.00
⑪	449135.61	507910.03	10193.00	㉓	449164.28	507823.14	10198.29
⑫	449174.70	507862.51	10207.00	㉔	449201.28	507852.39	10197.75

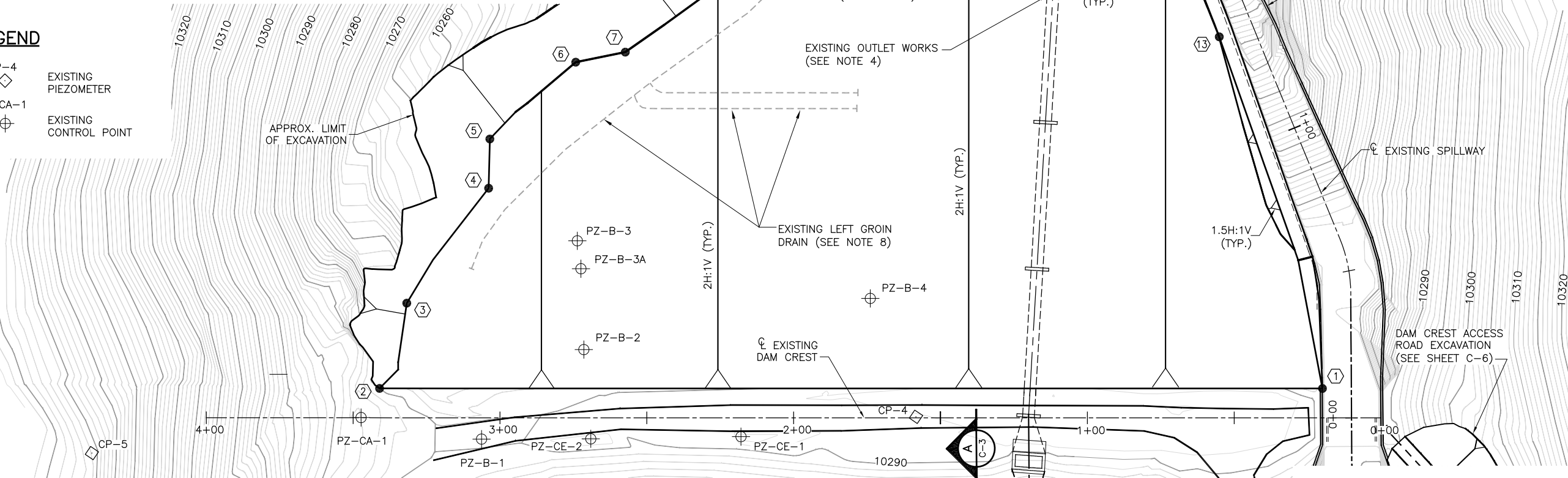
NOTES:

- EXCAVATIONS IN ROCK ARE SHOWN TO BE 0.25H:1V. EXCAVATIONS IN SOIL ARE SHOWN TO BE BETWEEN 1.5H:1V AND 2H:1V.
- SPILLWAY MODIFICATIONS ARE NOT SHOWN FOR CLARITY.
- THE MICROPILE WALL AND MICROPILE CAP MUST BE INSTALLED PRIOR TO COMMENCING ANY EXCAVATION IN THE VICINITY OF THE EXISTING STILLING BASIN. REFER TO SHEET S-15 FOR INFORMATION REGARDING THE MICROPILE WALL AND MICROPILE CAP.
- THE OUTLET WORKS CONDUIT MAY BE EXPOSED DURING THE EXCAVATION OPERATION. USE CAUTION WHEN EXCAVATING NEAR THE OUTLET WORKS CONDUIT SO AS NOT TO DAMAGE THE OUTLET WORKS CONDUIT.
- THE LIMITS OF EXCAVATION SHOWN DO NOT INCLUDE LOCALIZED EXCAVATION FOR THE SPILLWAY UNDERDRAIN.
- PROTECT ALL EXISTING PIEZOMETERS DURING EXCAVATION ACTIVITIES. CARE SHALL BE TAKEN TO NOT DAMAGE THE EXISTING PIEZOMETERS.
- THE EXISTING LEFT GROIN DRAIN TO BE DEMOLISHED DOWNSTREAM OF ELEVATION 2015. THE DRAIN WILL BE GROUTED IF CLOUDY SEEPAGE IS OBSERVED AND LEFT IN PLACE IF NO SEEPAGE OR CLEAR SEEPAGE IS OBSERVED.
- PROTECT THE EXISTING LEFT GROIN DRAIN DURING EXCAVATION ACTIVITIES. CARE SHALL BE TAKEN TO NOT DAMAGE THE EXISTING DRAIN. LOCATION SHOWN IS APPROXIMATE AND NEEDS TO BE FIELD VERIFIED.
- EXISTING PARSHALL FLUMES TO BE REMOVED AND REPLACED WITH MANHOLE. LOCATIONS SHOWN ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED.
- EL. 10193 IS THE ASSUMED INVERT OF THE OUTLET PIPE AND NEEDS TO BE FIELD VERIFIED. EXCAVATION SHALL BE NO LOWER THAN THE INVERT OF THE OUTLET PIPE.
- ALL EXCAVATION ECTIVITIES SHALL BE A MINIMUM OF 5 FEET FROM THE EXISTING OUTLET WORKS DISCHARGE HEADWALL.

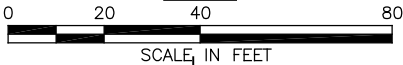
LEGEND

- CP-4
◇ EXISTING
PIEZOMETER
- PZ-CA-1
⊕ EXISTING
CONTROL POINT

APPROX. LIMIT
OF EXCAVATION



PLAN



SEO FILE NO. C-259C

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CONTINENTAL DAM
REHABILITATION

ISSUED FOR BIDDING _____ DATE _____ BY _____

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REVISIONS

NO.	DESCRIPTION	DATE
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URS PROJECT NO:	22241248
DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	EAT
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012

DRAWING TITLE

EXCAVATION PLAN

C-2

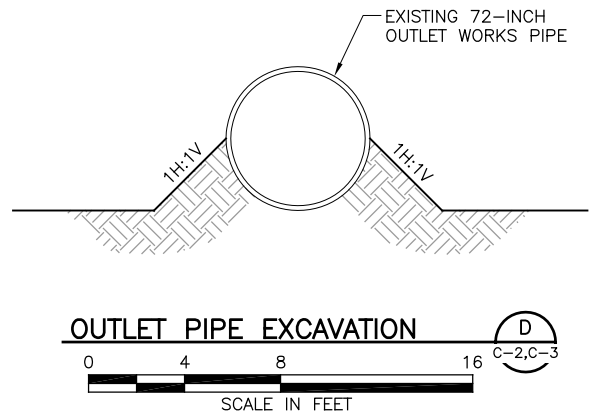
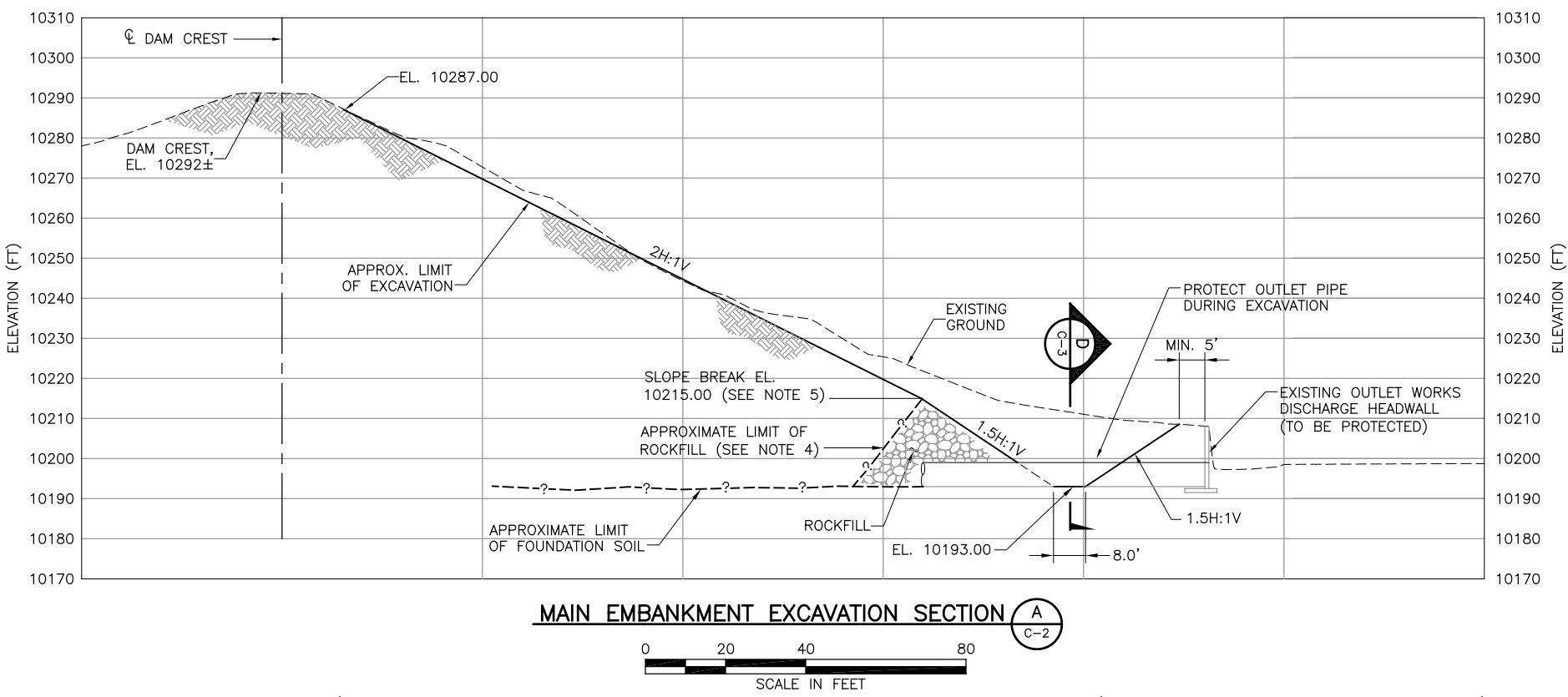
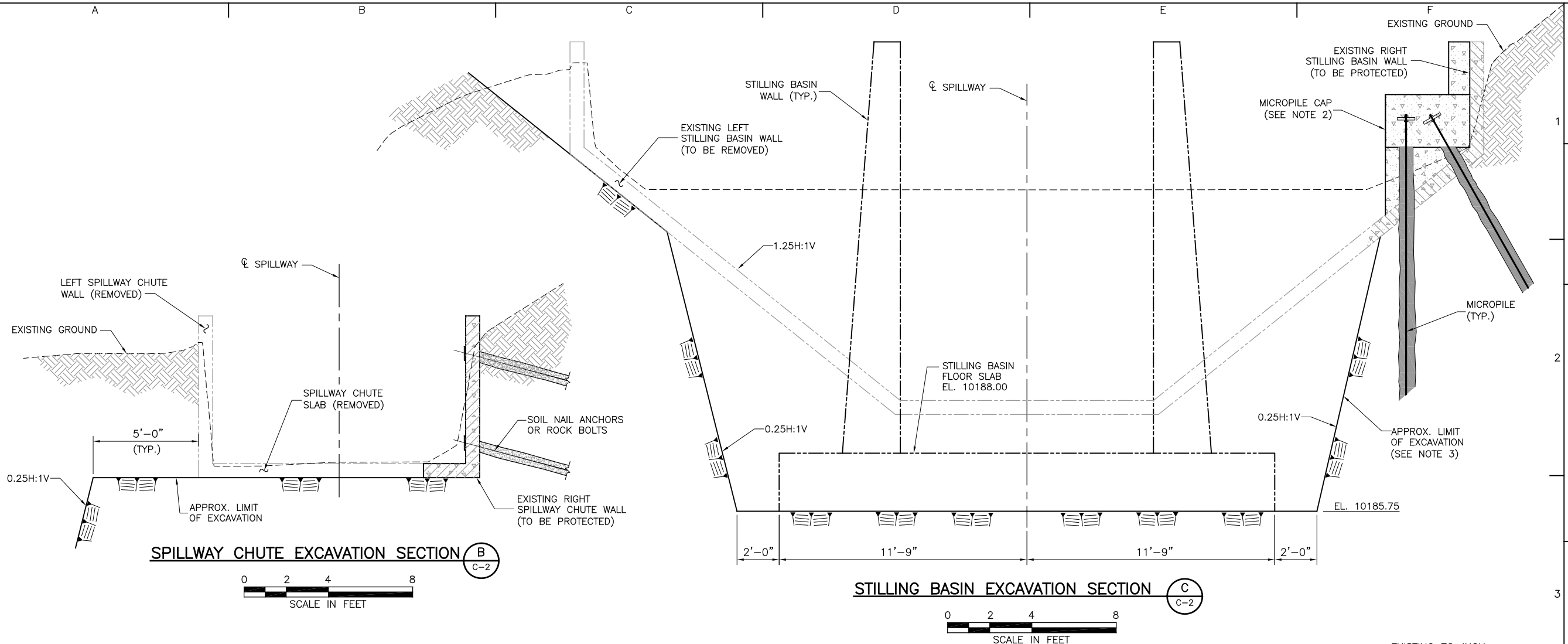
SHEET 9 OF 34

HOER, WARREN, 1/9/2013 11:22 AM
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REHABILITATION**



- NOTES:**
- EXCAVATIONS IN ROCK ARE SHOWN TO BE 0.25H:1V. EXCAVATIONS IN SOIL ARE SHOWN TO BE BETWEEN 1.5H:1V AND 2H:1V.
 - THE MICROPILE CAP IS SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWING S-15 FOR INFORMATION REGARDING THE MICROPILE WALL AND CAP.
 - THE EXCAVATION SLOPE BETWEEN THE RIGHT STILLING BASIN WALL AND THE MICROPILE WALL CAN BE EXCAVATED AT A NEAR VERTICAL SLOPE.
 - THE ROCKFILL LIMITS SHOWN ARE APPROXIMATE. SOME ROCKFILL MAY BE LEFT IN PLACE.
 - THE SLOPE BREAK WILL COINCIDE WITH TOP ELEVATION OF ROCKFILL TOE. IT IS ASSUMED AT ELEVATION 10215.

SEO FILE NO. C-259C

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REVISIONS		
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URS PROJECT NO: 22241248		
DRAWN BY: WDH		
DESIGNED BY: CJW		
CHECKED BY: EAT		
DATE CREATED: 12/2011		
PLOT DATE: 12/2011		
SCALE: AS SHOWN		
ACAD VER: 2012		
DRAWING TITLE		
EXCAVATION SECTIONS		
C-3		
SHEET 10 OF 34		

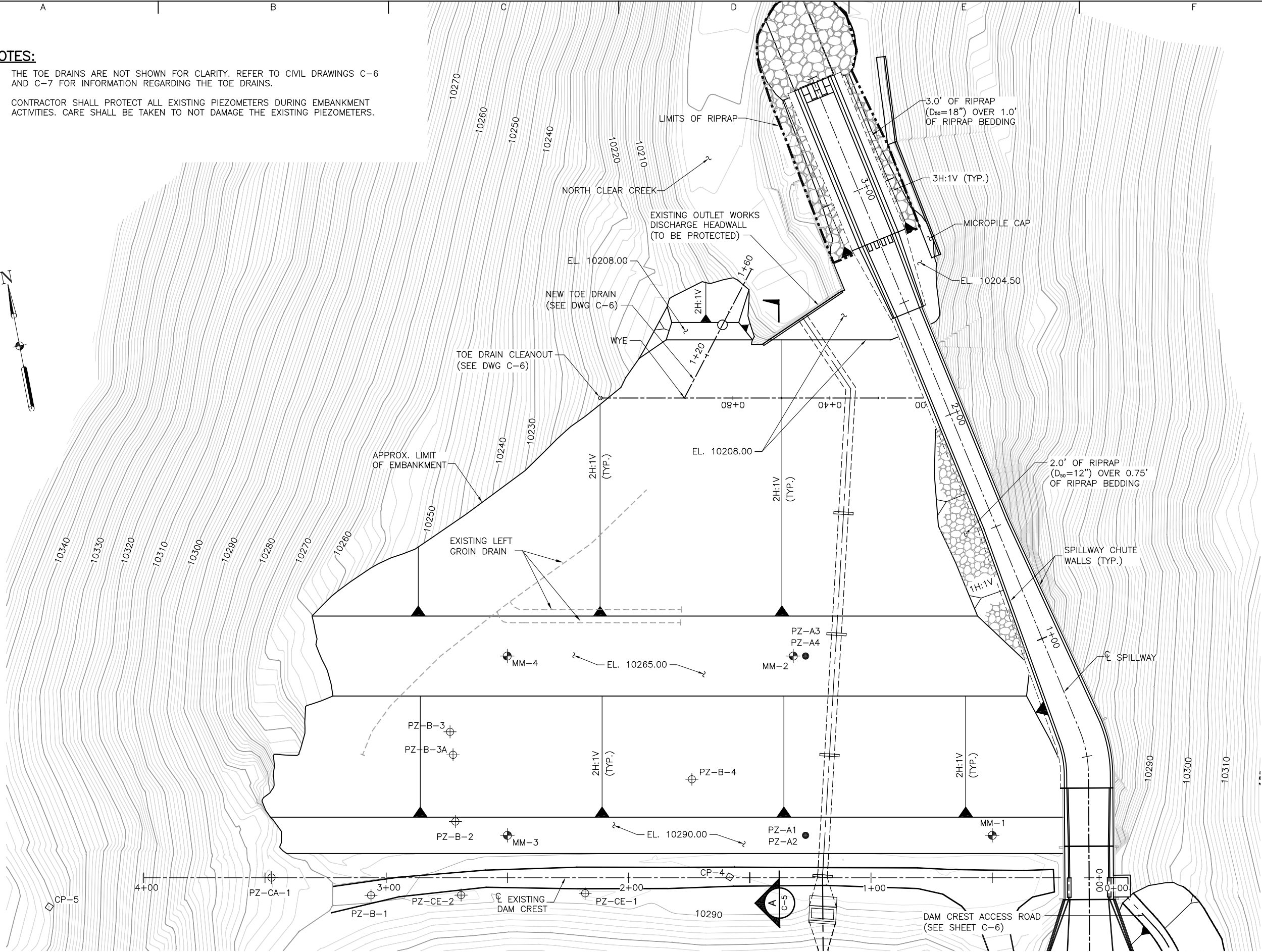
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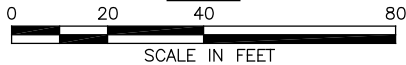
URS

NOTES:

- THE TOE DRAINS ARE NOT SHOWN FOR CLARITY. REFER TO CIVIL DRAWINGS C-6 AND C-7 FOR INFORMATION REGARDING THE TOE DRAINS.
- CONTRACTOR SHALL PROTECT ALL EXISTING PIEZOMETERS DURING EMBANKMENT ACTIVITIES. CARE SHALL BE TAKEN TO NOT DAMAGE THE EXISTING PIEZOMETERS.



PLAN



SEO FILE NO. C-259C

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CONTINENTAL DAM
REHABILITATION

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ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

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URS PROJECT NO:	22241248
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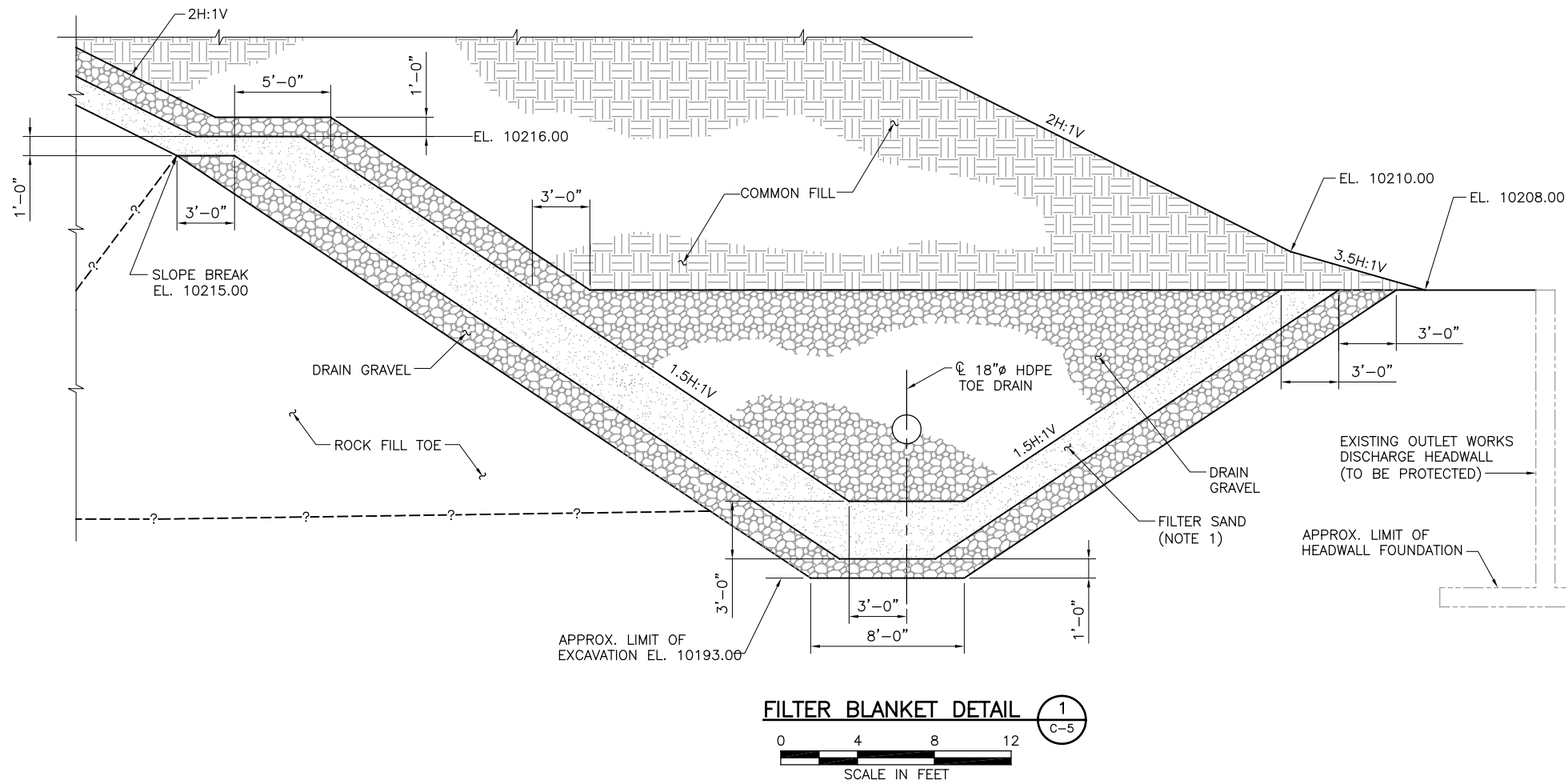
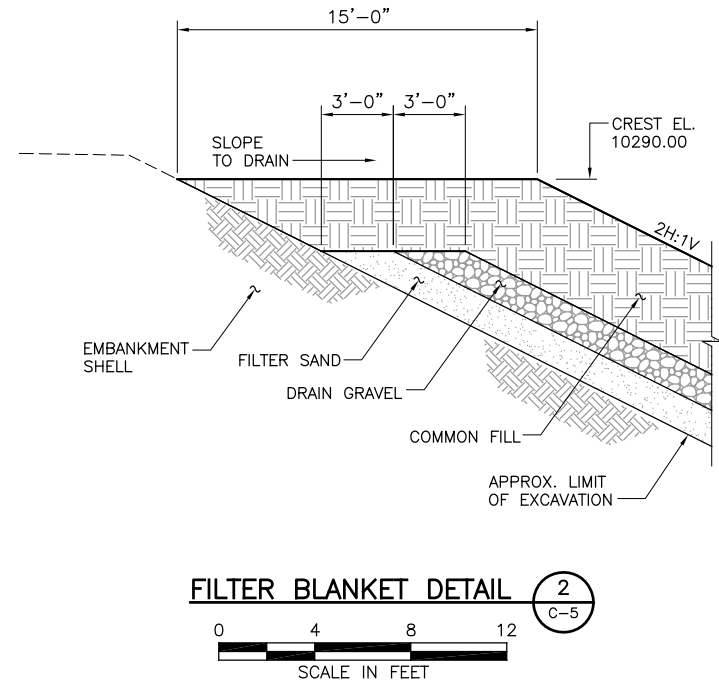
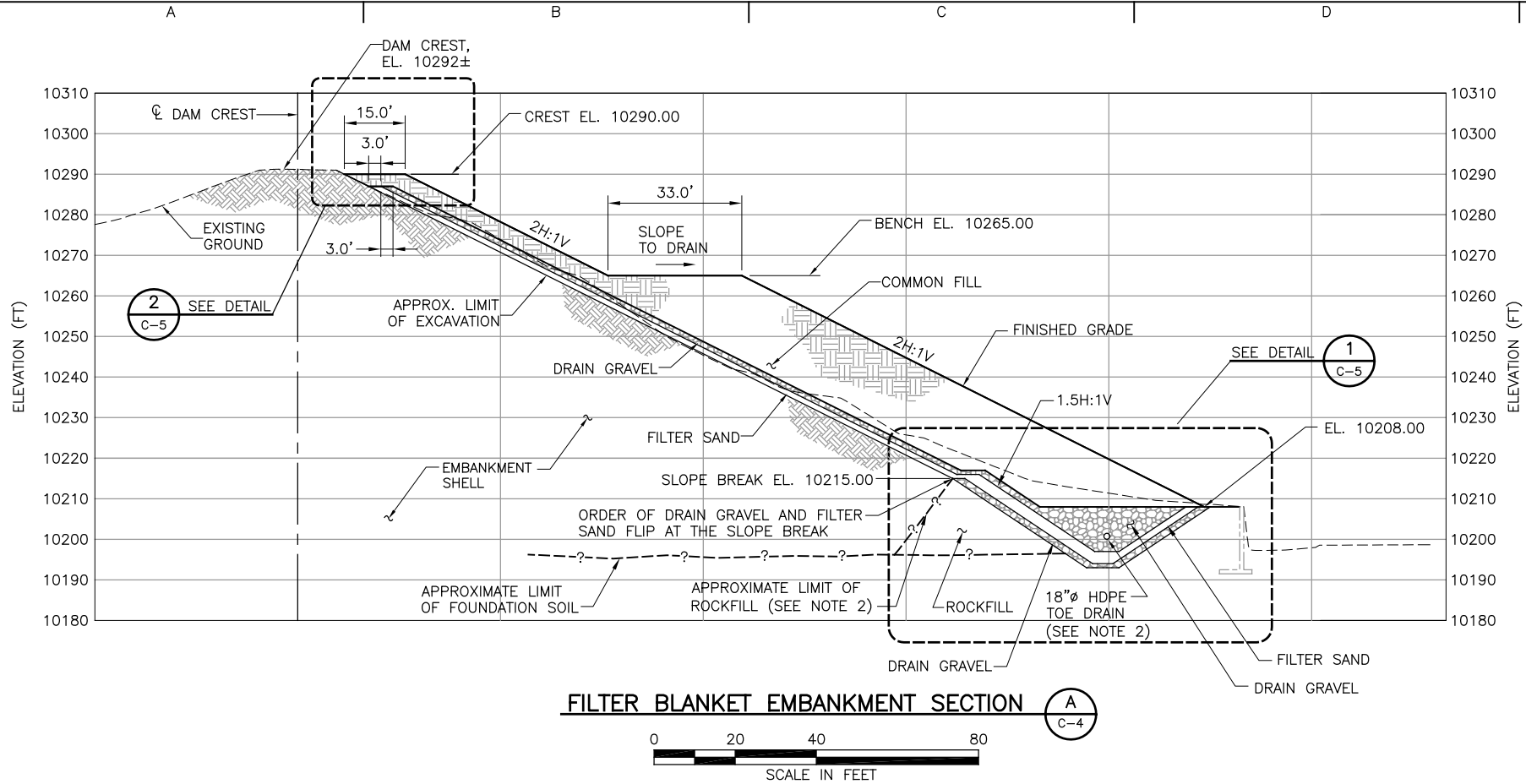
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SPILLWAY AND
EMBANKMENT PLAN

C-4

SHEET 11 OF 34

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- NOTES:**
1. THE FILTER SAND WILL BE 5 FEET THICK (HORIZONTALLY) BELOW START OF ROCKFILL TOE TOWARDS BOTTOM OF EXCAVATED TOE DRAIN TRENCH.
 2. THE ELEVATION OF THE TOE DRAIN IS SHOWN ON DWG. C-6.

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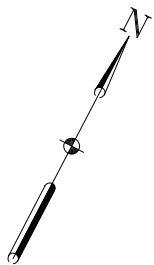
**CONTINENTAL DAM
REHABILITATION**

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REVISIONS		
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URS PROJECT NO: 22241248		
DRAWN BY: WDH		
DESIGNED BY: CJW		
CHECKED BY: EAT		
DATE CREATED: 12/2011		
PLOT DATE: 12/2011		
SCALE: AS SHOWN		
ACAD VER: 2012		
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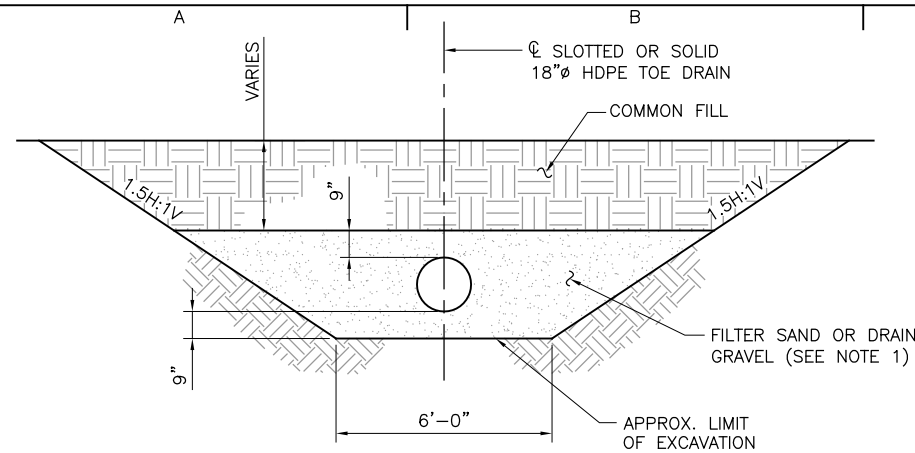
**EMBANKMENT
SECTIONS AND DETAILS**

C-5
SHEET 12 OF 34

SEO FILE NO. C-259C



1. CONTRACTOR SHALL FURNISH AND INSTALL A TRACOM, 3" PARSHALL FLUME, PRE-PACKAGED METERING MANHOLE, OR APPROVED EQUAL. CONTRACTOR SHALL INSTALL THE PRE-PACKAGED METERING MANHOLE ON A LEVEL REINFORCED CONCRETE PAD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. LOCATION OF OUTLET PIPE IS APPROXIMATE. MAINTAIN 9" CLEARANCE BETWEEN TOE DRAIN AND OUTLET PIPE.
3. SOLID HDPE PIPE WILL EXTEND A MINIMUM OF 1 FOOT ON EITHER SIDE OF THE WYE.
4. EXCAVATION LEFT OF SPILLWAY IS ASSUMED TO BE IN ROCK. MAINTAIN A 0.25H:1V SLOPE.

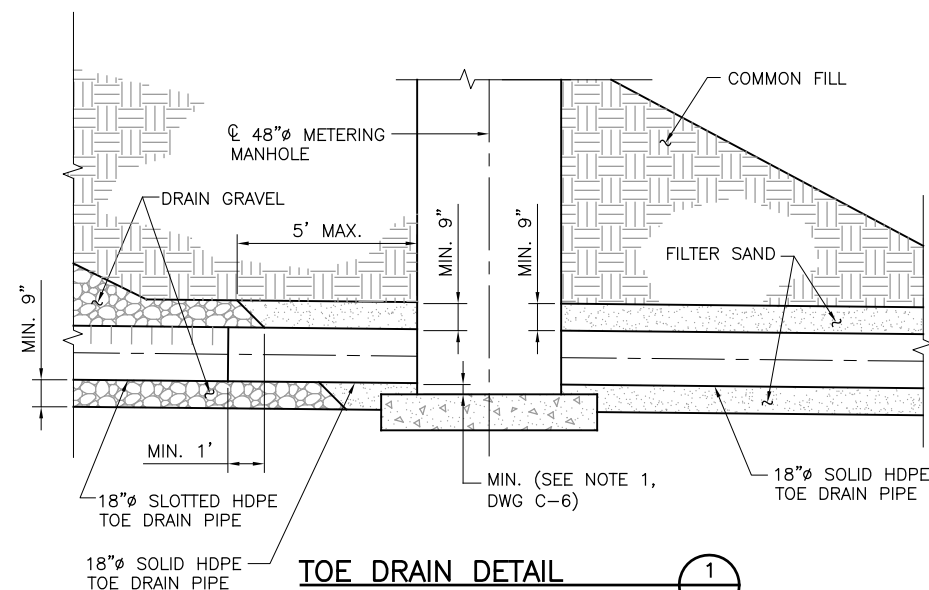


TOE DRAIN TYPICAL SECTION (A)

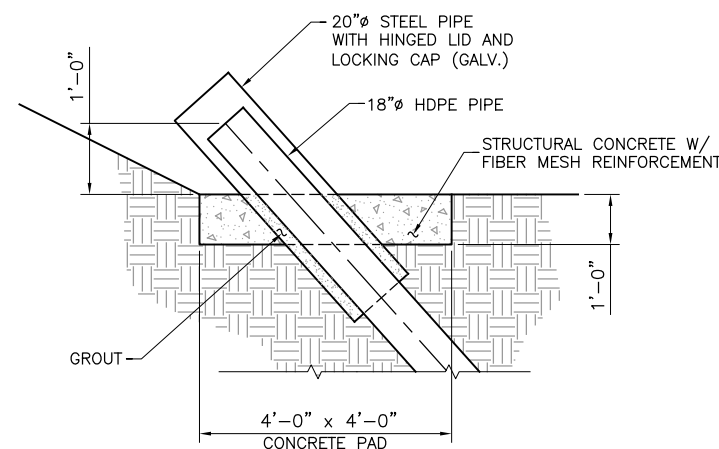
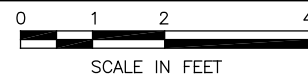


NOTE:

1. DRAIN GRAVEL WILL BE PLACED AROUND SLOTTED TOE DRAIN PIPE AND FILTER SAND WILL BE PLACED AROUND SOLID TOE DRAIN PIPE

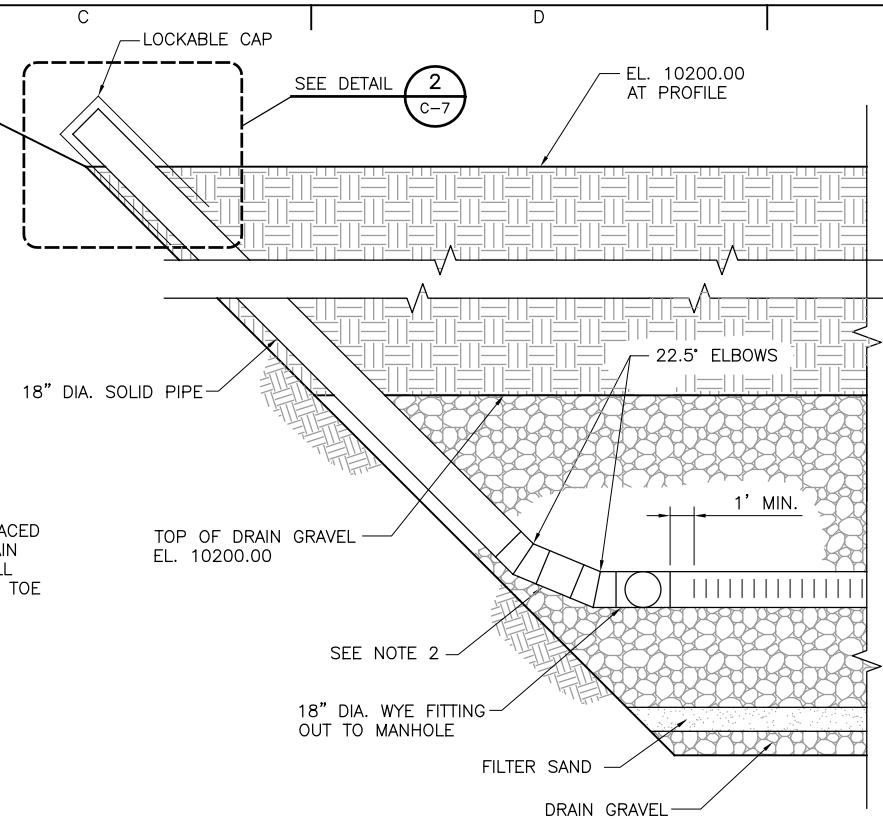


TOE DRAIN DETAIL

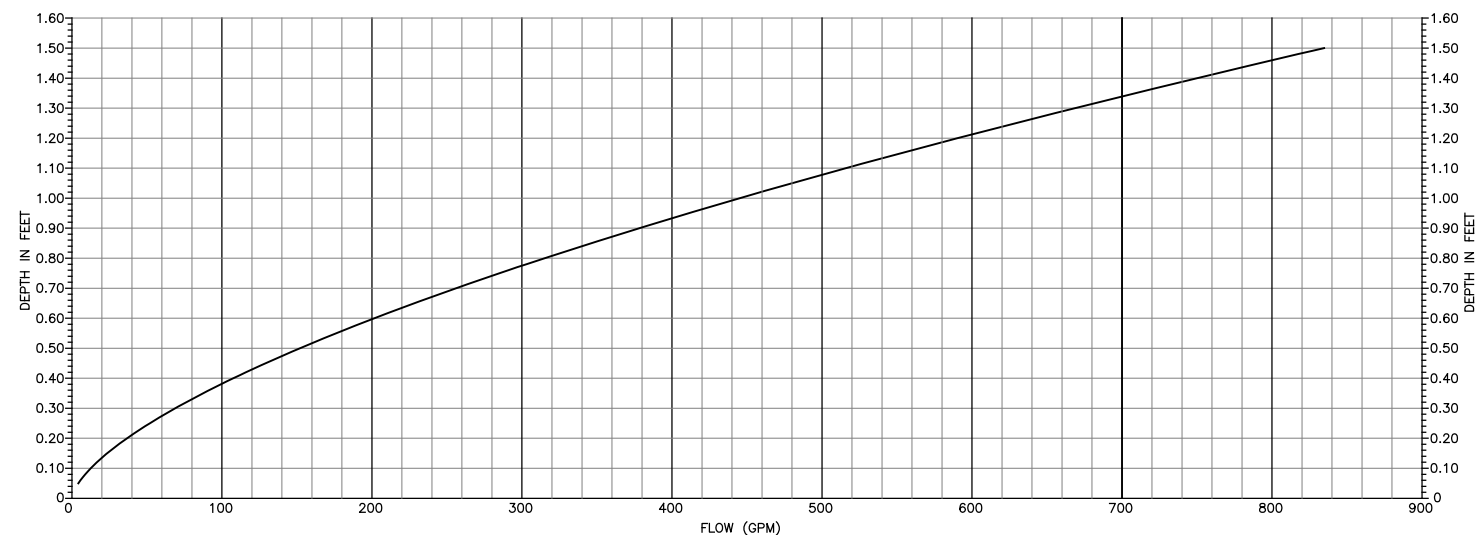
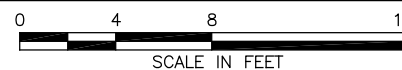


TYPICAL UNDERDRAIN CLEANOUT DETAIL

NOT TO SCALE



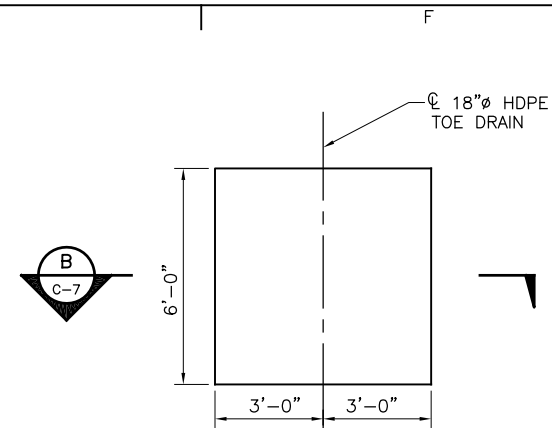
TOE DRAIN CLEANOUT PROFILE



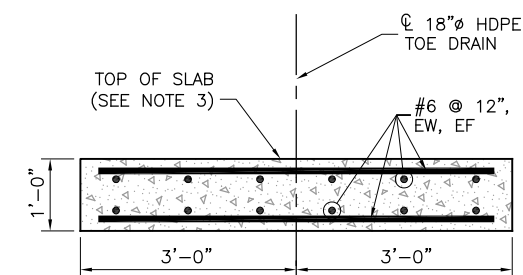
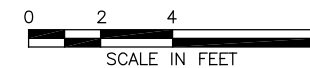
METERING MANHOLE 3" PARSHALL FLUME RATING CURVE

NOTES:

1. REMOVE ALL COMPONENTS OF THE EXISTING DRAIN SYSTEM INCLUDING GRAVEL AND PIPE WITHIN THE LIMITS OF EXCAVATION FOR NEW TOE DRAIN PIPE.
2. 45° BENDS ARE SHOWN FOR LAYOUT ONLY. CONSTRUCT 45° BENDS USING A MAXIMUM OF 22.5 DEGREE ELBOWS. A MINIMUM OF 4- FEET OF STRAIGHT PIPE SHALL BE USED BETWEEN ELBOWS EQUAL TO OR GREATER THAN 22.5°.
3. COORDINATE THE TOP OF METERING MANHOLE SLAB WITH THE METERING MANHOLE MANUFACTURER TO KEEP THE TOE DRAIN PIPE ON LINE AND GRADE. CONSTRUCT THE METERING MANHOLE SLAB SUCH THAT THE SURFACE IS COMPLETELY LEVEL IN ACCORDANCE WITH THE METERING MANHOLE MANUFACTURER'S RECOMMENDATIONS.



METERING MANHOLE SLAB PLAN



METERING MANHOLE SLAB SECTION



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CONTINENTAL DAM REHABILITATION

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DATE BY

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REVISIONS

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URS PROJECT NO:	22241248
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DRAWN BY:	WDH
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DESIGNED BY:	CJW
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CHECKED BY:	EAT
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DATE CREATED:	12/2011
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PLOT DATE:	12/2011
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SCALE: AS SHOWN

ACAD VER:	2012
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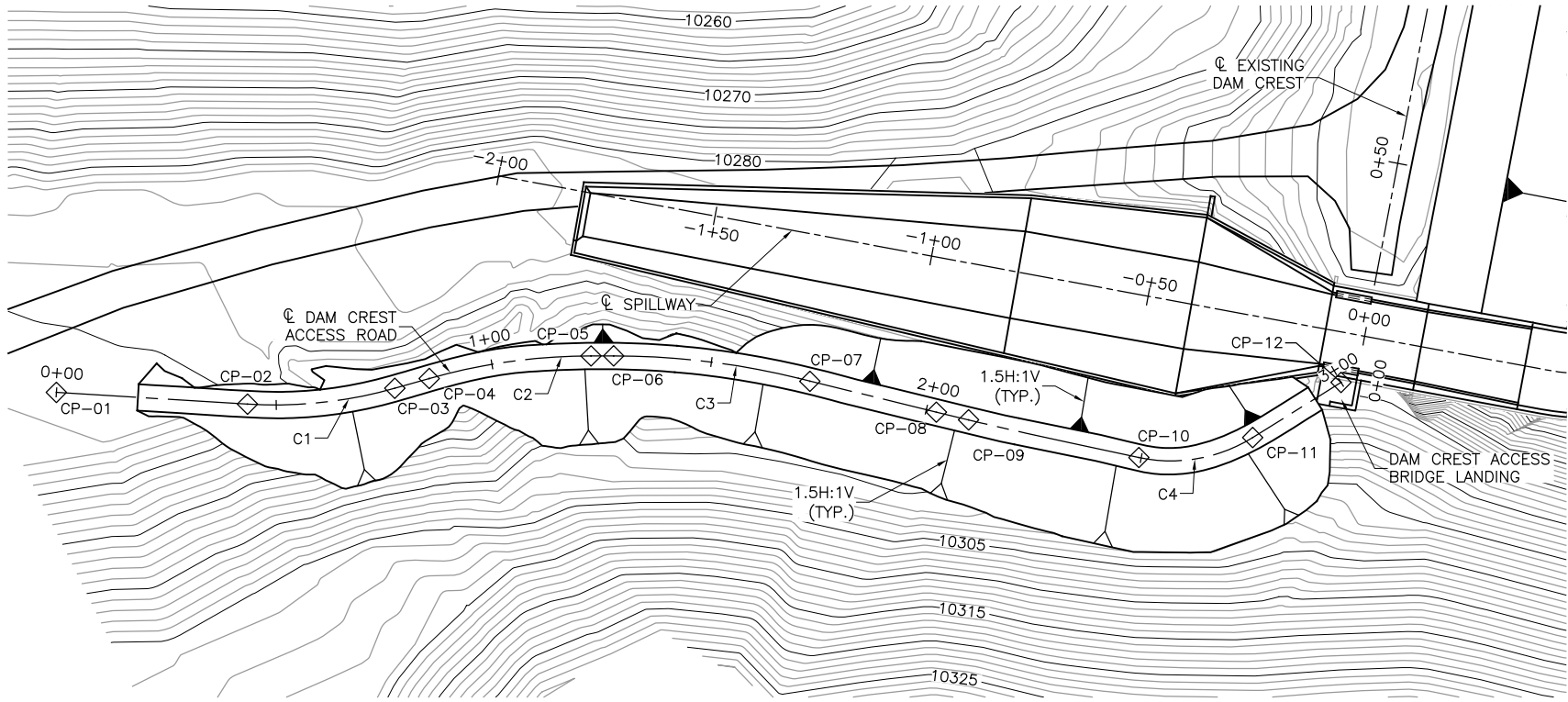
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5 TOE DRAIN SECTIONS AND DETAILS

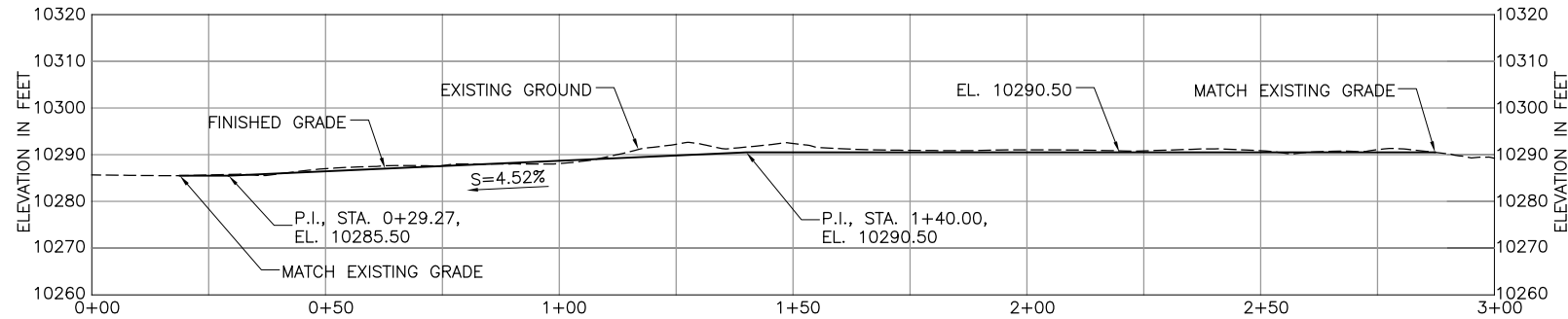
C-7

SHEET 14 OF 34

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DAM CREST ACCESS ROAD PLAN

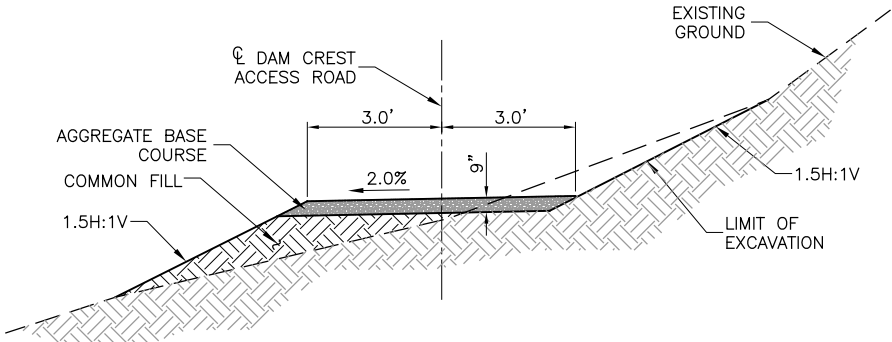


DAM CREST ACCESS ROAD PROFILE



DAM CREST ACCESS ROAD CONTROL POINTS			
CONTROL POINT	NORTHING (FT)	NORTHING (FT)	STATION (FT)
CP-01	448634.72	507961.16	0+00.00
CP-02	448678.11	507963.23	0+43.47
CP-03	448711.56	507960.23	0+77.72
CP-04	448719.37	507958.02	0+85.39
CP-05	448756.10	507952.89	1+22.59
CP-06	448761.24	507952.89	1+27.74
CP-07	448803.19	507957.95	1+70.09
CP-08	448834.51	507965.66	2+02.35
CP-09	448864.76	507972.60	2+33.39
CP-10	448880.49	507975.96	2+49.47
CP-11	448906.32	507971.42	2+76.35
CP-12	448926.38	507958.90	3+00.00

DAM CREST ACCESS ROAD CURVE TABLE			
CURVE NUMBER	PC POINT	PT POINT	RADIUS (FT)
C1	CP-02	CP-03	100.00
C2	CP-04	CP-05	135.00
C3	CP-06	CP-07	175.00
C4	CP-10	CP-11	35.00



DAM CREST ACCESS ROAD TYPICAL SECTION A
C-8

NOTES:

- STRIP VEGETATION, ROOTS, AND ANY OTHER DELETERIOUS MATERIAL TO THE NOMINAL 6-INCH DEPTH. ACTUAL STRIPPING MAY VARY, AS DIRECTED BY THE ENGINEER.
- FINISHED GRADE IS AT THE TOP OF THE TOPSOIL AND AGGREGATE BASE COURSE LAYERS. THE TOPSOIL AND AGGREGATE BASE COURSE LAYERS ARE NOT SHOWN IN THE PROFILE FOR CLARITY.

SEO FILE NO. C-259C

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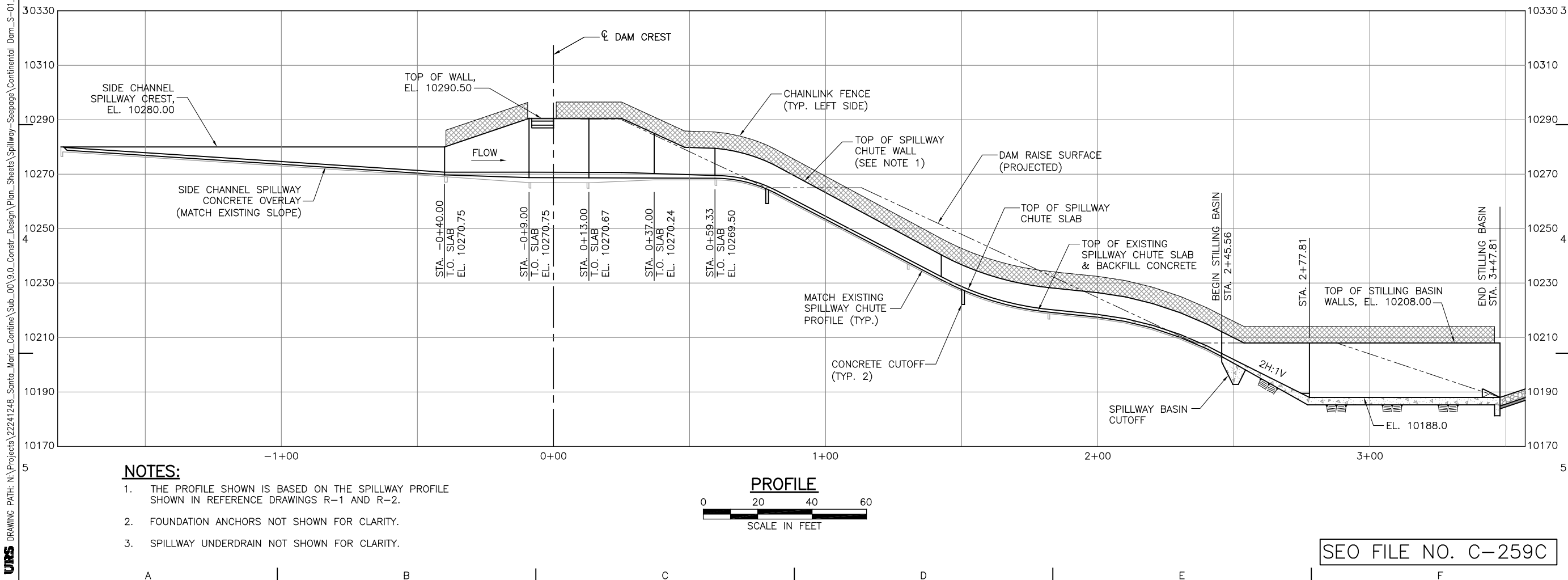
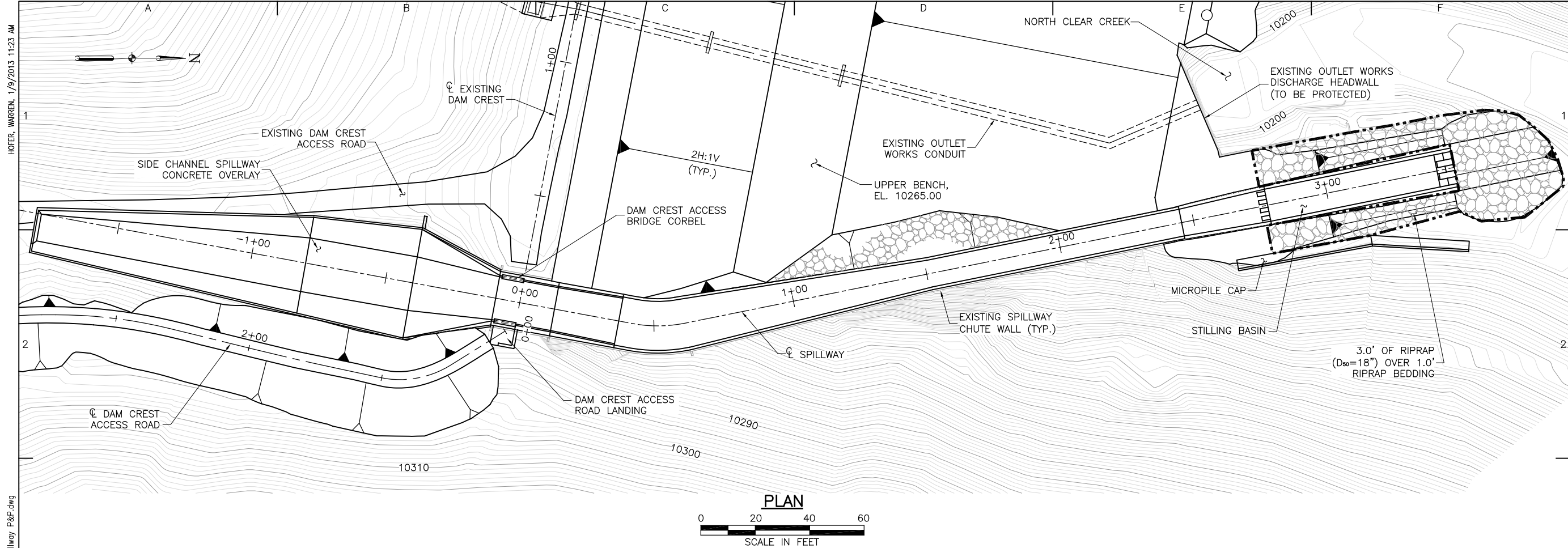
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DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	EAT
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
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DAM CREST
ACCESS ROAD
PLAN, PROFILE
AND SECTIONS

C-8

SHEET 15 OF 34



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**CONTINENTAL DAM
REHABILITATION**

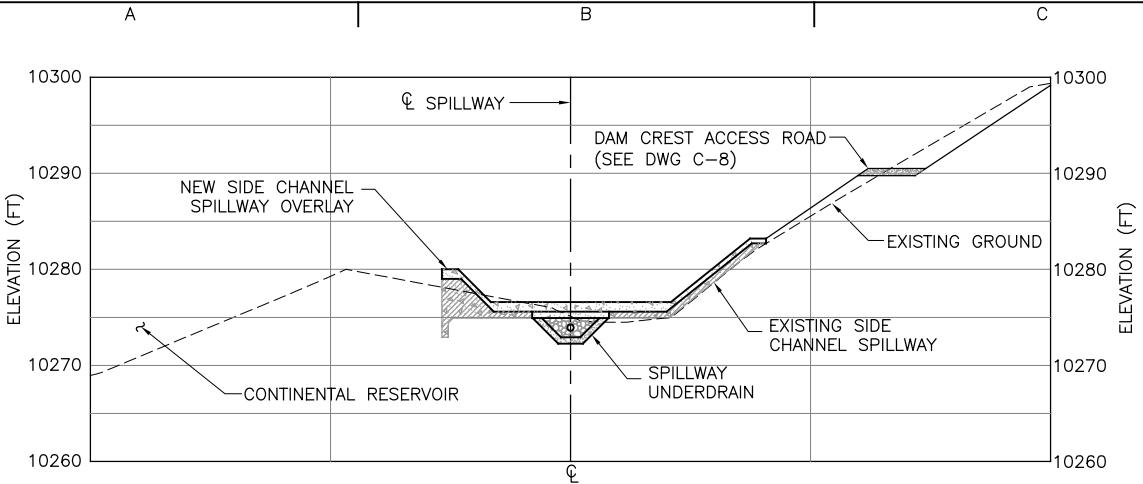
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URS PROJECT NO: 22241248		
DRAWN BY: WDH		
DESIGNED BY: CJW		
CHECKED BY: CBG		
DATE CREATED: 12/2011		
PLOT DATE: 12/2011		
SCALE: AS SHOWN		
ACAD VER: 2012		
DRAWING TITLE		

**SPILLWAY
PLAN AND PROFILE**

S-1

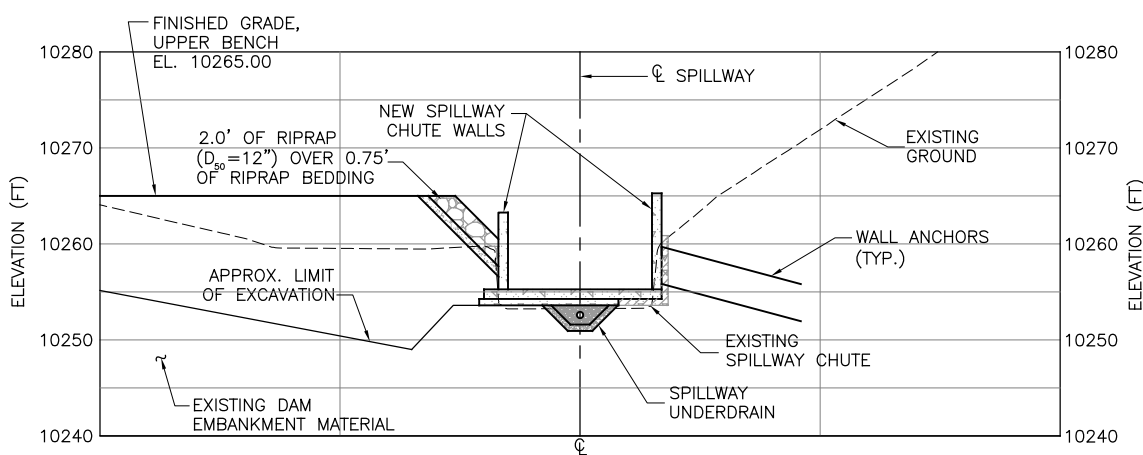
SHEET 16 OF 34

HOER, WARREN, 1/9/2013 11:23 AM
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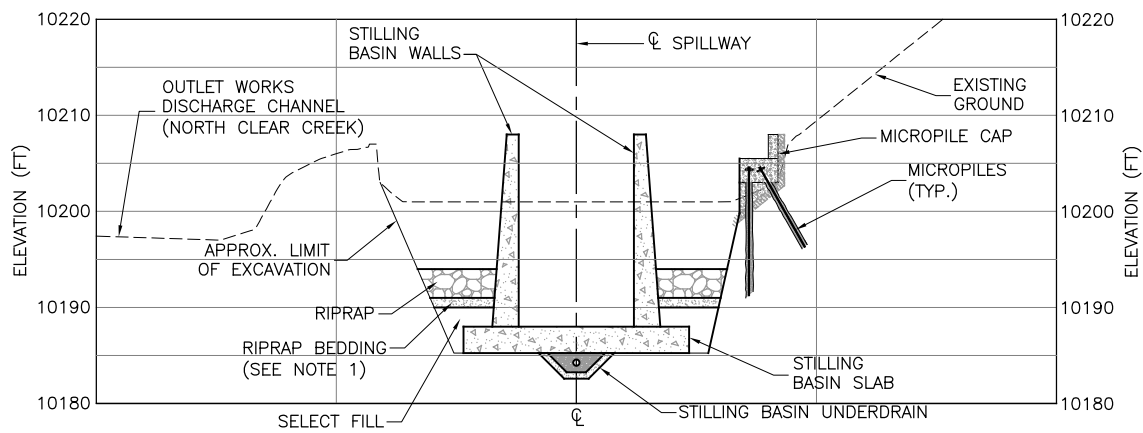
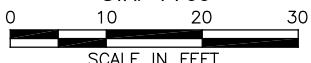
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STA. -1+00



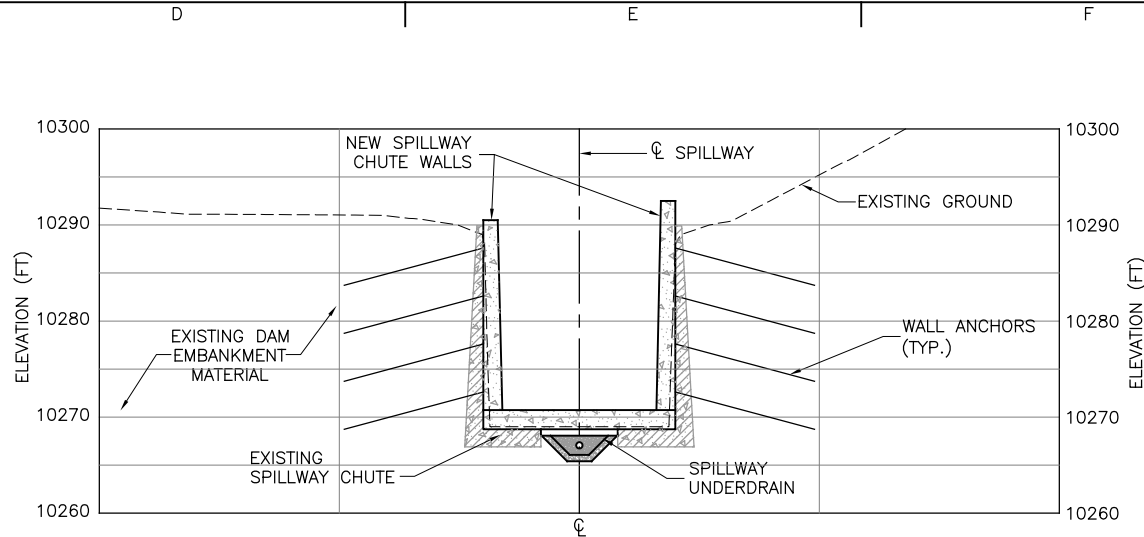
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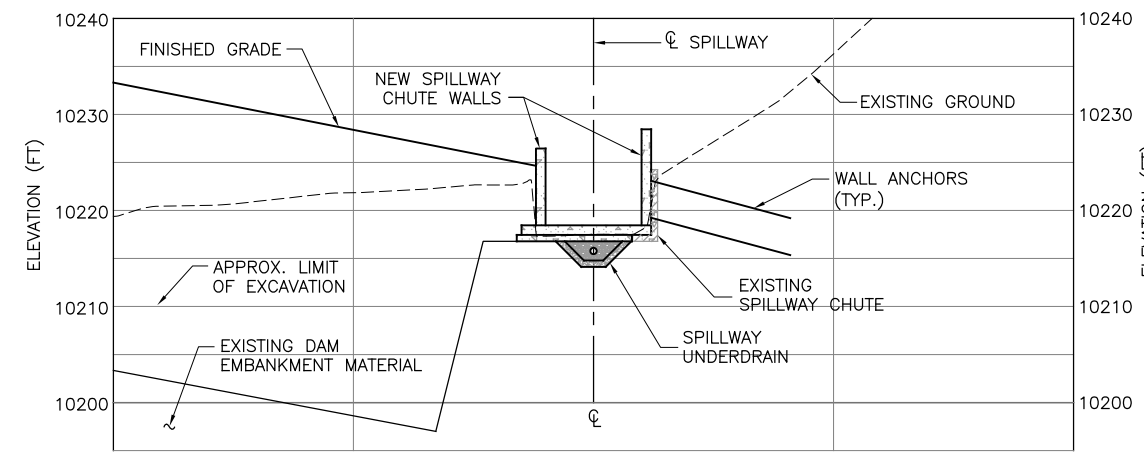
SPILLWAY SECTION

STA. 3+00



SPILLWAY SECTION

STA. 0+00



SPILLWAY SECTION

STA. 2+00



NOTES:

1. RIPRAP BEDDING IS NOT REQUIRED WHERE RIPRAP IS TO BE PLACED AGAINST AN EXCAVATED ROCK SURFACE, AS APPROVED BY THE ENGINEER.
2. FOUNDATION ANCHORS NOT SHOWN FOR CLARITY.
3. THE SECTIONS ABOVE ARE SHOWN LOOKING DOWNSTREAM.
4. CHAINLINK FENCE NOT SHOWN ON SPILLWAY CHUTE WALLS.



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CONTINENTAL DAM
REHABILITATION

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

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URS PROJECT NO:	22241248
DRAWN BY:	WDH
DESIGNED BY:	CJW
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DATE CREATED:	12/2011
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SCALE:	AS SHOWN
ACAD VER:	2012

DRAWING TITLE

SPILLWAY SECTIONS

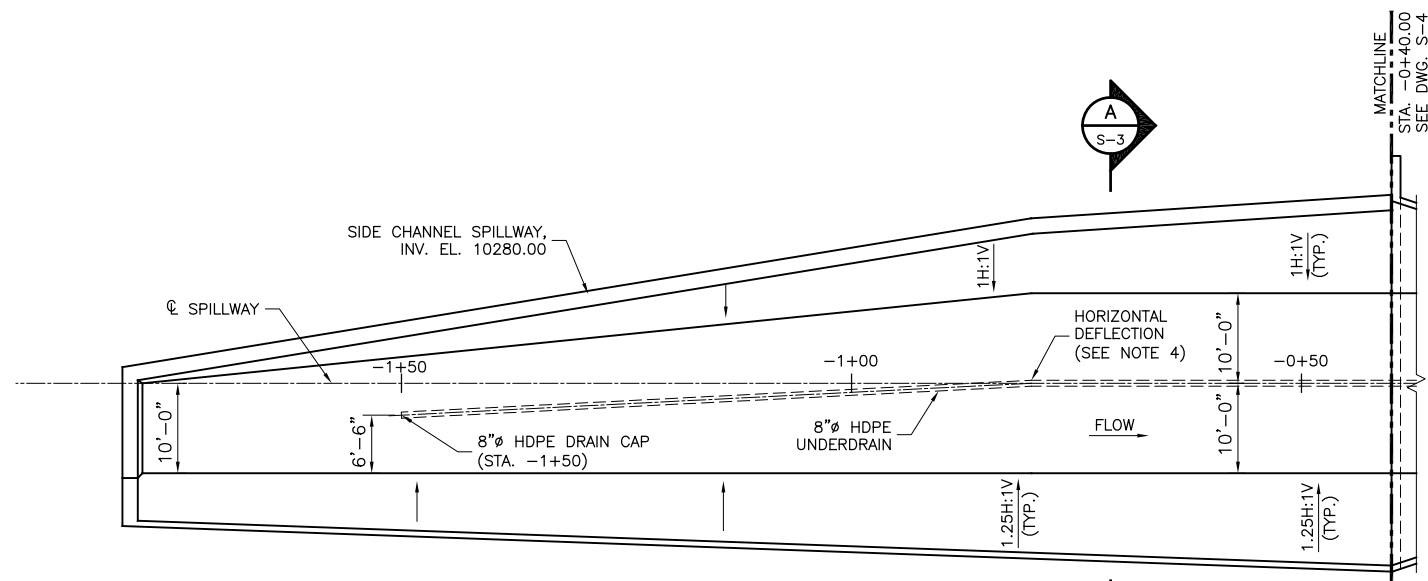
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SHEET 17 OF 34

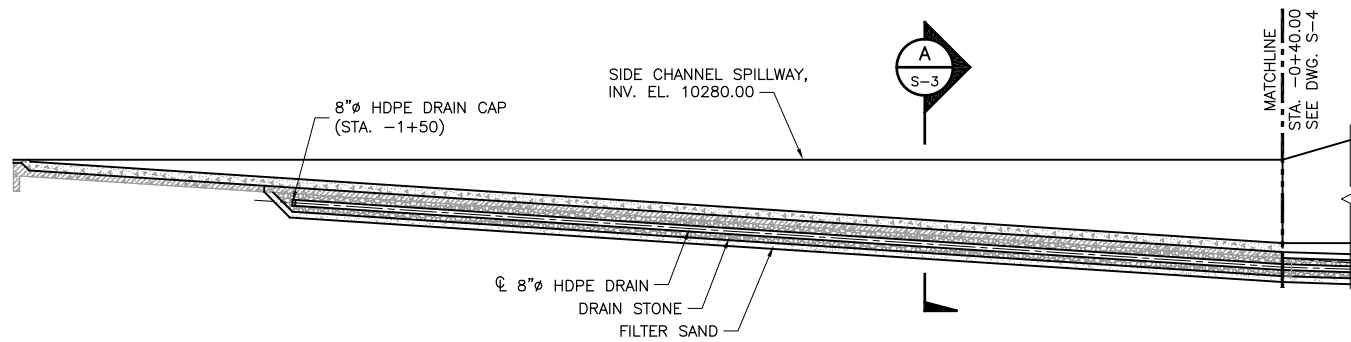
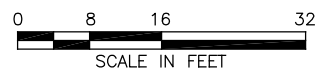
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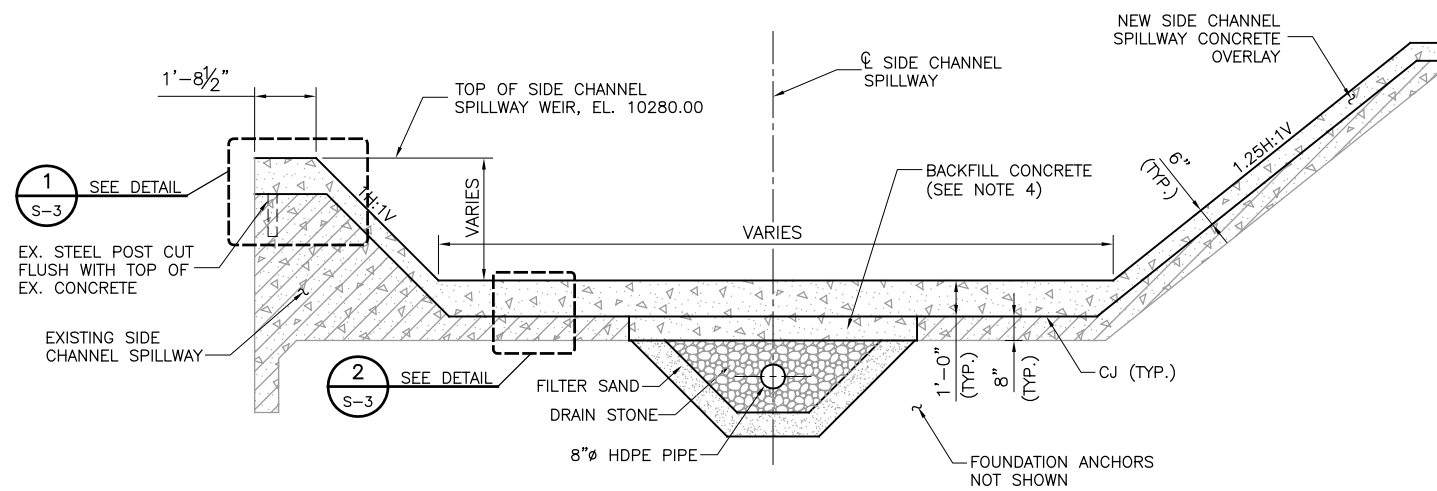
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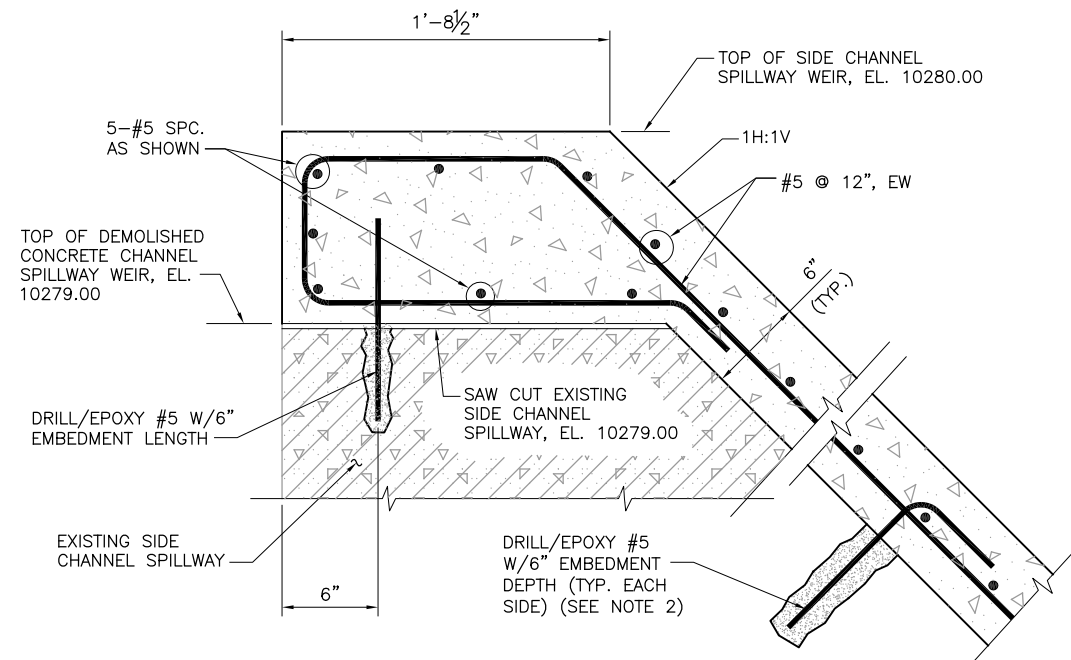
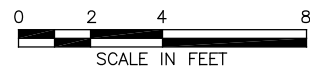
SIDE CHANNEL SPILLWAY PLAN



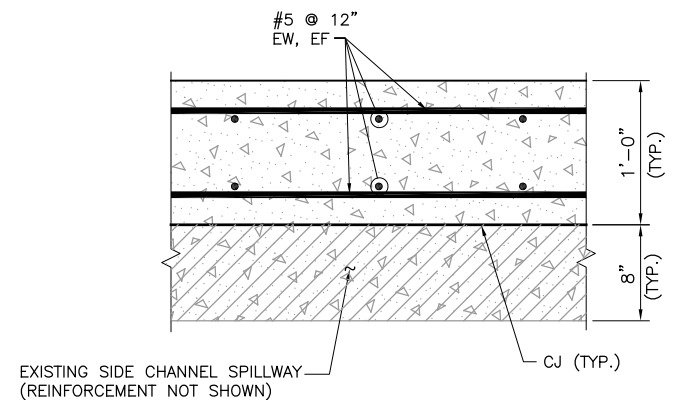
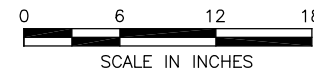
SIDE CHANNEL SPILLWAY C PROFILE



SIDE CHANNEL SPILLWAY TYPICAL SECTION



SIDE CHANNEL SPILLWAY WEIR DETAIL



SIDE CHANNEL SPILLWAY TYPICAL DETAIL



NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- CONTRACTOR SHALL DRILL AND EPOXY #5 BARS USING A 5-FOOT STAGGERED PATTERN ON SIDE SLOPES. THE 5-FOOT BY 5-FOOT STAGGERED PATTERN SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANCHOR INSTALLATION.
- THE LATERAL CONTROL JOINTS WITH 6" WATERSTOPS IN THE NEW SIDE CHANNEL SPILLWAY SLAB ARE TO LINEUP WITH THE JOINTS IN THE EXISTING SIDE CHANNEL SPILLWAY SLAB. THE MAXIMUM DISTANCE BETWEEN LATERAL CONTROL JOINTS SHALL NOT EXCEED 20'-0", UNLESS APPROVED IN ADVANCE BY THE ENGINEER.
- PLACE BURLAP BENEATH THE BACKFILL CONCRETE TO PREVENT CONTAMINATION OF THE DRAIN STONE AND FILTER SAND. PLACE BACKFILL CONCRETE TO THE TOP OF THE EXISTING SIDE CHANNEL SPILLWAY SLAB.
- SIDE SLOPE CONCRETE SHALL BE FORMED WITH WINDOWS FOR OBSERVATION.

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COMPANY**

**CONTINENTAL DAM
REHABILITATION**

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

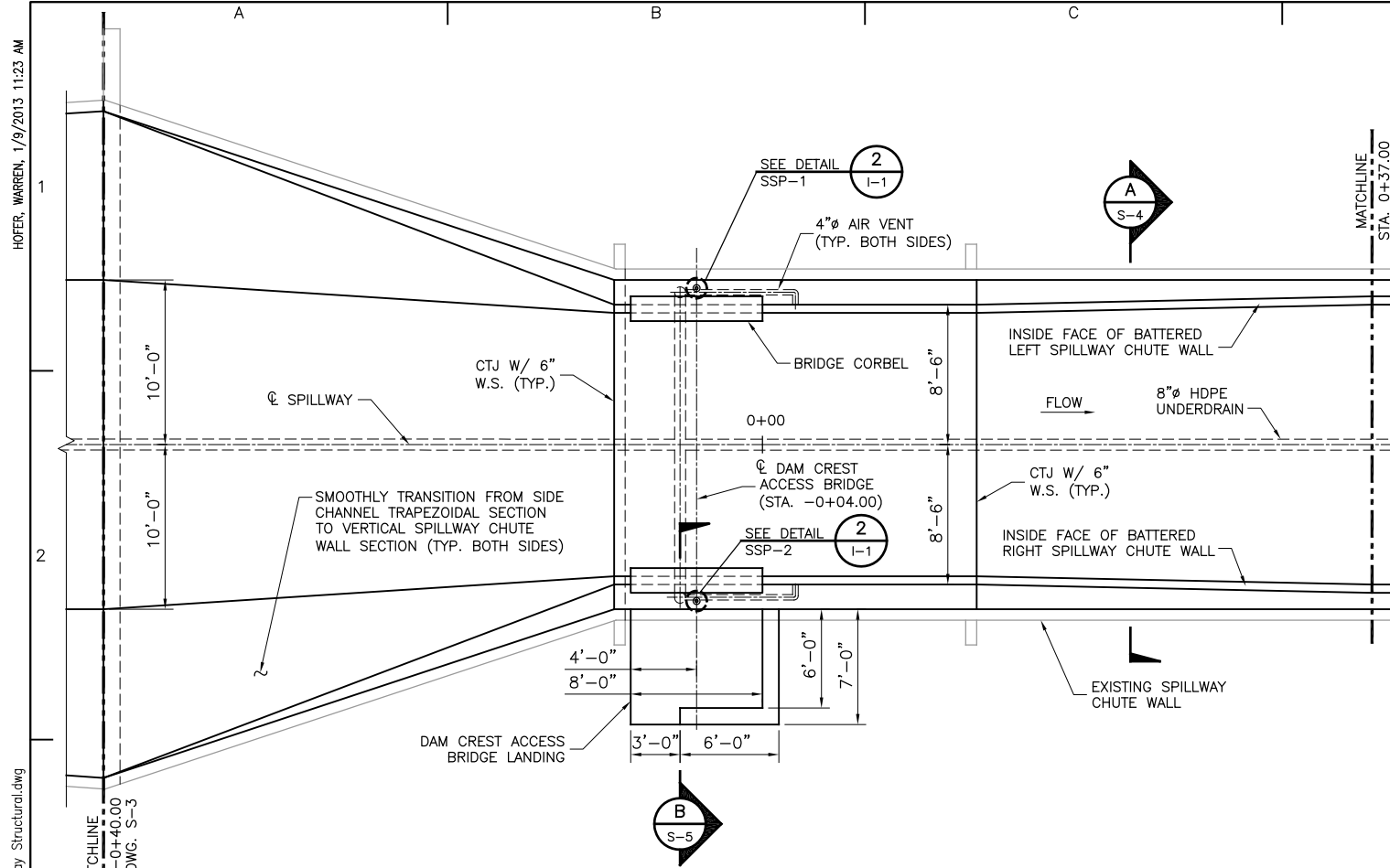
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URS PROJECT NO:	22241248
DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	CBG
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012
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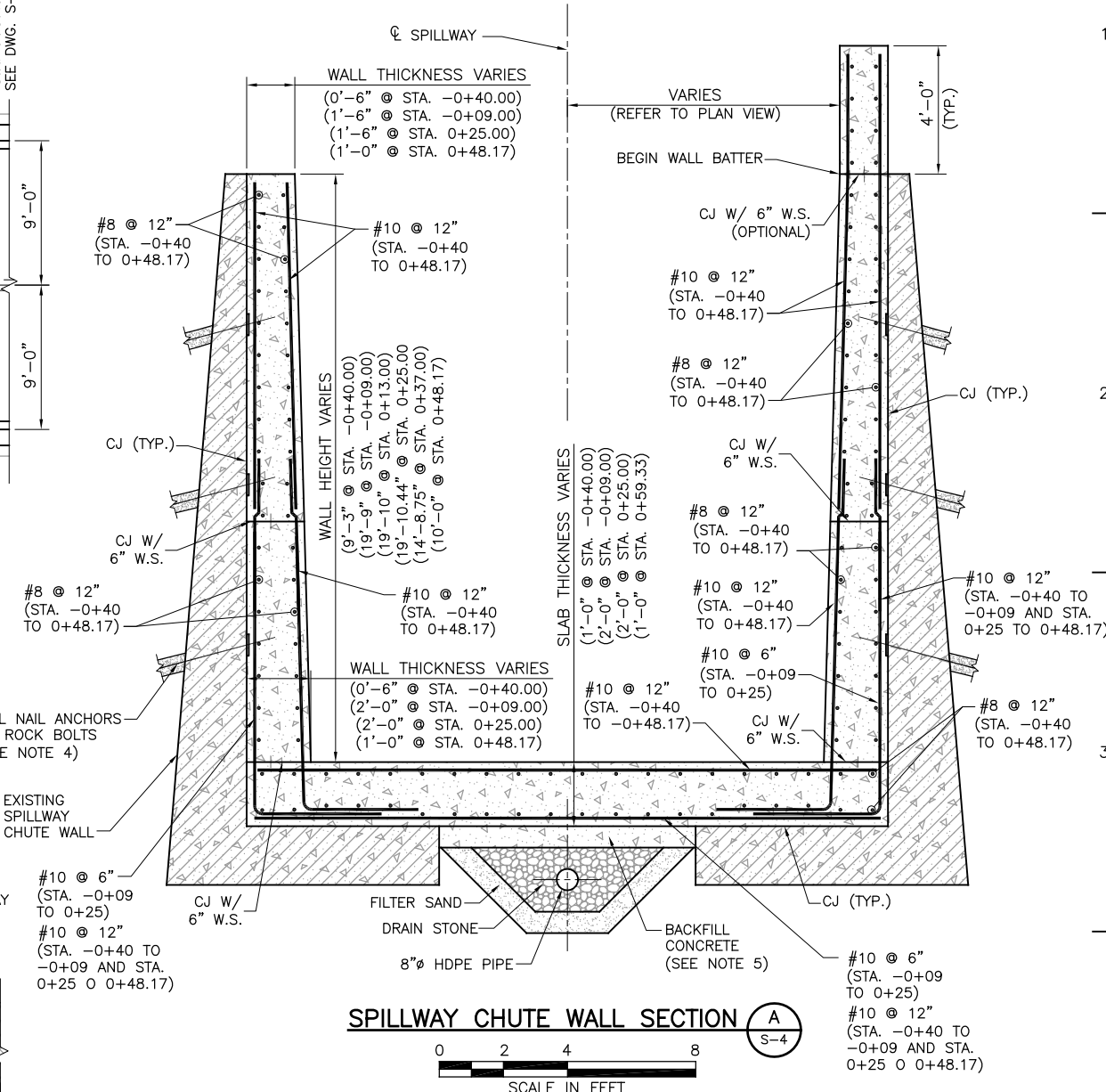
**SPILLWAY
SIDE CHANNEL
PLAN, PROFILE,
SECTION AND
DETAILS**

S-3

SHEET 18 OF 34



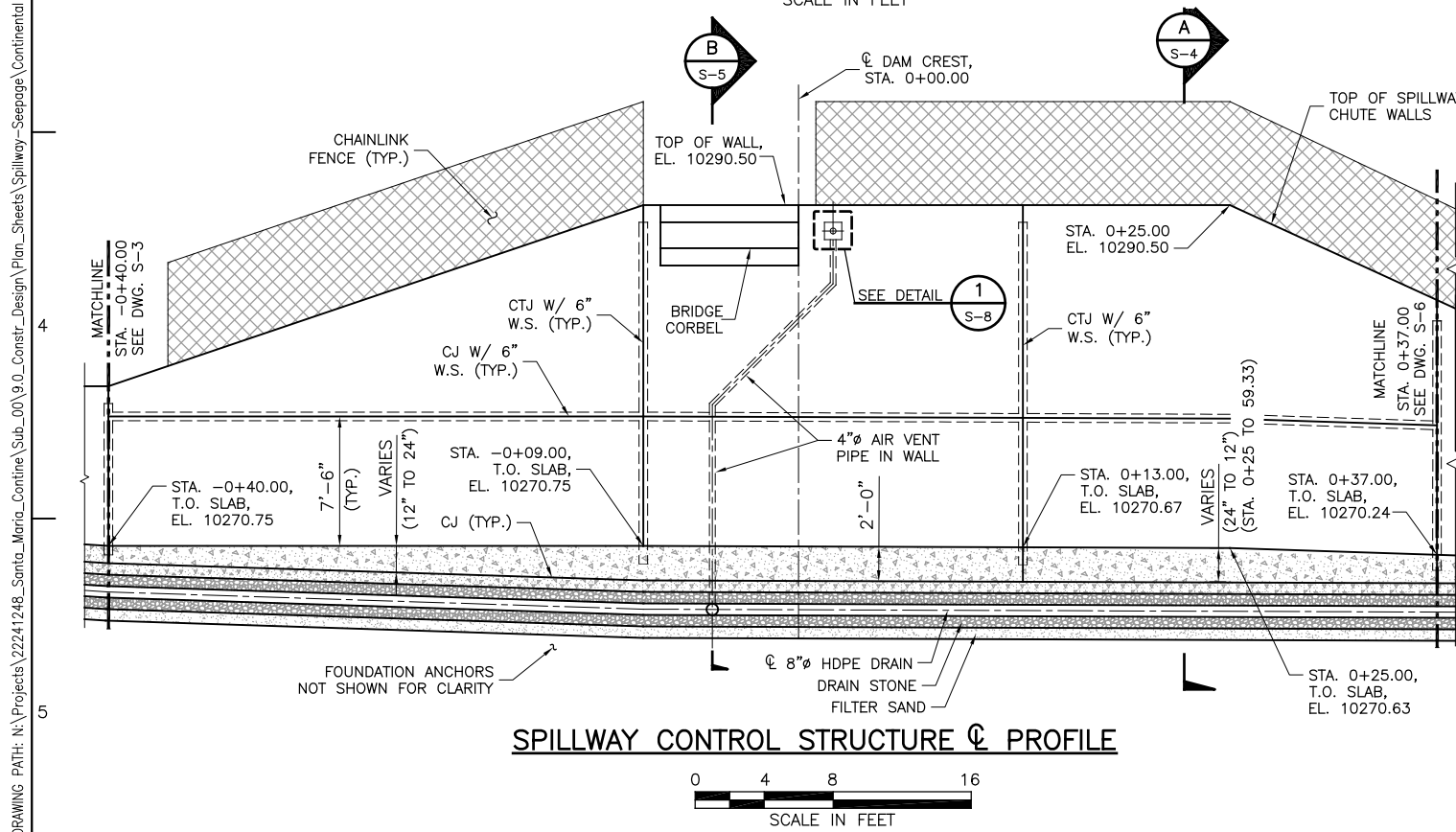
SPILLWAY CONTROL STRUCTURE PLAN



SPILLWAY CHUTE WALL SECTION A

NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- WALL HEIGHT DIMENSIONS SHOWN ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB. THE SLAB DIMENSIONS SHOWN ARE NORMAL TO THE SPILLWAY CHUTE SLAB.
- THE LATERAL CONTROL JOINTS AND 6" WATERSTOP IN THE NEW SPILLWAY CHUTE SLAB AND WALLS ARE TO LINEUP WITH THE JOINTS IN THE EXISTING SPILLWAY CHUTE SLAB AND WALLS. THE MAXIMUM DISTANCE BETWEEN LATERAL CONTROL JOINTS SHALL NOT EXCEED 20'-0", UNLESS APPROVED IN ADVANCE BY THE ENGINEER.
- SOIL NAIL ANCHORS AND ROCK BOLTS ARE SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS S-13 AND S-14 FOR INFORMATION REGARDING THE SOIL NAIL ANCHORS AND ROCK BOLTS.
- PLACE BURLAP BENEATH THE BACKFILL CONCRETE TO PREVENT CONTAMINATION OF THE DRAIN STONE AND FILTER SAND. PLACE BACKFILL CONCRETE TO THE TOP OF THE EXISTING SPILLWAY CHUTE SLAB.
- CHAINLINK FENCE IS LOCATED ON THE TOP OF THE LEFT AND RIGHT SPILLWAY CHUTE WALLS. REFER TO STUCTURAL DRAWING S-16 FOR INFORMATION REGARDING CHAINLINK FENCE DETAILS.



SPILLWAY CONTROL STRUCTURE PROFILE



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PLOT DATE:	12/2011
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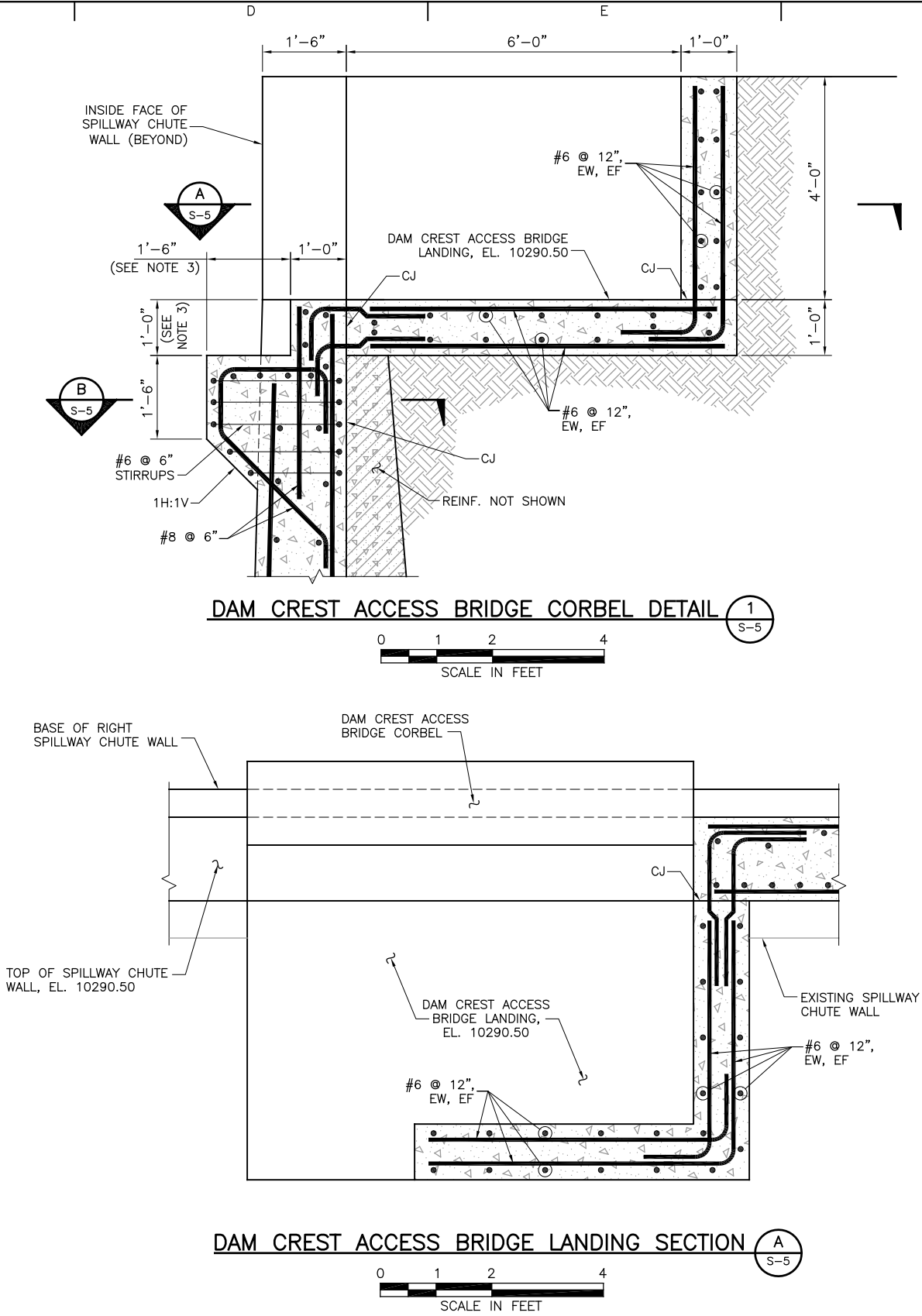
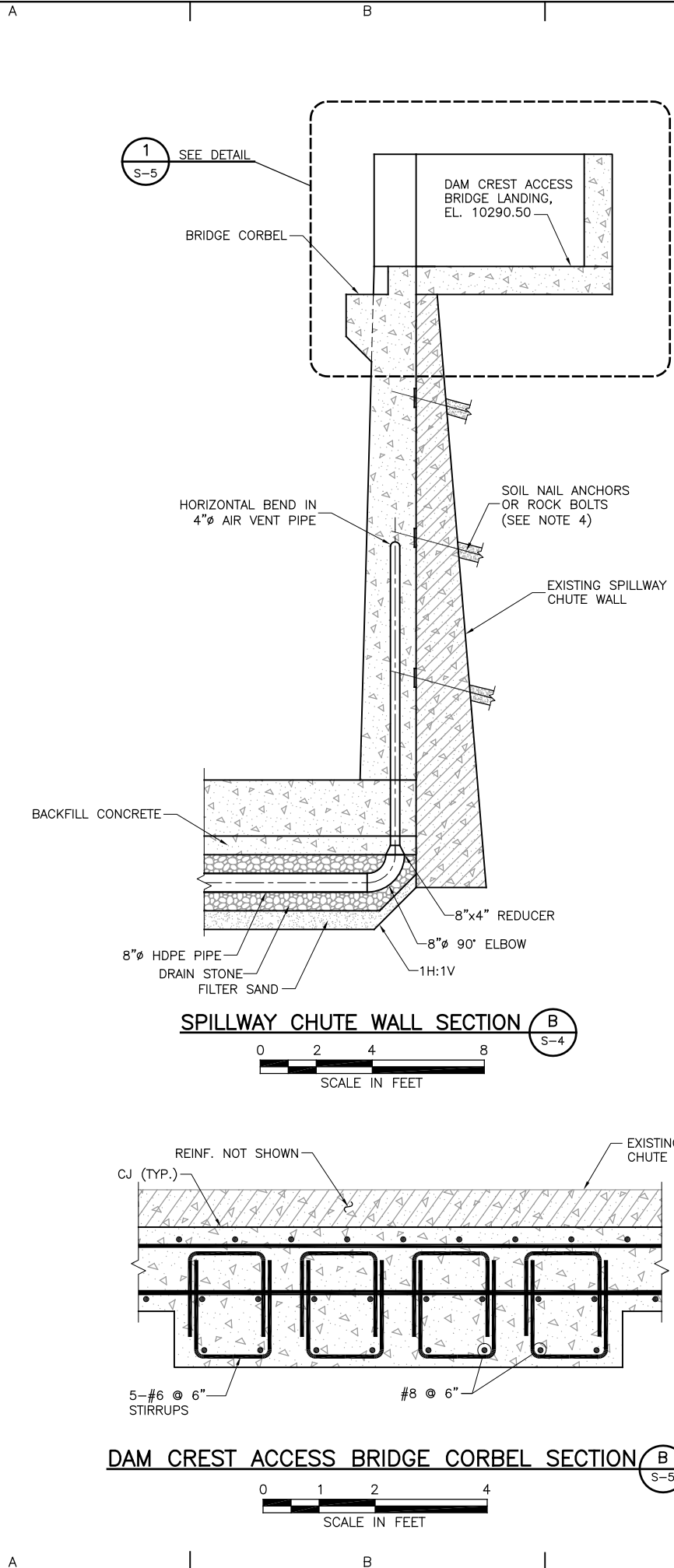
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SPILLWAY CONTROL
STRUCTURE
PLAN, PROFILE AND
SECTION

S-4

SEO FILE NO. C-259C

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NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PREFABRICATED DAM CREST ACCESS BRIDGE TO THE ENGINEER FOR APPROVAL.
- THE DIMENSIONS SHOWN FOR THE DAM CREST ACCESS BRIDGE CORBELS ARE CONTINGENT UPON THE PREFABRICATED DAM CREST ACCESS BRIDGE DESIGN. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS FOR THE PREFABRICATED DAM CREST ACCESS BRIDGE.
- SOIL NAIL ANCHORS AND ROCK BOLTS ARE SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS S-13 AND S-14 FOR INFORMATION REGARDING THE SOIL NAIL ANCHORS AND ROCK BOLTS

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REHABILITATION**

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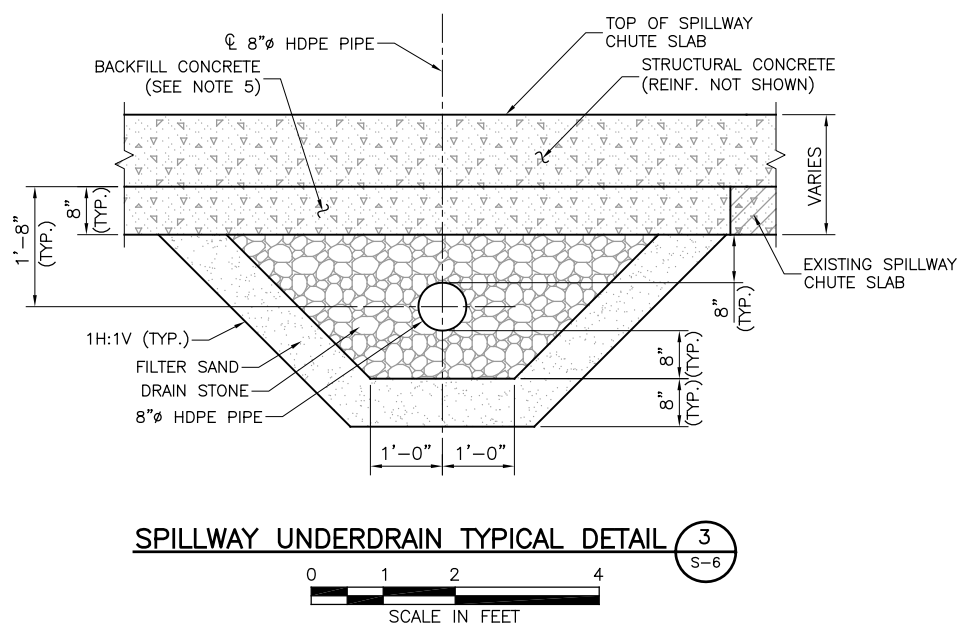
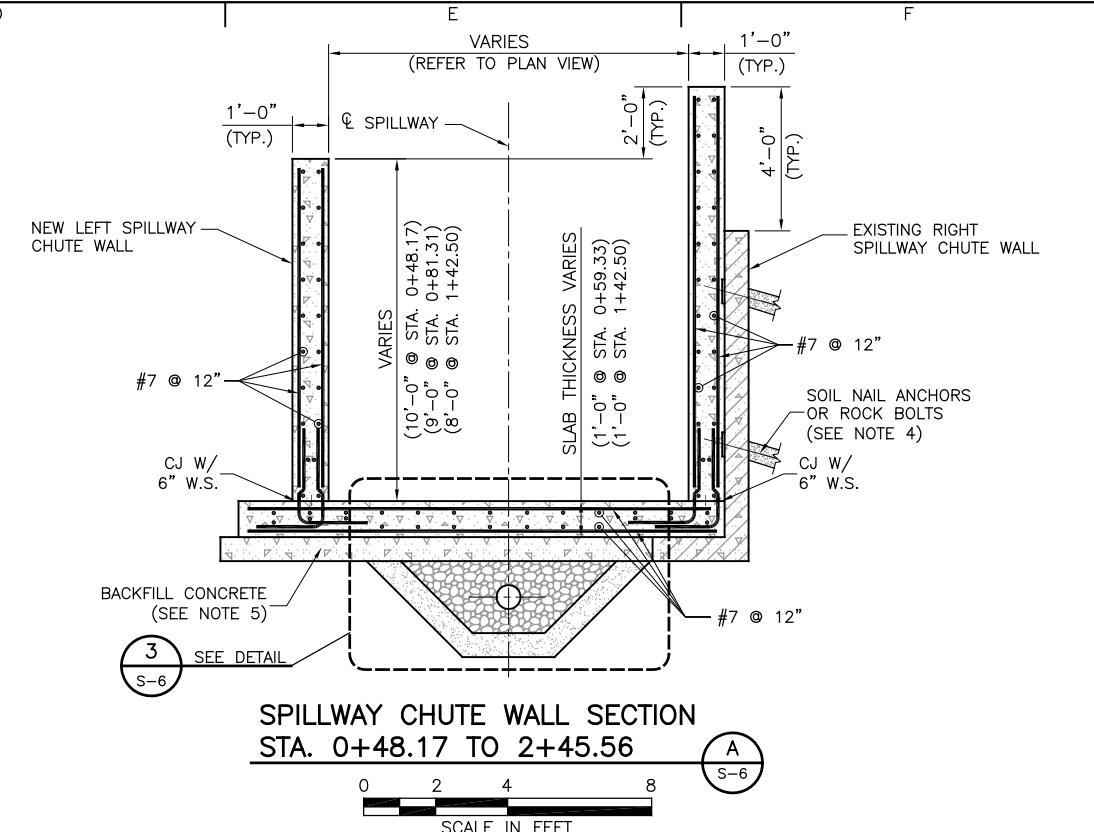
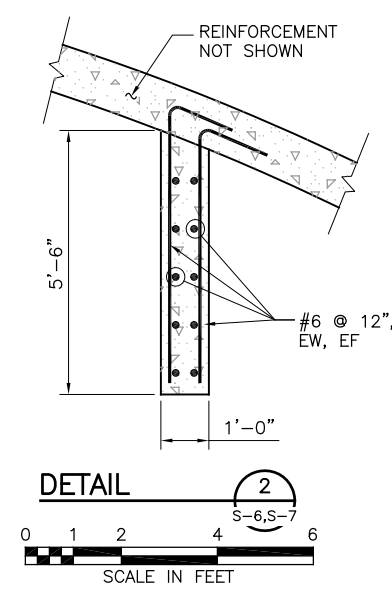
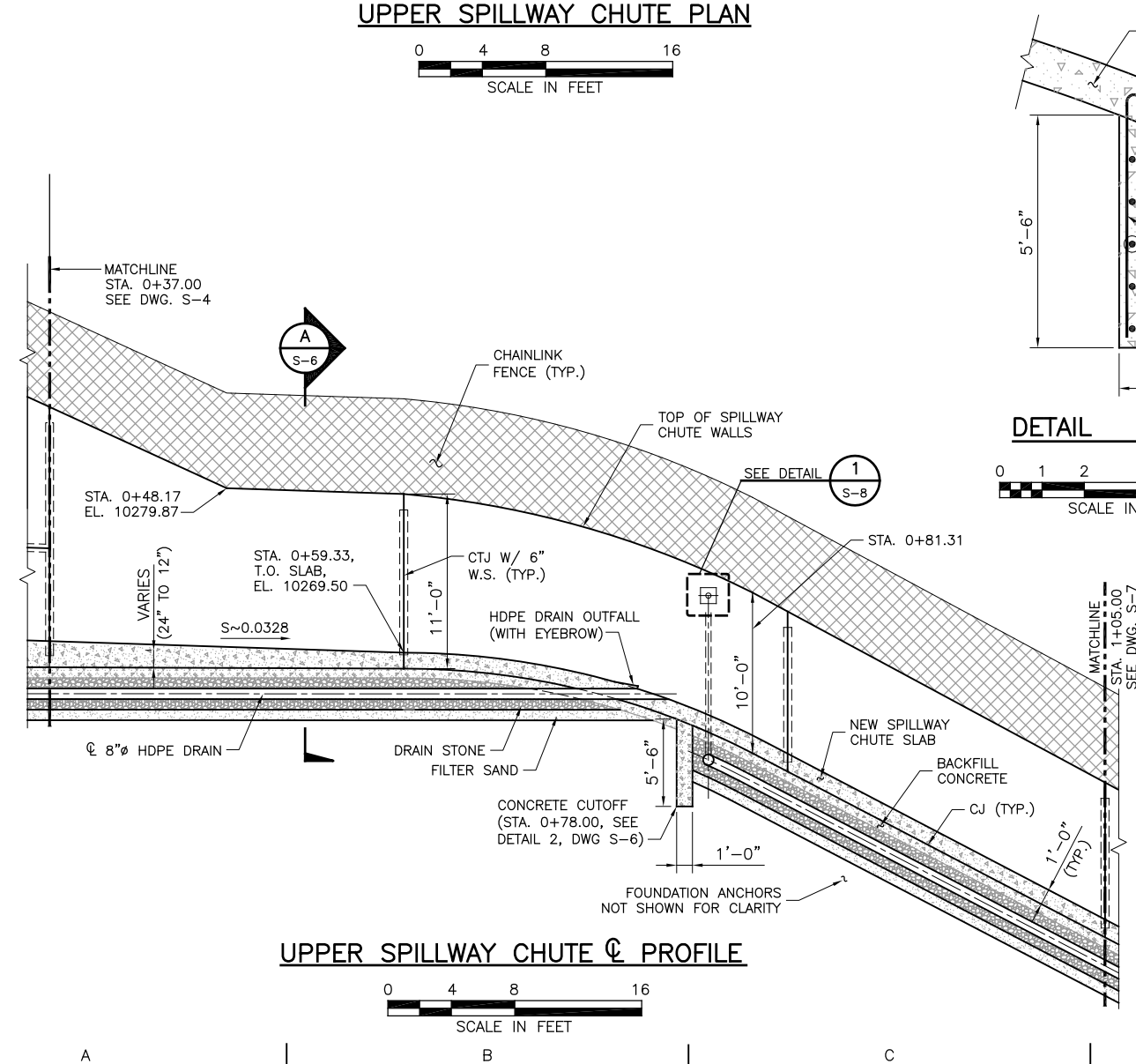
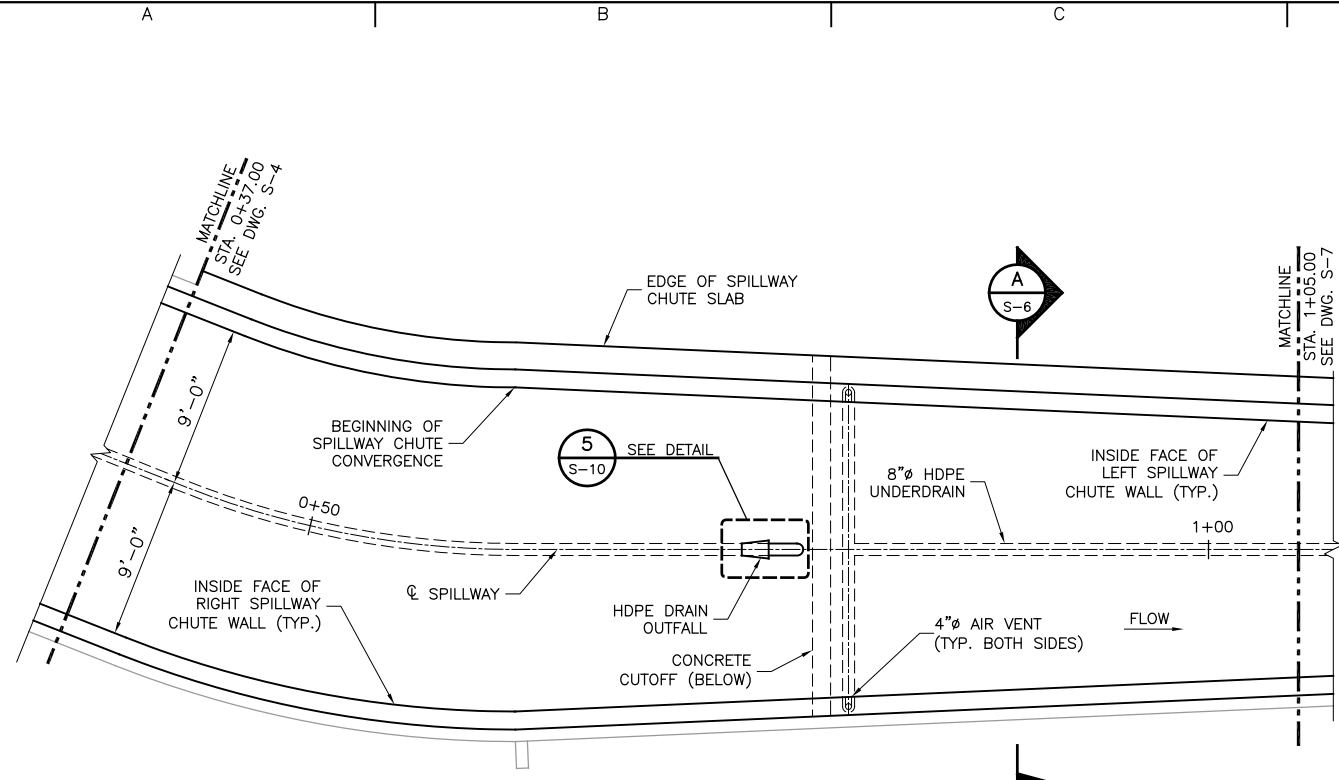
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**SPILLWAY CONTROL
STRUCTURE
SECTIONS AND DETAIL**

S-5

HOER, WARREN, 1/9/2013 11:23 AM
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NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- WALL HEIGHT DIMENSIONS SHOWN ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB. THE SLAB DIMENSIONS SHOWN ARE NORMAL TO THE SPILLWAY CHUTE SLAB.
- THE LATERAL CONTROL JOINTS WITH 6" WATERSTOPS IN THE NEW SPILLWAY CHUTE SLAB AND WALLS ARE TO LINEUP WITH THE JOINTS IN THE EXISTING SPILLWAY CHUTE SLAB AND WALLS. THE MAXIMUM DISTANCE BETWEEN LATERAL CONTROL JOINTS SHALL NOT EXCEED 20'-0", UNLESS APPROVED IN ADVANCE BY THE ENGINEER. LATERAL CONTROL JOINT LOCATIONS SHALL BE APPROVED BY ENGINEER.
- SOIL NAIL ANCHORS AND ROCK BOLTS ARE SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS S-13 AND S-14 FOR INFORMATION REGARDING THE SOIL NAIL ANCHORS AND ROCK BOLTS.
- PLACE BURLAP BENEATH THE BACKFILL CONCRETE TO PREVENT CONTAMINATION OF DRAIN STONE AND FILTER SAND. PLACE BACKFILL CONCRETE TO THE TOP OF THE EXISTING SPILLWAY CHUTE SLAB.
- CHAINLINK FENCE IS LOCATED ON TOP OF THE LEFT AND RIGHT SPILLWAY CHUTE WALLS. REFER TO STRUCTURAL DRAWING FOR INFORMATION REGARDING CHAINLINK FENCE DETAILS.

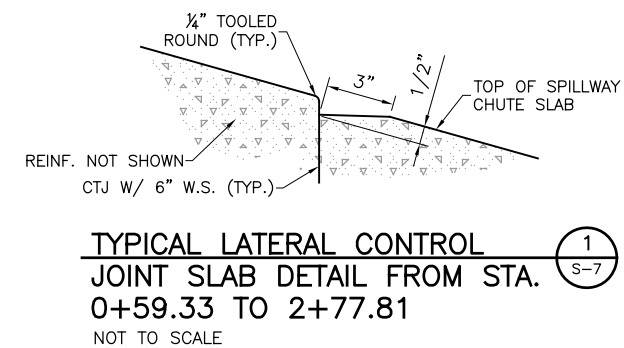
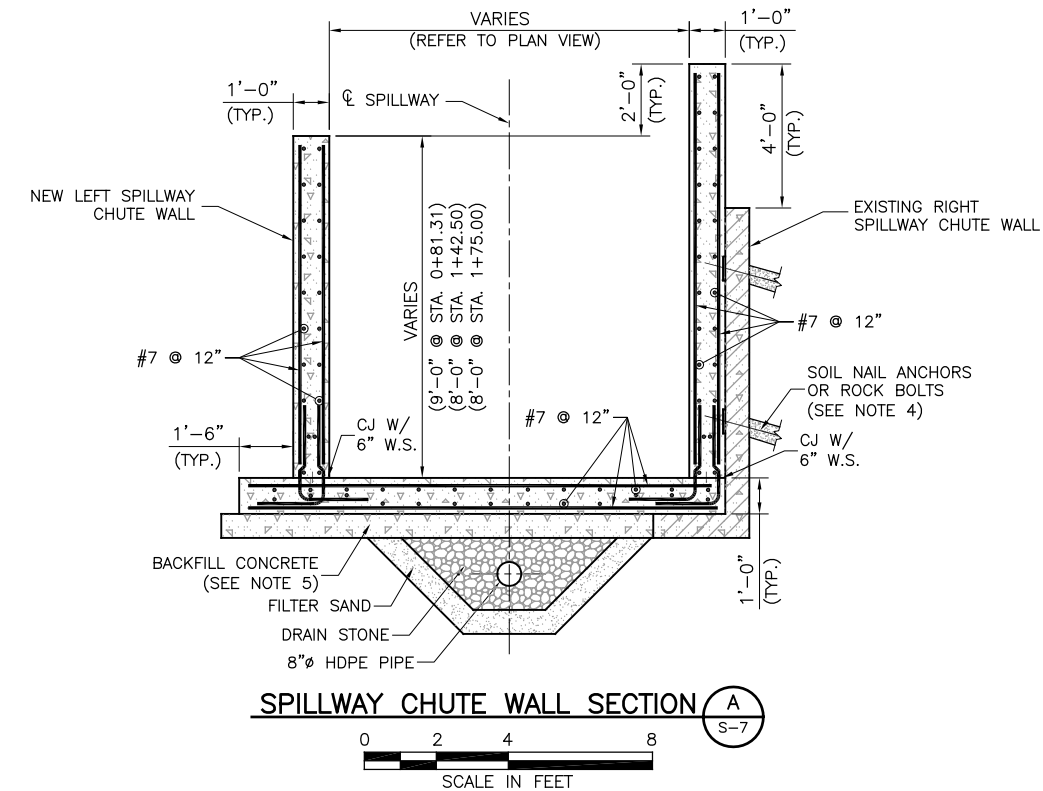
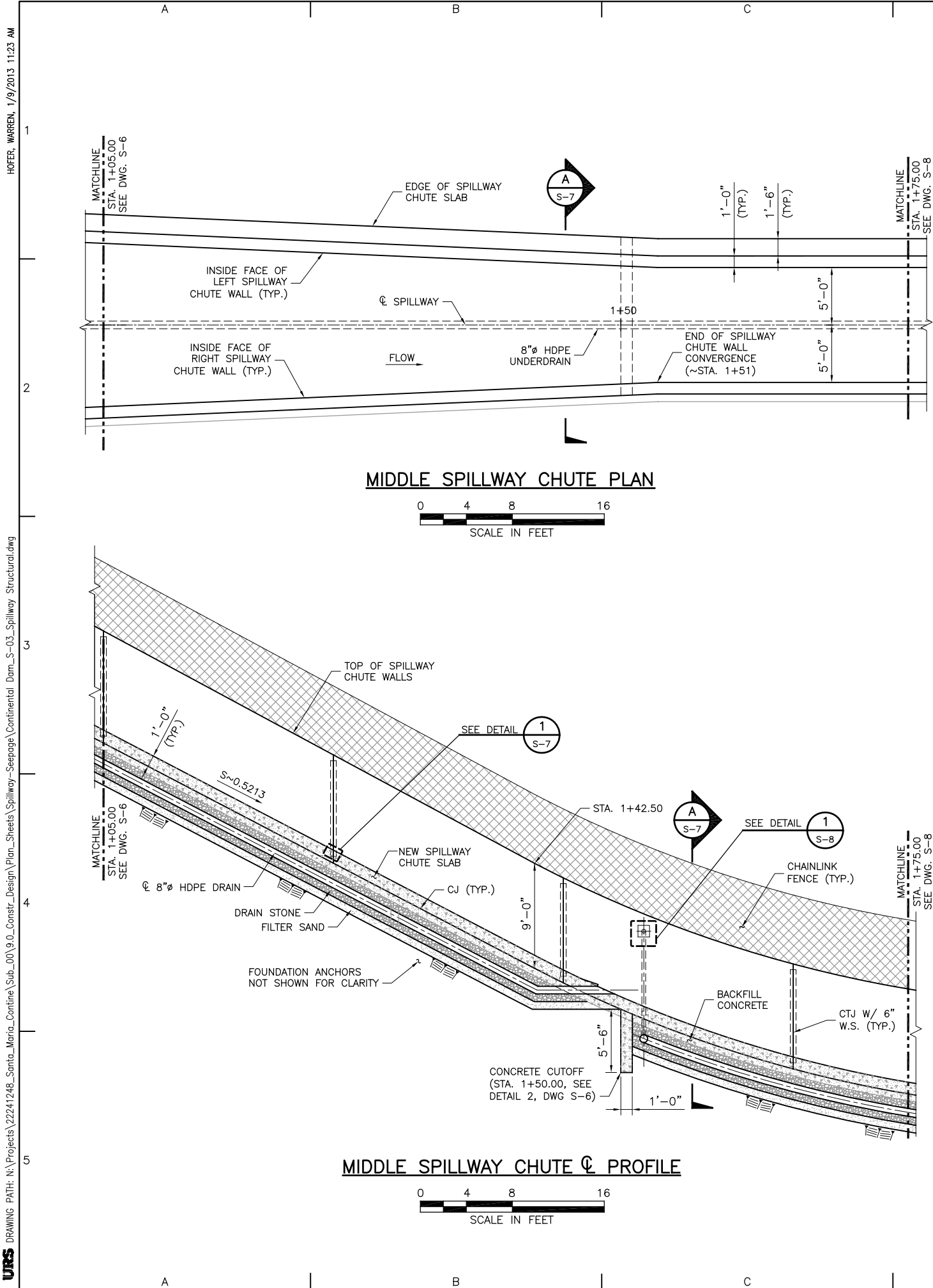
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**SANTA MARIA
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**CONTINENTAL DAM
REHABILITATION**

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URS PROJECT NO: 22241248		
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DESIGNED BY: CJW		
CHECKED BY: CBG		
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PLOT DATE: 12/2011		
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ACAD VER: 2012		
DRAWING TITLE		
SPILLWAY UPPER CHUTE PLAN, PROFILE, SECTION AND DETAILS		
S-6		
SHEET 21 OF 34		



NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- WALL HEIGHT DIMENSIONS SHOWN ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB. THE SLAB DIMENSIONS SHOWN ARE NORMAL TO THE SPILLWAY CHUTE SLAB.
- THE LATERAL CONTROL JOINTS WITH 6" WATERSTOPS IN THE NEW SPILLWAY CHUTE SLAB AND WALLS ARE TO LINEUP WITH THE JOINTS IN THE EXISTING SPILLWAY CHUTE SLAB AND WALLS. THE MAXIMUM DISTANCE BETWEEN LATERAL CONTROL JOINTS SHALL NOT EXCEED 20'-0", UNLESS APPROVED IN ADVANCE BY THE ENGINEER.
- SOIL NAIL ANCHORS AND ROCK BOLTS ARE SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS S-13 AND S-14 FOR INFORMATION REGARDING THE SOIL NAIL ANCHORS AND ROCK BOLTS.
- PLACE BURLAP BENEATH THE BACKFILL CONCRETE TO PREVENT CONTAMINATION OF THE DRAIN STONE AND FILTER SAND. PLACE BACKFILL CONCRETE TO THE TOP OF THE EXISTING SPILLWAY CHUTE SLAB.
- CHAINLINK FENCE IS LOCATED ON TOP OF THE LEFT AND RIGHT SPILLWAY CHUTE WALLS. REFER TO STRUCTURAL DRAWING S-16 FOR INFORMATION REGARDING CHAINLINK FENCE DETAILS.

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URS PROJECT NO:	22241248
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DESIGNED BY:	CJW
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DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012
DRAWING TITLE	

SPILLWAY
MIDDLE CHUTE
PLAN, PROFILE,
SECTION AND DETAIL

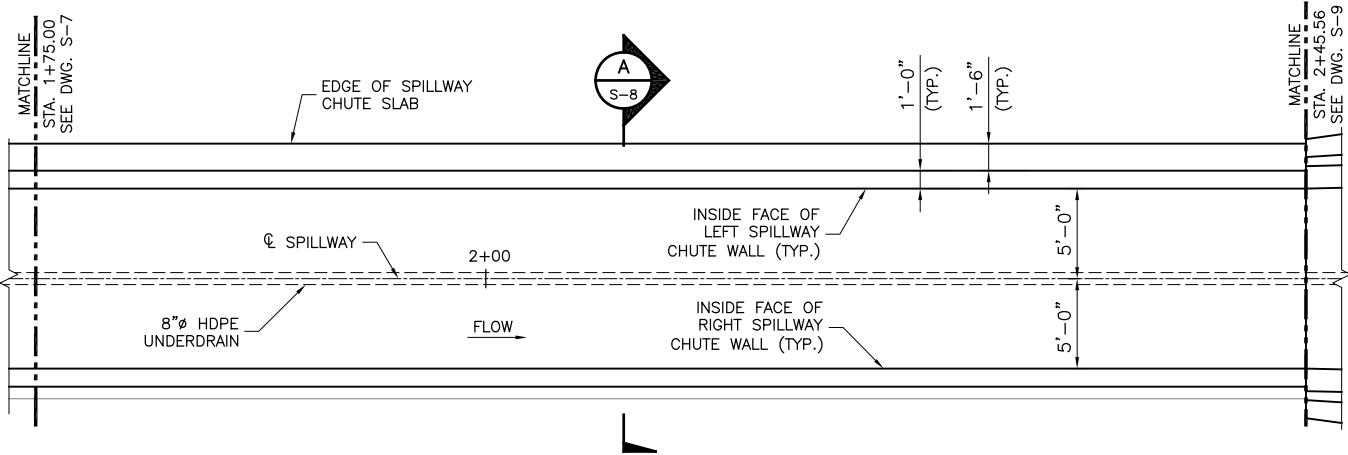
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SHEET 22 OF 34

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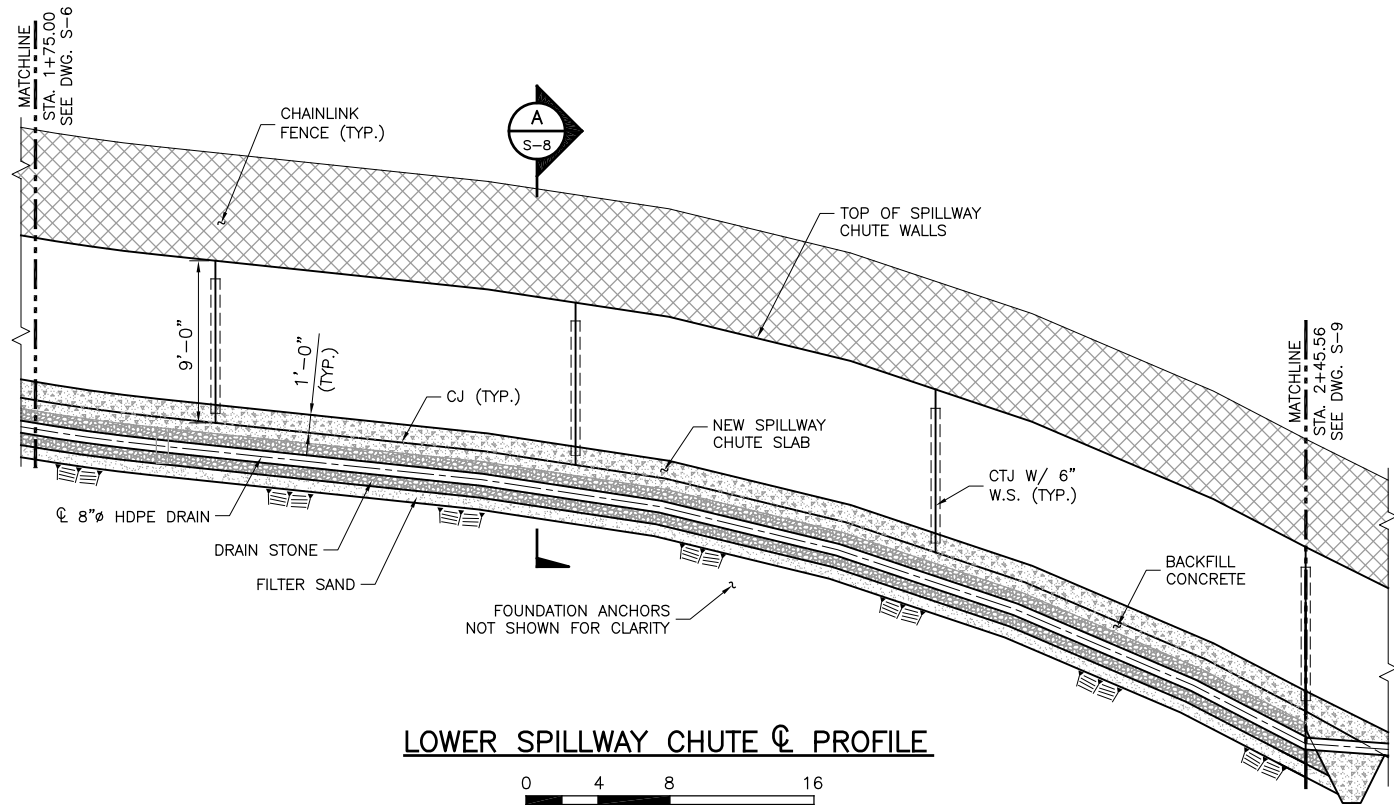
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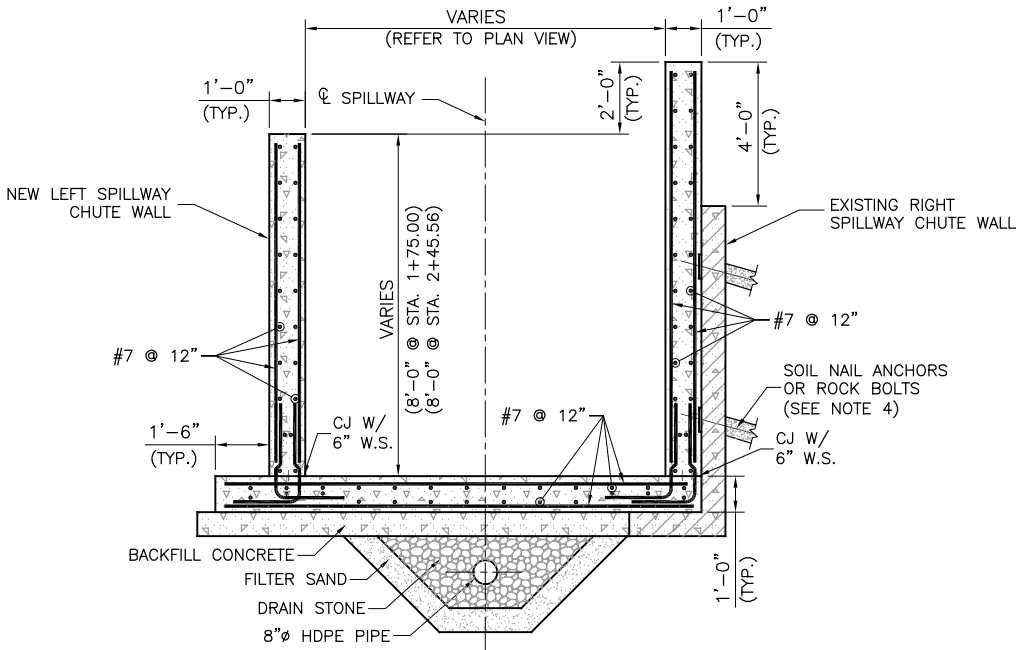
LOWER SPILLWAY CHUTE PLAN

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SCALE IN FEET



LOWER SPILLWAY CHUTE CL PROFILE

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SCALE IN FEET



SPILLWAY CHUTE WALL SECTION A-S-8

0 2 4 8
SCALE IN FEET

NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- WALL HEIGHT DIMENSIONS SHOWN ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB. THE SLAB DIMENSIONS SHOWN ARE NORMAL TO THE SPILLWAY CHUTE SLAB.
- THE LATERAL CONTROL JOINTS WITH 6" WATERSTOPS IN THE NEW SPILLWAY CHUTE SLAB AND WALLS ARE TO LINEUP WITH THE JOINTS IN THE EXISTING SPILLWAY CHUTE SLAB AND WALLS. THE MAXIMUM DISTANCE BETWEEN LATERAL CONTROL JOINTS SHALL NOT EXCEED 20'-0", UNLESS APPROVED IN ADVANCE BY THE ENGINEER.
- SOIL NAIL ANCHORS AND ROCK BOLTS ARE SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS S-13 AND S-14 FOR INFORMATION REGARDING THE SOIL NAIL ANCHORS AND ROCK BOLTS.
- CHAINLINK FENCE IS LOCATED ON TOP OF THE LEFT AND RIGHT SPILLWAY CHUTE WALLS. REFER TO STRUCTURAL DRAWING S-16 FOR INFORMATION REGARDING CHAINLINK FENCE DETAILS.

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URS PROJECT NO: 22241248

DRAWN BY: WDH

DESIGNED BY: CJW

CHECKED BY: CBG

DATE CREATED: 12/2011

PLOT DATE: 12/2011

SCALE: AS SHOWN

ACAD VER: 2012

DRAWING TITLE

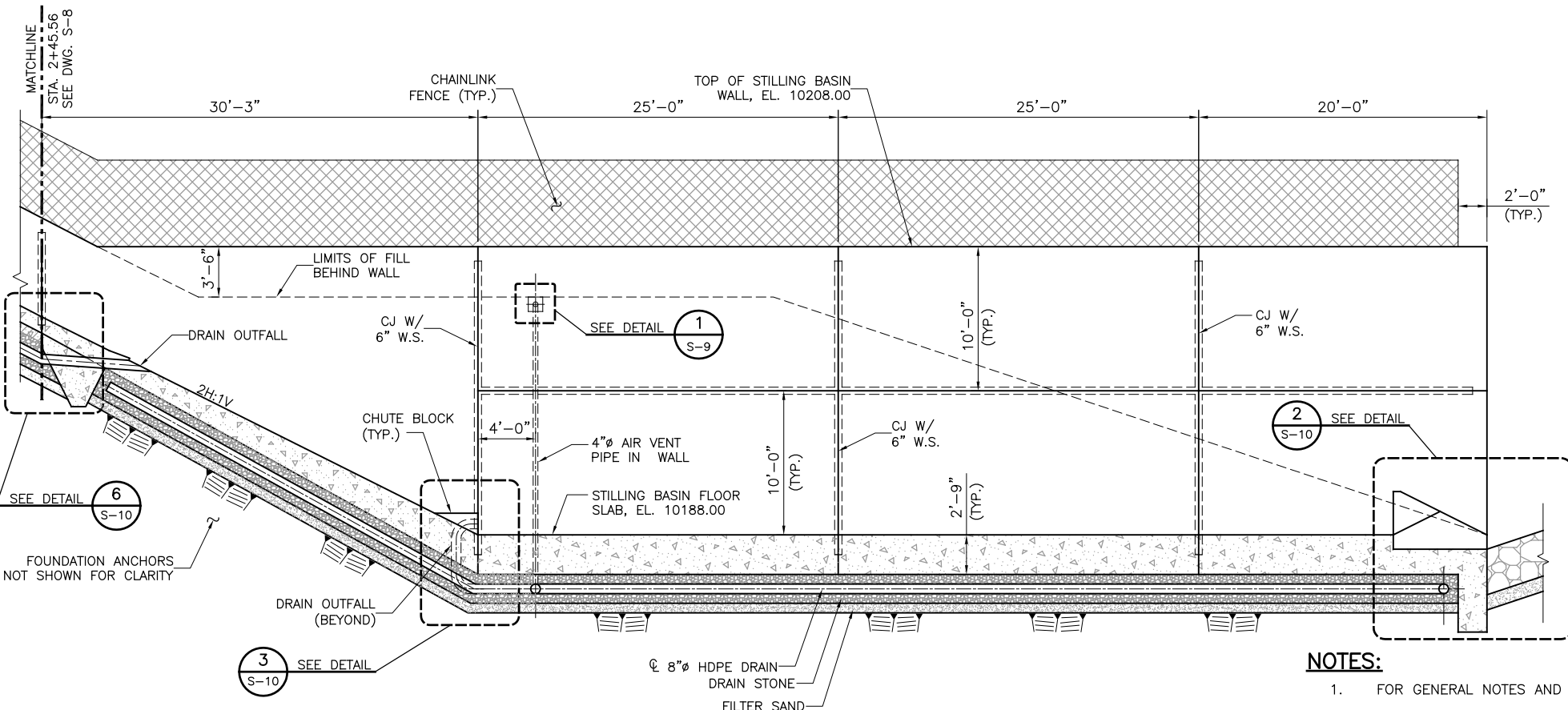
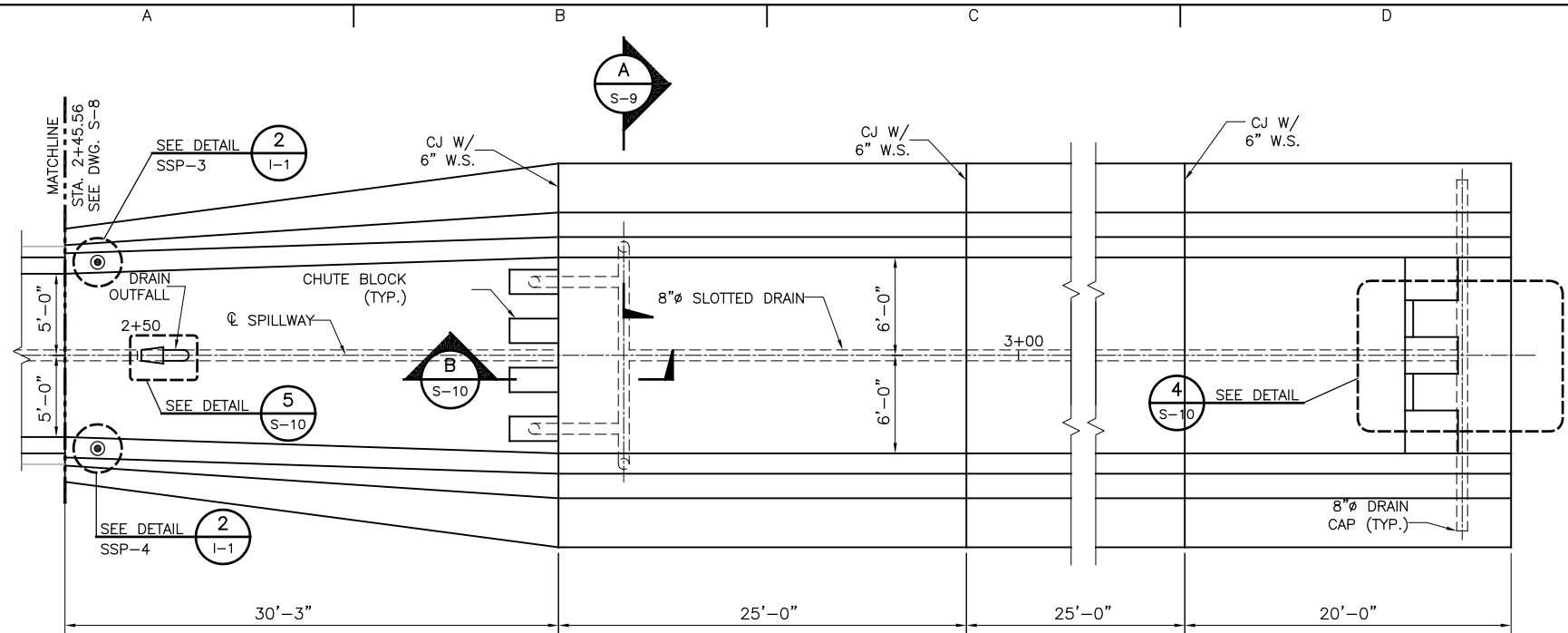
SPILLWAY
LOWER CHUTE
PLAN, PROFILE
AND SECTION

S-8

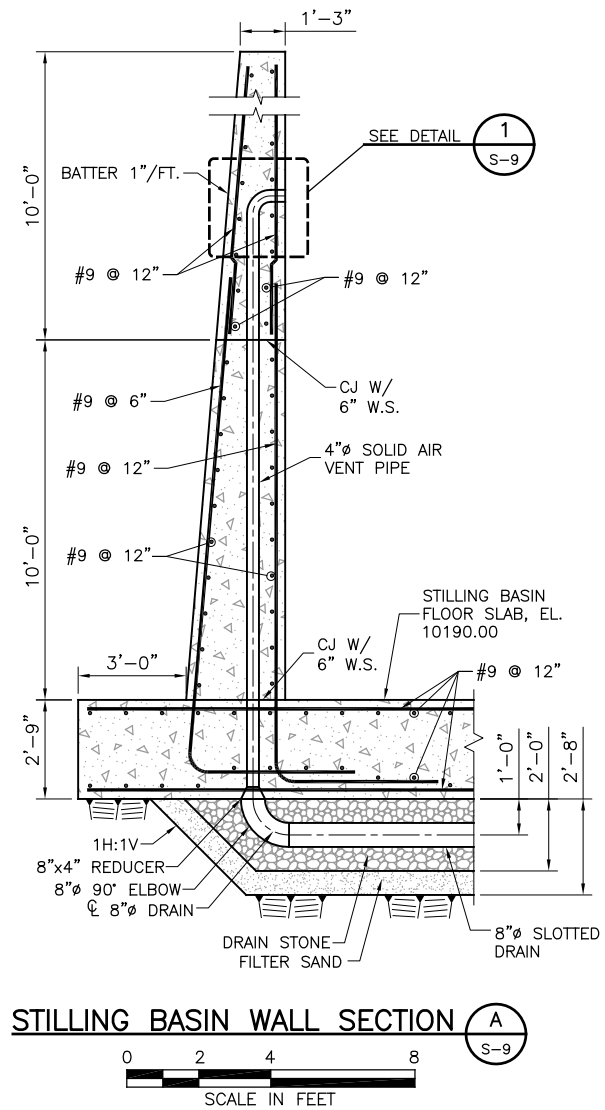
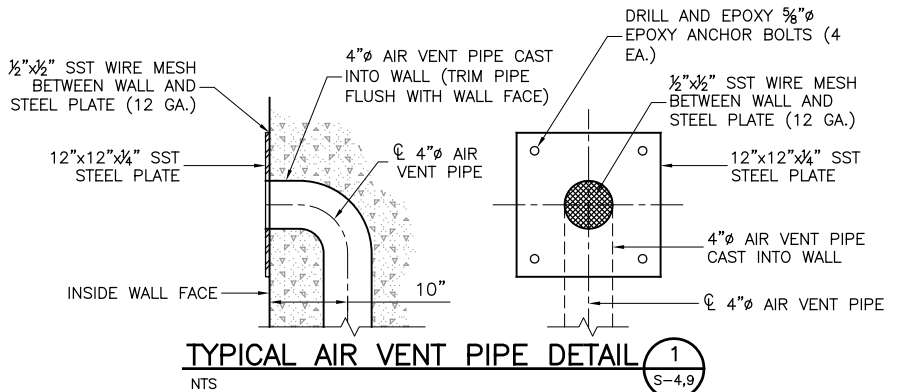
SHEET 23 OF 34

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- NOTES:**
- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
 - WALL HEIGHT DIMENSIONS ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB.
 - CHAINLINK FENCE IS LOCATED ON THE TOP OF THE LEFT AND RIGHT SPILLWAY CHUTE WALLS. REFER TO STRUCTURAL DRAWING S-16 FOR INFORMATION REGARDING CHAINLINK FENCE DETAILS.



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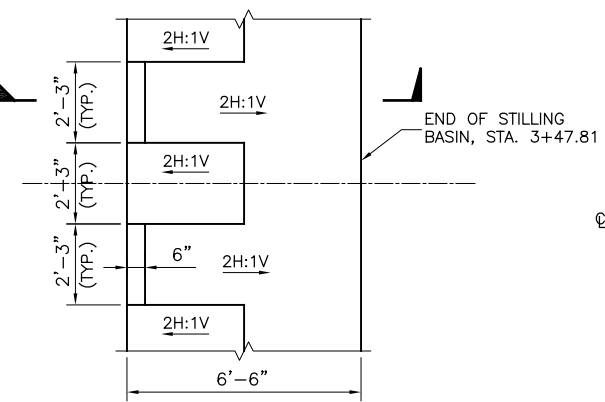
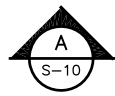
**SPILLWAY
STILLING BASIN
PLAN, PROFILE,
SECTION AND DETAIL**

S-9

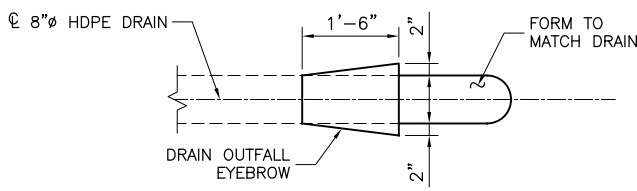
SHEET 24 OF 34

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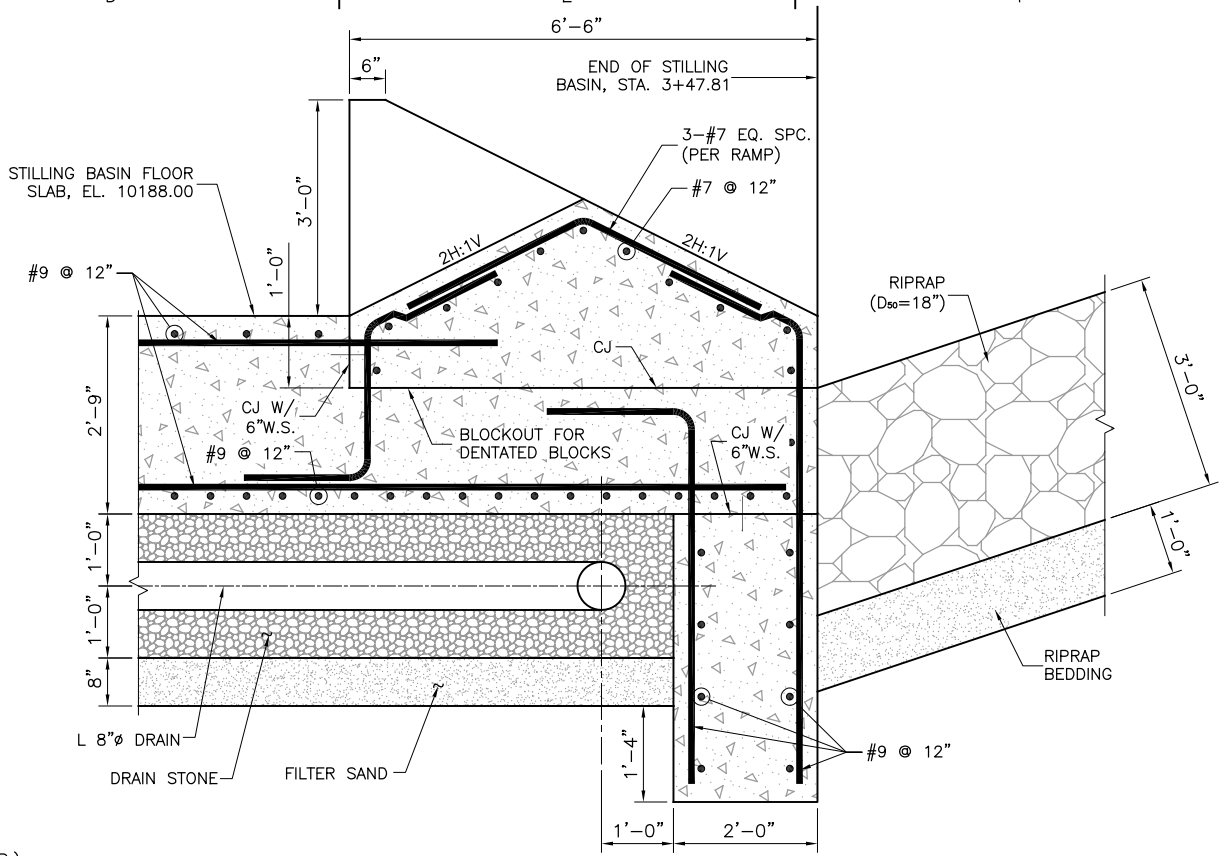
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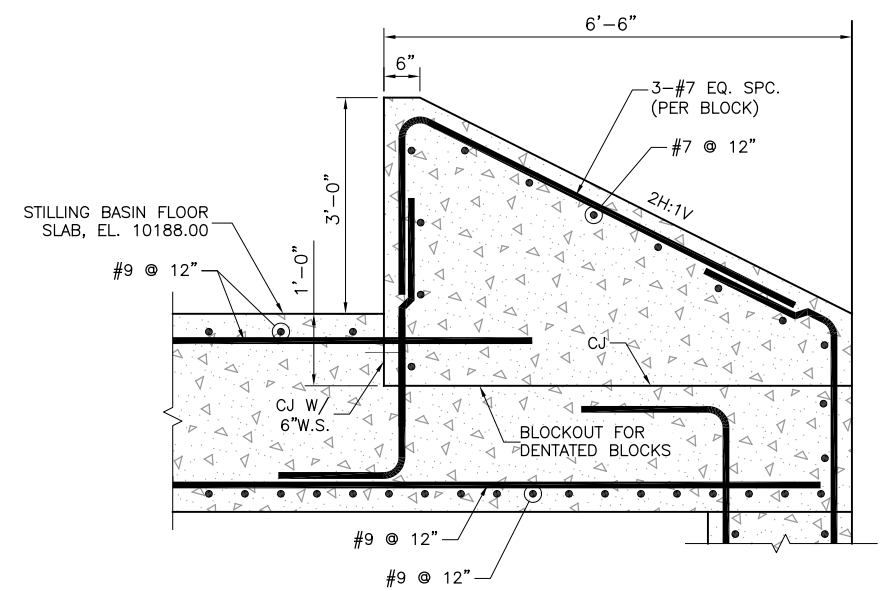
DENTATED END SILL DETAIL 4
S-9
SCALE IN FEET



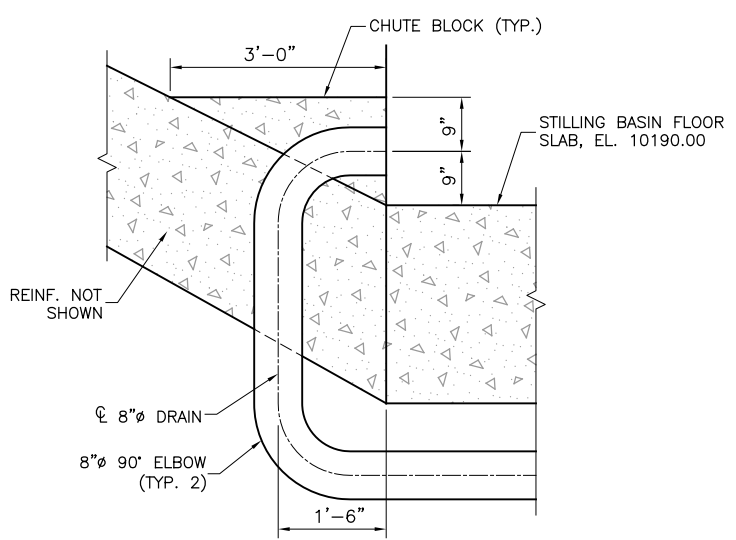
DRAIN OUTFALL DETAIL 5
S-6,9
SCALE IN FEET



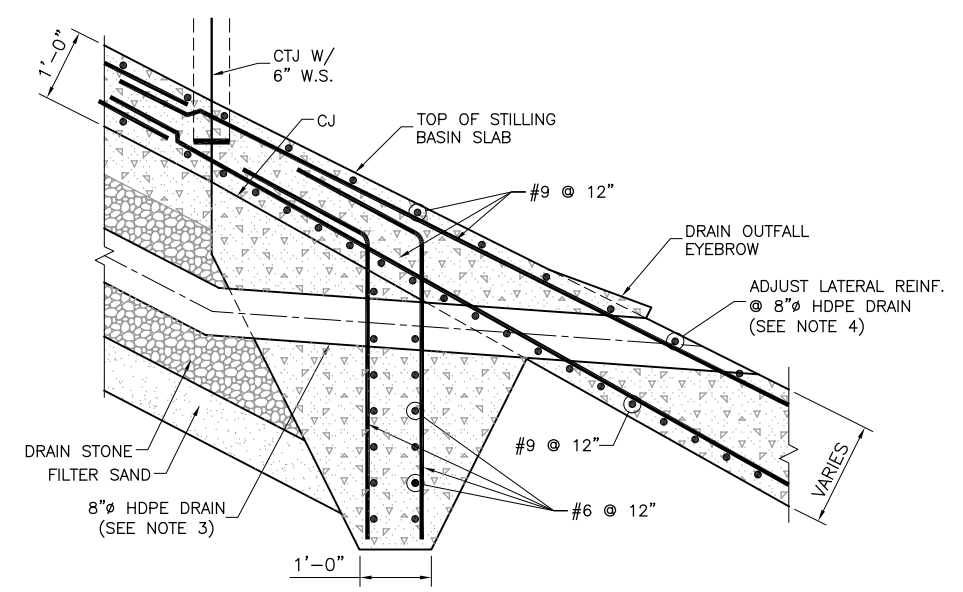
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S-9
SCALE IN FEET



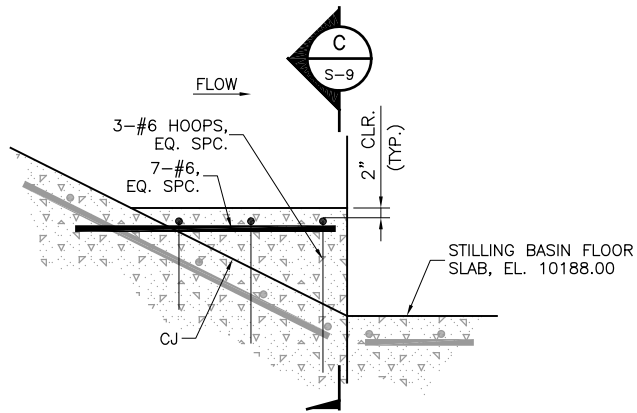
DENTATED END SILL SECTION A
S-10
SCALE IN FEET



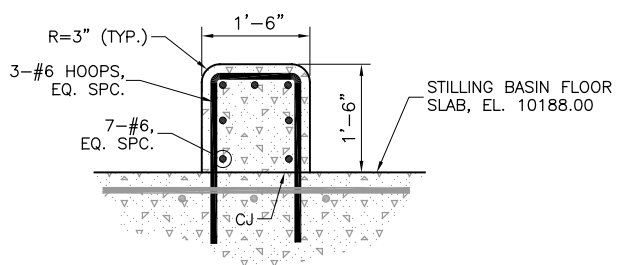
DRAIN OUTFALL DETAIL 3
S-9
SCALE IN FEET



STILLING BASIN CUTOFF DETAIL 6
S-9
SCALE IN FEET



CHUTE BLOCK TYPICAL SECTION B
S-9
SCALE IN FEET



CHUTE BLOCK TYPICAL SECTION C
S-10
SCALE IN FEET

NOTES:

- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- WALL HEIGHT DIMENSIONS ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB.
- PLACE TAPE OVER SLOTS IN DRAIN PIPE WHEN DRAIN PIPE IS TO BE ENCASED IN CONCRETE.
- ADJUST THE LATERAL REINFORCEMENT TO ACCOMMODATE THE 8" HDPE DRAIN PIPE.

SEO FILE NO. C-259C

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**SANTA MARIA
RESERVOIR
COMPANY**

**CONTINENTAL DAM
REHABILITATION**

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS		
NO.	DESCRIPTION	DATE
△		
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URS PROJECT NO: 22241248	
DRAWN BY: WDH	
DESIGNED BY: CJW	
CHECKED BY: CBG	
DATE CREATED: 12/2011	
PLOT DATE: 12/2011	
SCALE: AS SHOWN	
ACAD VER: 2012	
DRAWING TITLE	

**SPILLWAY
STILLING BASIN
SECTIONS AND
DETAILS**

S-10
SHEET 25 OF 34

HOEER, WARREN, 1/9/2013 11:24 AM
DRAWING PATH: N:\Projects\22241248_Santa_Maria_Confine\Sub_00\9.0_Constr_Design\Plan_Sheets\Spillway-Seepage\Continental Dam_S-10_Spillway Anchors.dwg

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**CONTINENTAL DAM
REHABILITATION**

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

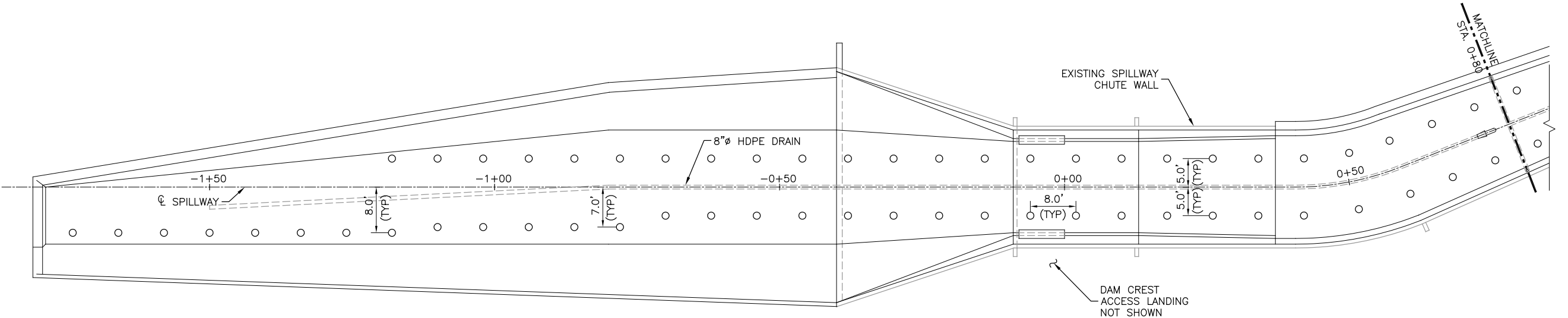
NO.	DESCRIPTION	DATE
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DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	CBG
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012
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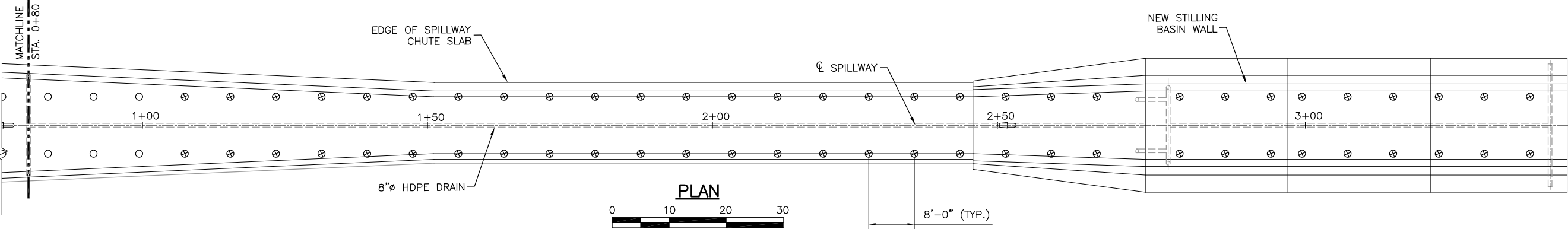
**SPILLWAY FOUNDATION
ANCHOR PLAN AND
DETAILS**

S-11

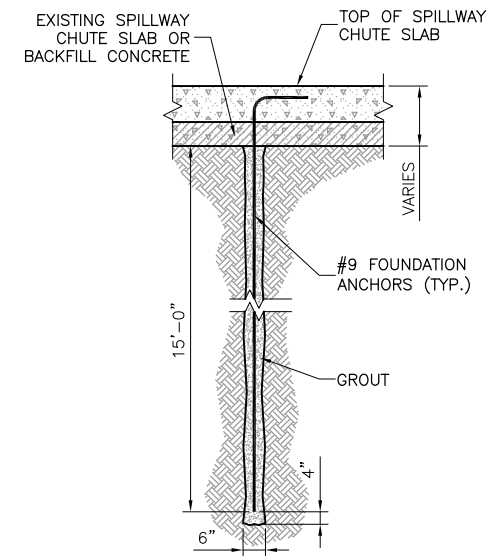
SHEET 26 OF 34



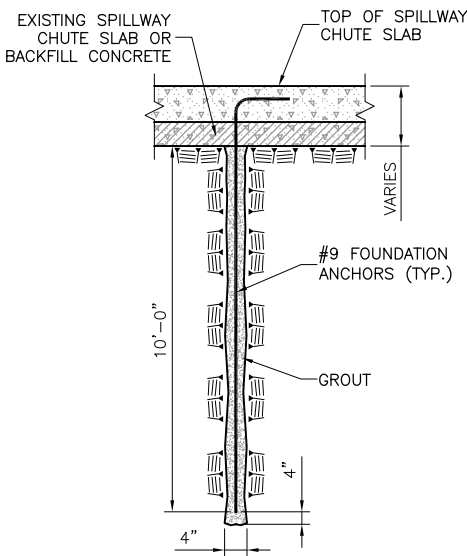
PLAN
0 10 20 30
SCALE IN FEET



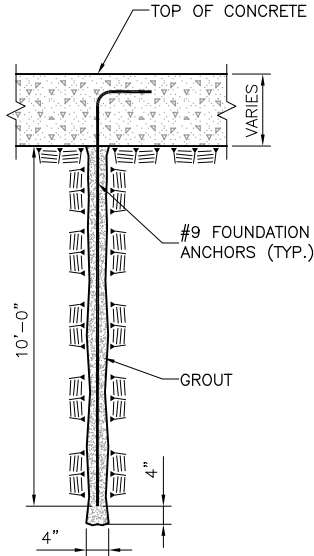
PLAN
0 10 20 30
SCALE IN FEET



FOUNDATION ANCHOR DETAIL 1
STA. -1+75 TO STA. 1+05
0 2 4 8
SCALE IN FEET



FOUNDATION ANCHOR DETAIL 2
STA. 1+05 TO STA. 2+50
0 2 4 8
SCALE IN FEET



FOUNDATION ANCHOR DETAIL 3
STA. 2+50 TO STA. 3+22
0 2 4 8
SCALE IN FEET

LEGEND

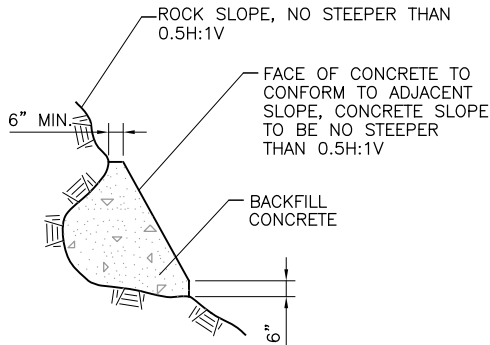
- #9 FOUNDATION ANCHOR EMBEDDED 15'-0" INTO SOIL
- ⊗ #9 FOUNDATION ANCHOR EMBEDDED 10'-0" INTO BEDROCK

NOTES:

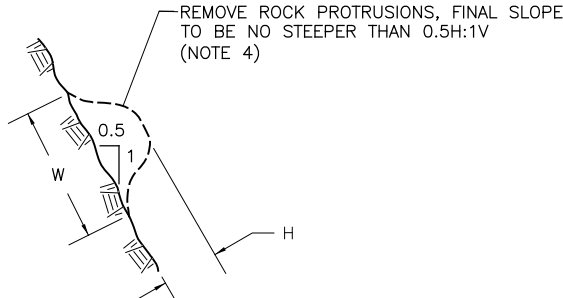
- CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL FOUNDATION ANCHORS WITH THE DRAIN SYSTEM AND ALL JOINTS. FINAL LOCATIONS OF ALL FOUNDATION ANCHOR SHALL BE APPROVED BY THE ENGINEER.
- THE LOCATION OF BEDROCK CONTACT IS APPROXIMATELY AT STA. 1+05. THE LOCATION OF THE TRANSITION FROM FOUNDATION ANCHORS INSTALLED INTO SOIL VS. FOUNDATION ANCHORS INSTALLED INTO ROCK WILL BE DETERMINED BY THE ENGINEER.
- REINFORCEMENT NOT SHOWN IN FOUNDATION ANCHOR DETAILS.

SEO FILE NO. C-259C

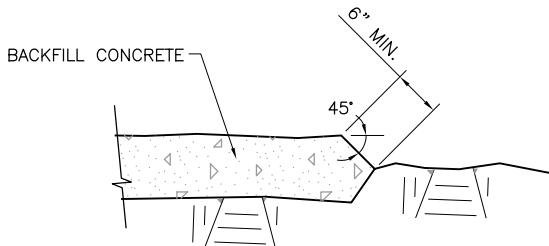
HOER, WARREN, 1/9/2013 11:24 AM
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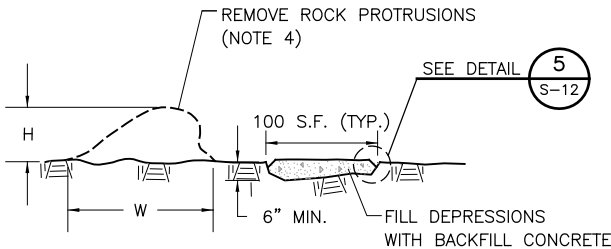
TREATMENT OF OVERHANGS DETAIL 1 NTS S-12



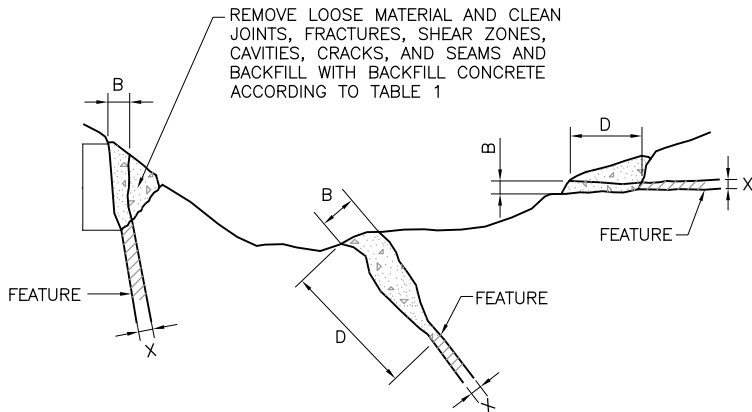
TREATMENT OF ROCK PROTRUSIONS DETAIL 3 NTS S-12



DETAIL 5 NTS S-12



EXCAVATION AND TREATMENT AT FOUNDATION SURFACE DETAIL 2 NTS S-12



TREATMENT OF JOINTS, FRACTURES, SHEAR ZONES, CRACKS, SEAMS, AD DETERIORATED ROCK ZONES DETAIL 4 NTS S-12

TABLE 1

CASE	WIDTH OF FEATURE (B)	DEPTH OF TREATMENT (D)
1.	LESS THAN 2 INCHES	NO TREATMENT
2.	2 INCHES TO 1 FOOT	3 TIMES THE WIDTH, OR TO A DEPTH WHERE THE OPENING (X) IS 0.5 INCH OR LESS, BUT NOT LESS THAN 1 FOOT (BACKFILL CONCRETE)
3.	1 FOOT TO 3 FEET	3 TIMES THE WIDTH (BACKFILL CONCRETE)
4.	GREATER THAN 3 FEET	AS DIRECTED BY THE ENGINEER

NOTES:

- SHAPE EXCAVATION AND SCALE ROCK AS NECESSARY TO PROVIDE WORKING ROOM AND SAFETY.
- FOUNDATION TREATMENT DETAILS SHOWN ON THIS DRAWING ARE TYPICAL OF TREATMENT THAT MAY BE REQUIRED AND ARE SUBJECT TO INTERPRETATION, AS REQUIRED, BY THE ENGINEER.
- ALL TREATMENT DEPTHS ARE GIVEN AS GUIDELINES AND ARE SUBJECT TO INTERPRETATION, AS REQUIRED, BY THE ENGINEER.
- REMOVE ROCK PROTRUSIONS WITH A HEIGHT(H) GREATER THAN 1 FOOT SO THAT THE WIDTH(W) TO HEIGHT(H) RATIO IS GREATER THAN 3.
- CLEAN JOINTS, FRACTURES, SHEAR ZONES, CAVITIES, CRACKS AND SEAM IN THE SPILLWAY EXCAVATION FOUNDATION AREA AS DIRECTED BY THE ENGINEER.

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CONTINENTAL DAM
REHABILITATION

ISSUED FOR BIDDING DATE BY

ISSUED FOR CONSTRUCTION DATE BY

REVISIONS

NO.	DESCRIPTION	DATE
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URS PROJECT NO: 22241248

DRAWN BY: WDH

DESIGNED BY: CJW

CHECKED BY:

DATE CREATED: 12/2011

PLOT DATE: 12/2011

SCALE: AS SHOWN

ACAD VER: 2012

DRAWING TITLE

SPILLWAY FOUNDATION
TREATMENT DETAILS

S-12

SHEET 27 OF 34

SEO FILE NO. C-259C

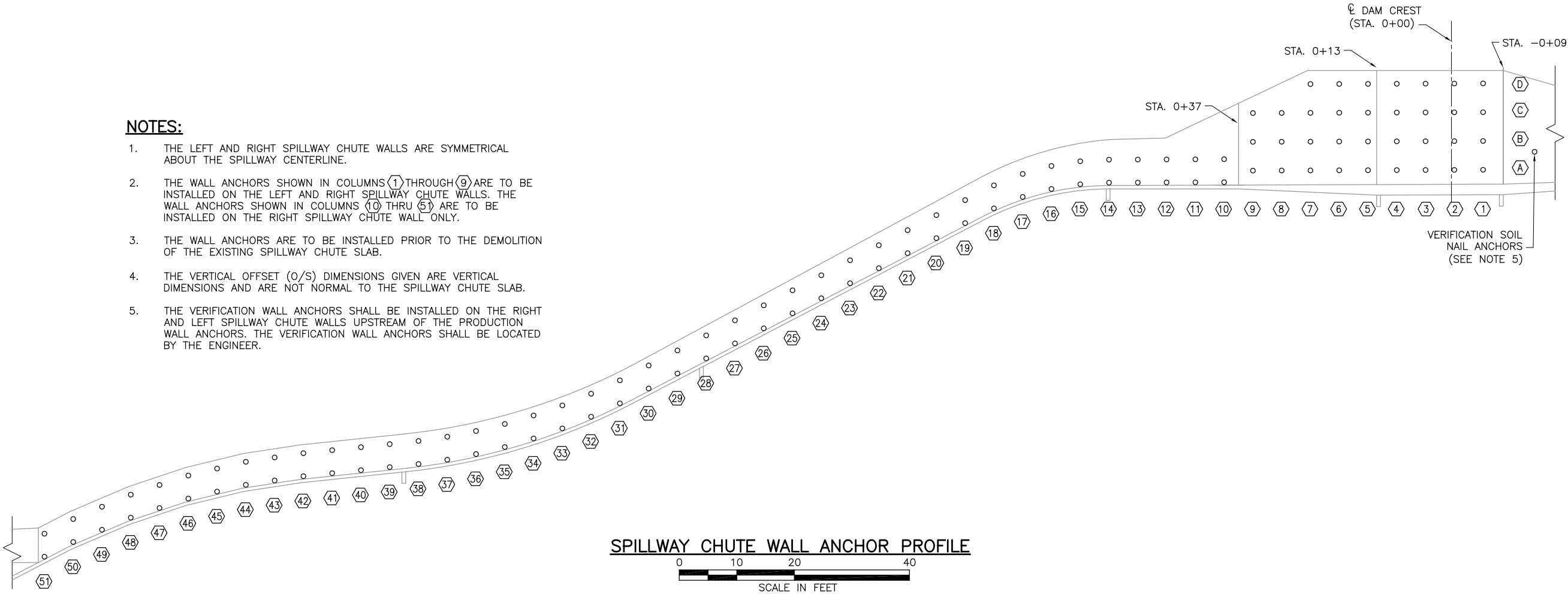
HOER, WARREN, 1/9/2013 11:24 AM

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NOTES:

- THE LEFT AND RIGHT SPILLWAY CHUTE WALLS ARE SYMMETRICAL ABOUT THE SPILLWAY CENTERLINE.
- THE WALL ANCHORS SHOWN IN COLUMNS (1) THROUGH (9) ARE TO BE INSTALLED ON THE LEFT AND RIGHT SPILLWAY CHUTE WALLS. THE WALL ANCHORS SHOWN IN COLUMNS (10) THRU (51) ARE TO BE INSTALLED ON THE RIGHT SPILLWAY CHUTE WALL ONLY.
- THE WALL ANCHORS ARE TO BE INSTALLED PRIOR TO THE DEMOLITION OF THE EXISTING SPILLWAY CHUTE SLAB.
- THE VERTICAL OFFSET (O/S) DIMENSIONS GIVEN ARE VERTICAL DIMENSIONS AND ARE NOT NORMAL TO THE SPILLWAY CHUTE SLAB.
- THE VERIFICATION WALL ANCHORS SHALL BE INSTALLED ON THE RIGHT AND LEFT SPILLWAY CHUTE WALLS UPSTREAM OF THE PRODUCTION WALL ANCHORS. THE VERIFICATION WALL ANCHORS SHALL BE LOCATED BY THE ENGINEER.



SPILLWAY CHUTE WALL ANCHOR SCHEDULE																	
ANCHOR	CL STATION	VERT. O/S	ANCHOR	CL STATION	VERT. O/S	ANCHOR	CL STATION	VERT. O/S	ANCHOR	CL STATION	VERT. O/S	ANCHOR	CL STATION	VERT. O/S	ANCHOR	CL STATION	VERT. O/S
(1A)	-0+05.50	3.0'	(5D)	0+14.50	18.0'	(14A)	0+59.50	0.5'	(23B)	1+04.50	4.5'	(33A)	1+54.50	0.5'	(42B)	1+99.50	4.5'
(1B)	-0+05.50	8.0'	(6A)	0+19.50	3.0'	(14B)	0+59.50	4.5'	(24A)	1+09.50	0.5'	(33B)	1+54.50	4.5'	(43A)	2+04.50	0.5'
(1C)	-0+05.50	13.0'	(6B)	0+19.50	8.0'	(15A)	0+64.50	0.5'	(24B)	1+09.50	4.5'	(34A)	1+59.50	0.5'	(43B)	2+04.50	4.5'
(1D)	-0+05.50	18.0'	(6C)	0+19.50	13.0'	(15B)	0+64.50	4.5'	(25A)	1+14.50	0.5'	(34B)	1+59.50	4.5'	(44A)	2+09.50	0.5'
(2A)	-0+00.50	3.0'	(7A)	0+24.50	3.0'	(16A)	0+69.50	0.5'	(25B)	1+14.50	4.5'	(35A)	1+64.50	0.5'	(44B)	2+09.50	4.5'
(2B)	-0+00.50	8.0'	(7B)	0+24.50	8.0'	(16B)	0+69.50	4.5'	(26A)	1+19.50	0.5'	(35B)	1+64.50	4.5'	(45A)	2+14.50	0.5'
(2C)	-0+00.50	13.0'	(7C)	0+24.50	13.0'	(17A)	0+74.50	0.5'	(26B)	1+19.50	4.5'	(36A)	1+69.50	0.5'	(45B)	2+14.50	4.5'
(2D)	-0+00.50	18.0'	(8A)	0+29.50	3.0'	(17B)	0+74.50	4.5'	(27A)	1+24.50	0.5'	(36B)	1+69.50	4.5'	(46A)	2+19.50	0.5'
(3A)	0+04.50	3.0'	(8B)	0+29.50	8.0'	(18A)	0+79.50	0.5'	(27B)	1+24.50	4.5'	(37A)	1+74.50	0.5'	(46B)	2+19.50	4.5'
(3B)	0+04.50	8.0'	(9A)	0+34.50	3.0'	(18B)	0+79.50	4.5'	(28A)	1+29.50	0.5'	(37B)	1+74.50	4.5'	(47A)	2+24.50	0.5'
(3C)	0+04.50	13.0'	(9B)	0+34.50	8.0'	(19A)	0+84.50	0.5'	(28B)	1+29.50	4.5'	(38A)	1+79.50	0.5'	(47B)	2+24.50	4.5'
(3D)	0+04.50	18.0'	(10A)	0+39.50	0.5'	(19B)	0+84.50	4.5'	(29A)	1+34.50	0.5'	(38B)	1+79.50	4.5'	(48A)	2+29.50	0.5'
(4A)	0+09.50	3.0'	(10B)	0+39.50	4.5'	(20A)	0+89.50	0.5'	(29B)	1+34.50	4.5'	(39A)	1+84.50	0.5'	(48B)	2+29.50	4.5'
(4B)	0+09.50	8.0'	(11A)	0+44.50	0.5'	(20B)	0+89.50	4.5'	(30A)	1+39.50	0.5'	(39B)	1+84.50	4.5'	(49A)	2+34.50	0.5'
(4C)	0+09.50	13.0'	(11B)	0+44.50	4.5'	(21A)	0+94.50	0.5'	(30B)	1+39.50	4.5'	(40A)	1+89.50	0.5'	(49B)	2+34.50	4.5'
(4D)	0+09.50	18.0'	(12A)	0+49.50	0.5'	(21B)	0+94.50	4.5'	(31A)	1+44.50	0.5'	(40B)	1+89.50	4.5'	(50A)	2+39.50	0.5'
(5A)	0+14.50	3.0'	(12B)	0+49.50	4.5'	(22A)	0+99.50	0.5'	(31B)	1+44.50	4.5'	(41A)	1+94.50	0.5'	(50B)	2+39.50	4.5'
(5B)	0+14.50	8.0'	(13A)	0+54.50	0.5'	(22B)	0+99.50	4.5'	(32A)	1+49.50	0.5'	(41B)	1+94.50	4.5'	(51A)	2+44.50	0.5'
(5C)	0+14.50	13.0'	(13B)	0+54.50	4.5'	(23A)	1+04.50	0.5'	(32B)	1+49.50	4.5'	(42A)	1+99.50	0.5'	(51B)	2+44.50	4.5'

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REHABILITATION

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

NO.	DESCRIPTION	DATE
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URS PROJECT NO:	22241248
DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	CBG
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012
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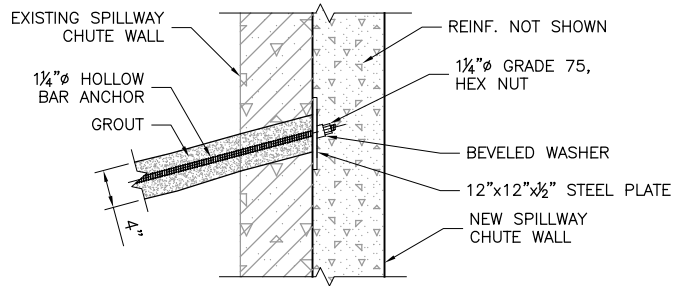
SPILLWAY WALL
ANCHOR PROFILE
AND SCHEDULE

S-13

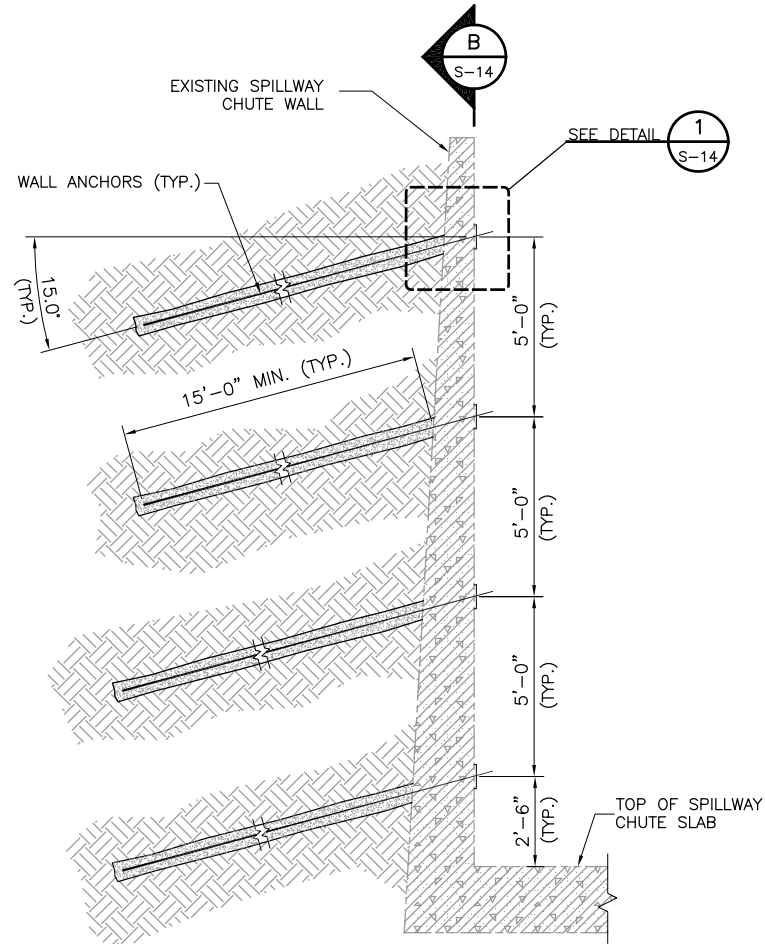
SHEET 28 OF 34

SEO FILE NO. C-259C

HOEER, WARREN, 1/9/2013 11:24 AM
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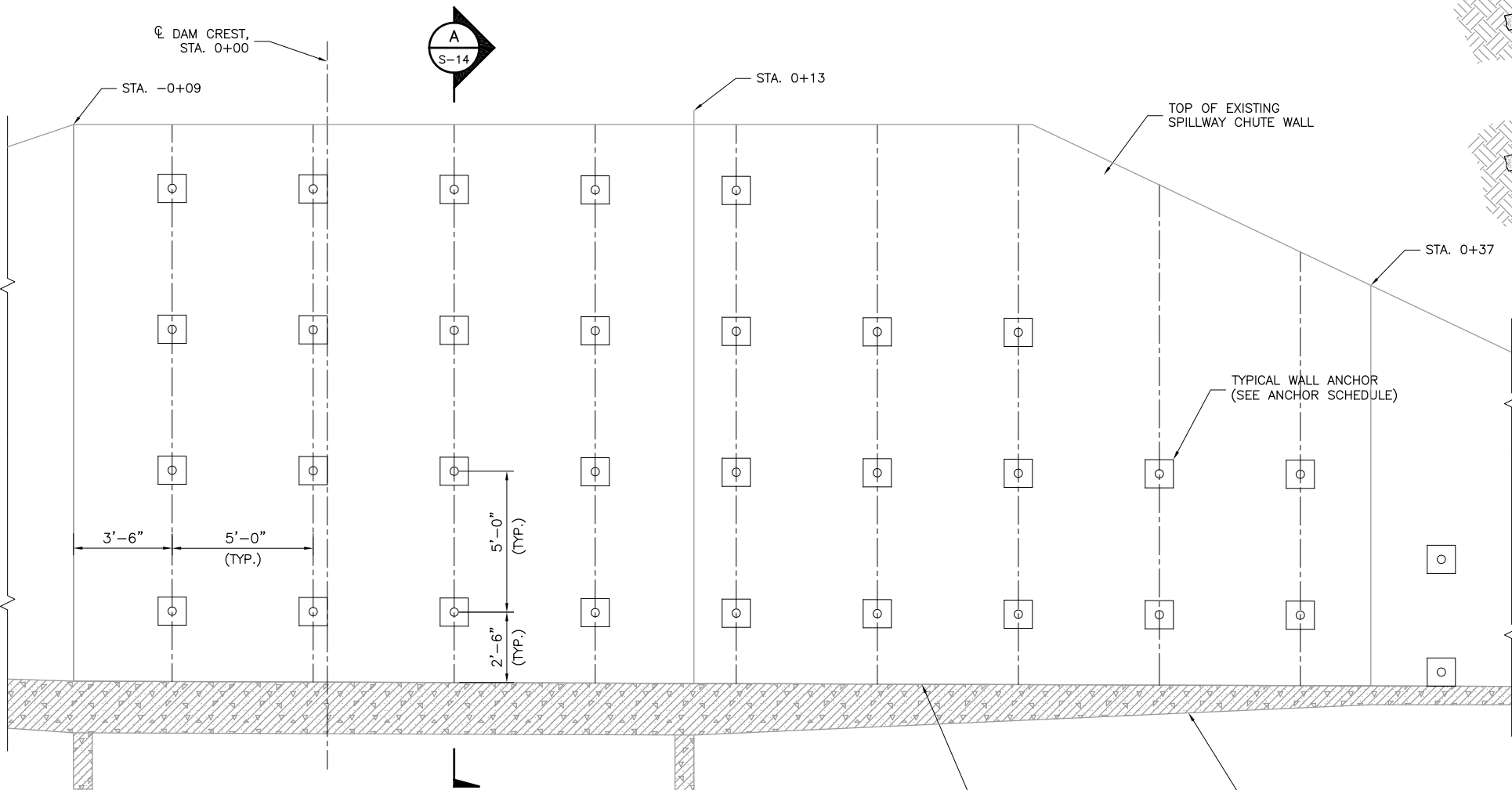
TYPICAL WALL ANCHOR DETAIL 1
SCALE IN FEET



SPILLWAY WALL ANCHOR SECTION A
SCALE IN FEET

NOTES:

1. WALL HEIGHT DIMENSIONS ARE VERTICAL DIMENSIONS. THEY ARE NOT NORMAL TO THE FACE OF THE SPILLWAY CHUTE SLAB.
2. WALL ANCHORS ARE TO BE INSTALLED PRIOR TO THE DEMOLITION OF THE EXISTING SPILLWAY CHUTE SLAB.
3. PROTECT MATERIAL UNDER EXISTING WALL DURING EXCAVATION AND INSTALLATION OF THE NEW SPILLWAY CHUTE WALL. BACKFILL POTENTIAL VOIDS WITH STRUCTURAL CONCRETE.



SPILLWAY CHUTE WALL ANCHOR SECTION B
SCALE IN FEET

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS		
NO.	DESCRIPTION	DATE
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URS PROJECT NO:	22241248
DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	CBG
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012
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CONTINENTAL DAM
REHABILITATION

ISSUED FOR BIDDING _____ DATE _____ BY _____

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REVISIONS

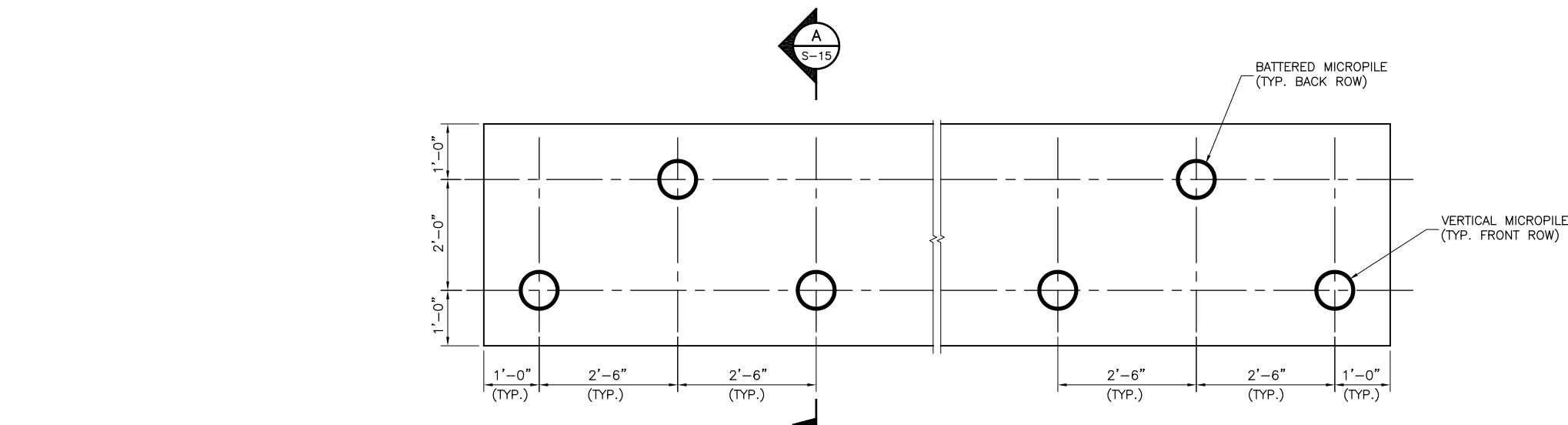
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DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	CBG
DATE CREATED:	12/2011
PLOT DATE:	12/2011
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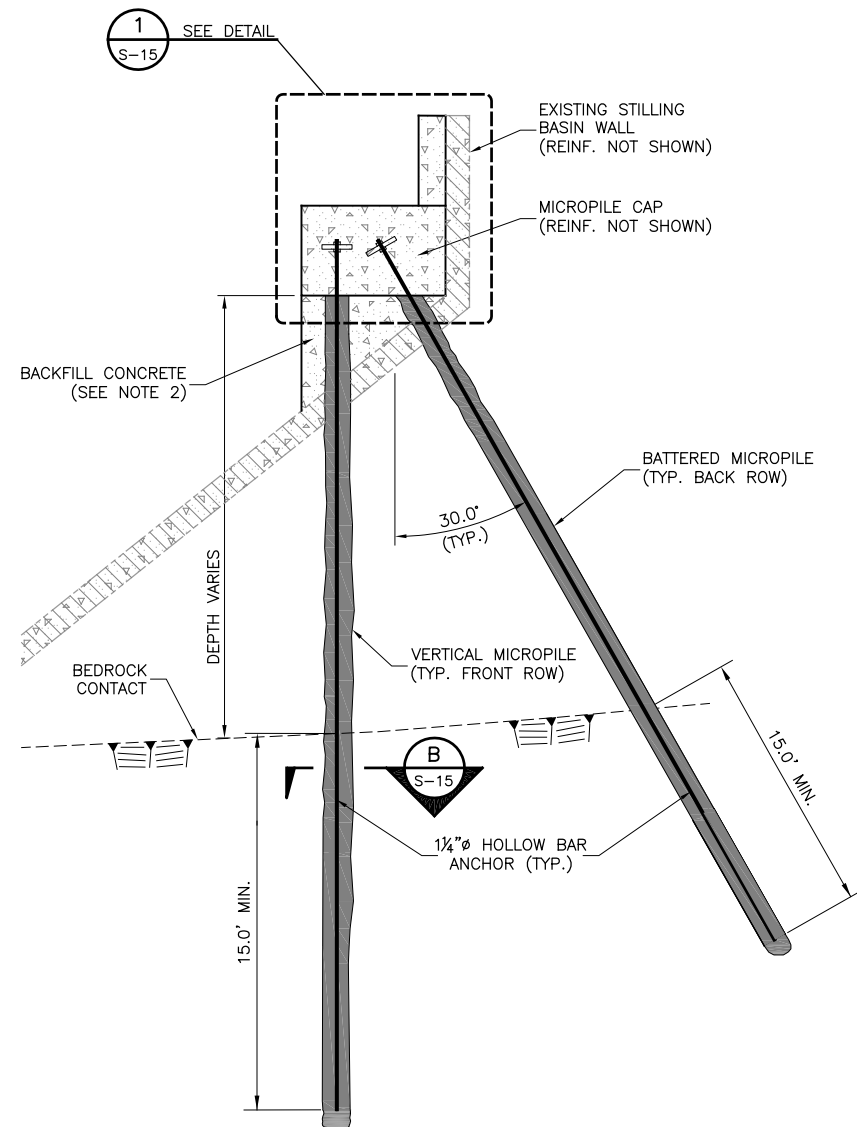
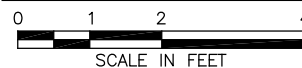
STILLING BASIN
MICROPILE WALL PLAN,
SECTIONS AND DETAILS

S-15

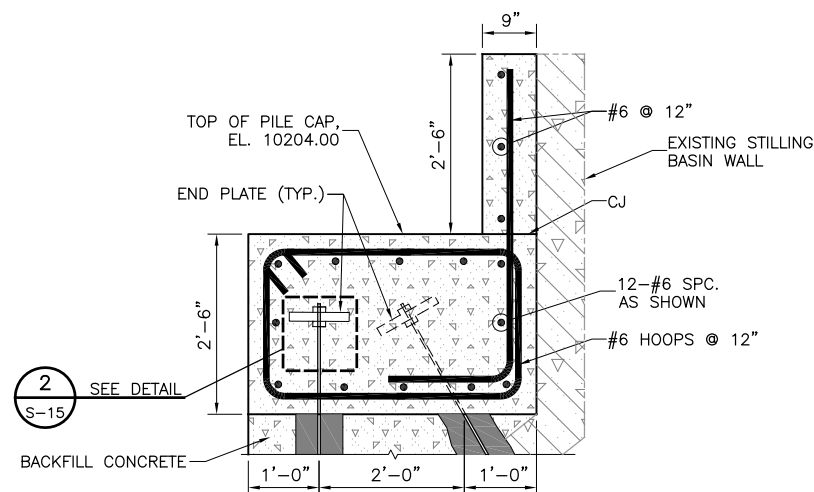
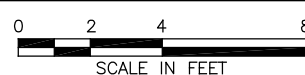
SHEET 30 OF 34



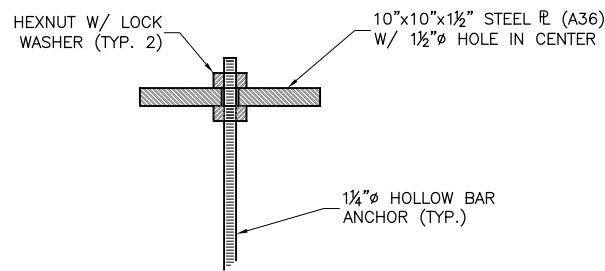
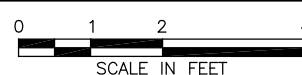
MICROPILE CAP PLAN



MICROPILE WALL TYPICAL SECTION A-A

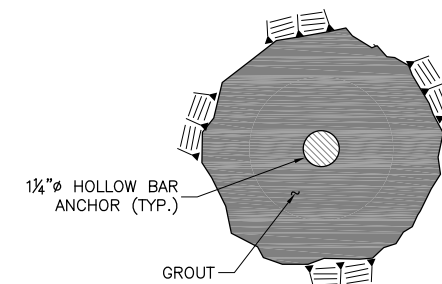


PILE CAP TYPICAL DETAIL 1-1



TYPICAL END PLATE DETAIL 2-2

NOT TO SCALE



MICROPILE TYPICAL SECTION B-B

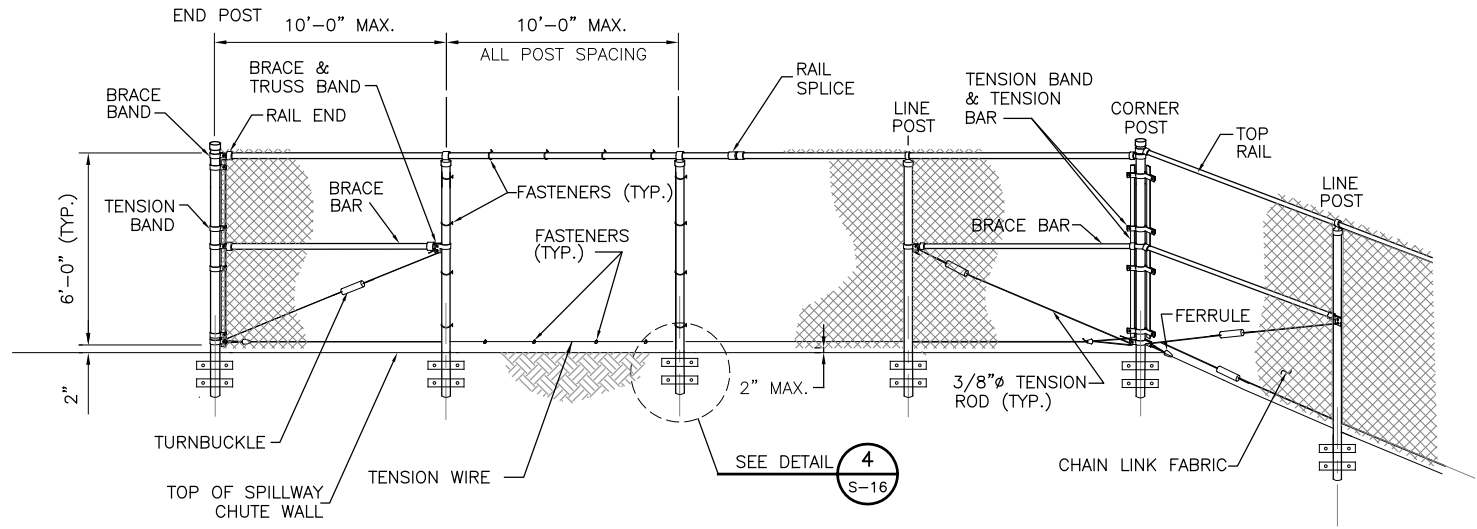
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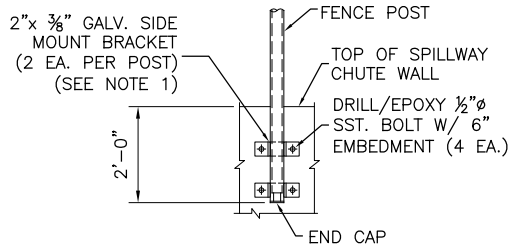
- FOR GENERAL NOTES AND MINIMUM REINFORCEMENT REQUIREMENTS, SEE SHEET G-3.
- PLACE THE BACKFILL CONCRETE LOCATED UNDER THE PILE CAP PRIOR TO INSTALLING ANY MICROPILE ANCHORS. THE MICROPILE ANCHORS ARE TO BE INSTALLED THROUGH THE BACKFILL CONCRETE.
- THE VERIFICATION MICROPILE SHALL BE INSTALLED IN THE AREA IMMEDIATELY DOWNSTREAM OF THE EXISTING STILLING BASIN. THE VERIFICATION MICROPILE SHALL BE LOCATED BY THE ENGINEER.
- LOCATION OF MICROPILE WALL SHALL BE DETERMINED IN FIELD BY THE ENGINEER.

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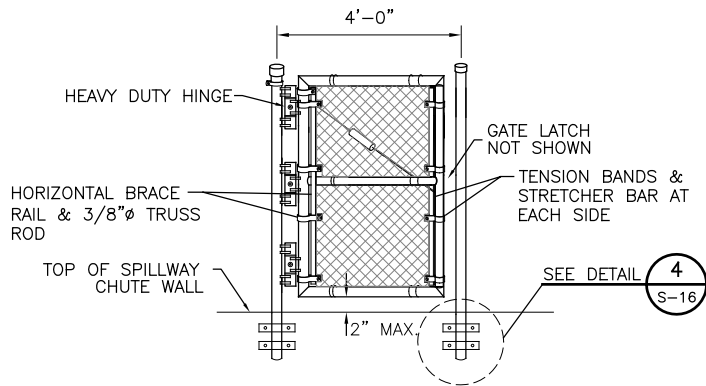
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HOER, WARREN, 1/9/2013 11:24 AM



TYPICAL CHAIN LINK FENCE DETAIL (3)
NOT TO SCALE
S-16



FENCE POST WALL BRACKET DETAIL (4)
NOT TO SCALE
S-16



CHAIN LINK FENCE PEDESTRIAN GATE DETAIL (5)
NOT TO SCALE
S-16

- NOTES:**
1. PLACE STEEL SHIMS (GALV.) AS REQUIRED BETWEEN THE MOUNTING BRACKETS AND THE SPILLWAY CHUTE WALL TO PLUMB THE FENCE POSTS.

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**SANTA MARIA
RESERVOIR
COMPANY**

**CONTINENTAL DAM
REHABILITATION**

ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

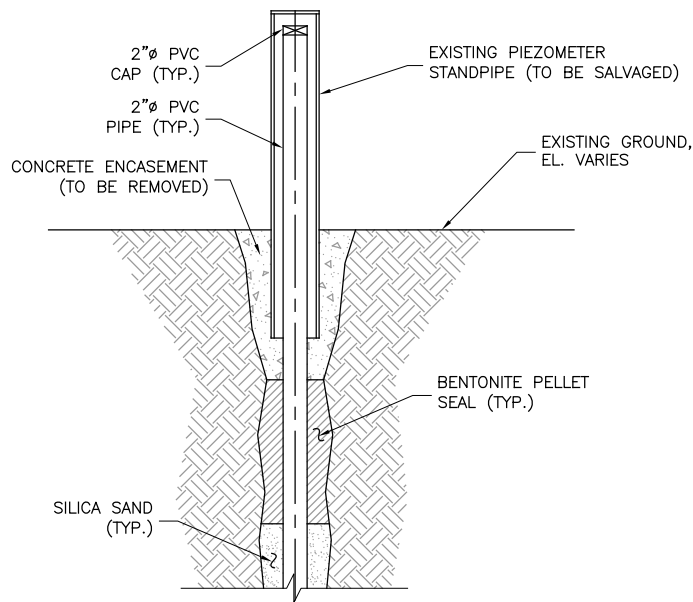
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NO.	DESCRIPTION	DATE
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URS PROJECT NO:	22241248
DRAWN BY:	WDH
DESIGNED BY:	CJW
CHECKED BY:	CBG
DATE CREATED:	12/2011
PLOT DATE:	12/2011
SCALE:	AS SHOWN
ACAD VER:	2012
DRAWING TITLE	

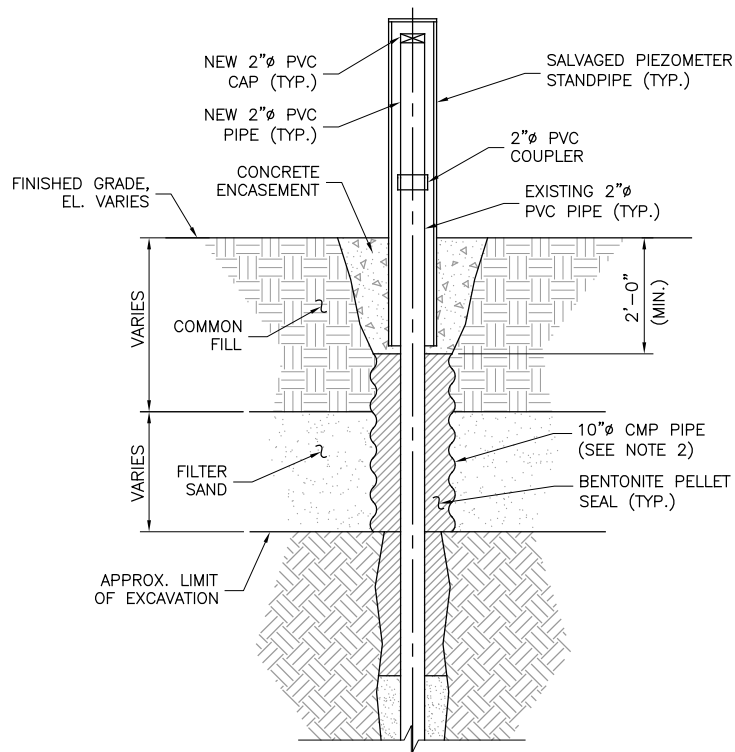
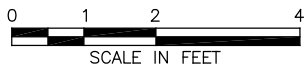
**MISCELLANEOUS
DETAILS**

S-16
SHEET 31 OF 34

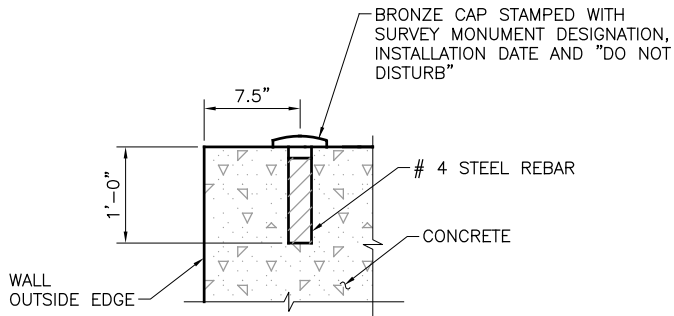
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HOEER, WARREN, 1/9/2013 11:24 AM



EXISTING PIEZOMETER TYPICAL DETAIL (1)
G-5

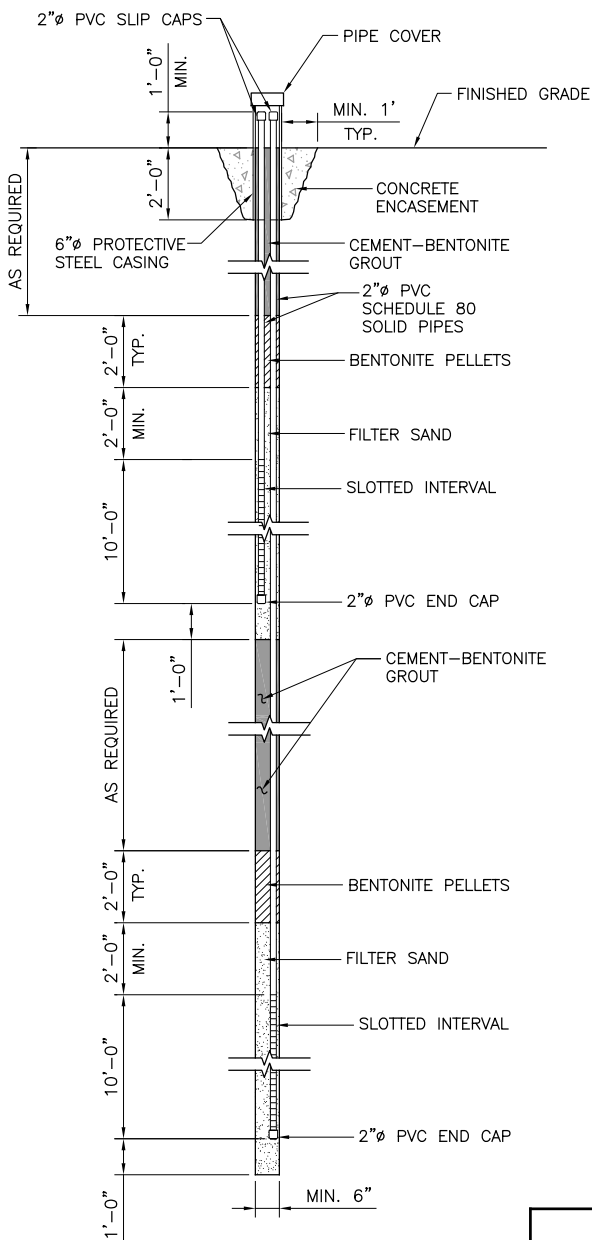


PIEZOMETER RAISE TYPICAL DETAIL (4)
G-5

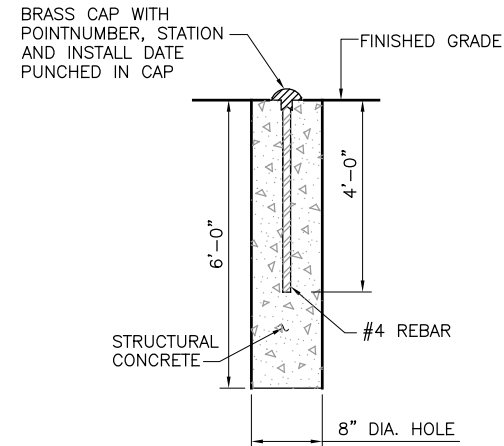


STRUCTURAL SURVEY POINT (SSP) DETAIL (2)
S-4.9

NOT TO SCALE



NEW PIEZOMETER DETAIL (5)
G-5



TYPICAL MOVEMENT MONUMENT AND BENCH MARK DETAIL (3)
G-5

NOT TO SCALE

TABLE 11 - STRUCTURAL SURVEY POINT SCHEDULE

STRUCTURAL SURVEY POINT NO.	NORTHING	EASTING	TOP OF CONCRETE EL. (FEET)	COMMENTS
SSP-1	448929.55	507938.36	10290.50	LEFT SPILLWAY CREST WALL
SSP-2	448926.10	507957.05	10290.50	RIGHT SPILLWAY CREST WALL
SSP-3	449182.87	507911.34	10208.00	LEFT STILLING BASIN WALL
SSP-4	449185.24	507923.01	10208.00	RIGHT STILLING BASIN WALL

TABLE 12 - MOVEMENT MONUMENT SCHEDULE

MOVEMENT MONUMENT NO.	STATION	NORTHING	EASTING	ELEV. W/O CAMBER
MM-1	0+50	448956.46	507912.47	10290.00
MM-2	1+32	449044.57	507845.76	10265.00
MM-3	2+50	448994.05	507716.03	10290.00
MM-4	2+50	449066.75	507729.87	10265.00

NOTES:

- THE EXISTING PIEZOMETERS ARE TO BE PROTECTED DURING EXCAVATION ACTIVITIES. USE CAUTION WHEN EXCAVATING AND PLACING MATERIAL ADJACENT TO THE EXISTING PIEZOMETERS.
- PLACE THE 10" CMP PIPE OVER THE EXISTING 2" PVC PIPE AFTER EXCAVATION IS COMPLETE. FILL THE ANNULAR SPACE BETWEEN THE 10" CMP PIPE AND THE 2" PVC PIPE WITH BENTONITE PELLETS.

TABLE 13 - PIEZOMETER SCHEDULE

PIEZOMETER NO.	DAM CREST STATION	NORTHING	EASTING	SLOTTED ELEVATION	FINISHED GRADE ELEVATION
PZ-A1	1+27.0	448970.93	507836.84	10205-10215	10290.0
PZ-A2	1+27.0	448970.93	507836.84	10230-10240	10290.0
PZ-A3	1+27.0	449043.61	507850.75	10205-10215	10265.0
PZ-A4	1+27.0	449043.61	507850.75	10230-10240	10265.0

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DRAWN BY: WDH

DESIGNED BY: CJW

CHECKED BY:

DATE CREATED: 12/2011

PLOT DATE: 12/2011

SCALE: AS SHOWN

ACAD VER: 2012

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**INSTRUMENTATION
DETAILS**

I-1

SHEET 32 OF 34

HOER, WARREN, 1/9/2013 11:16 AM
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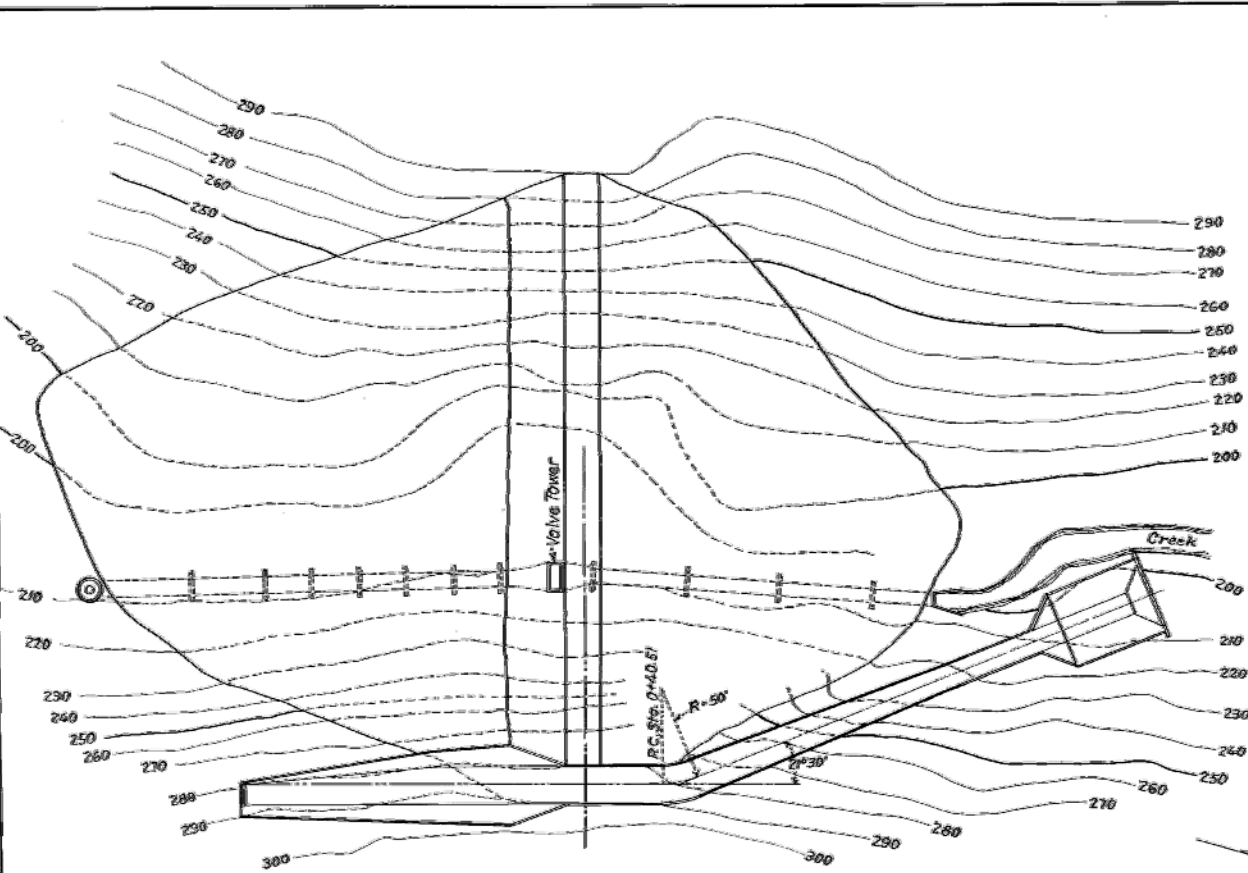
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DRAWING TITLE

SPILLWAY DETAILS

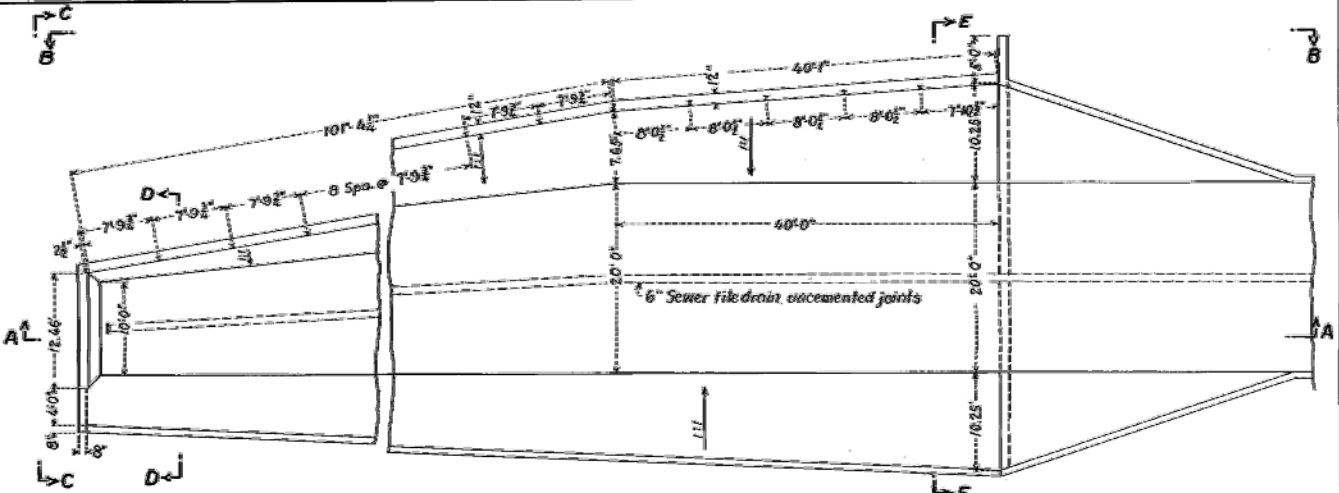
R-1

SHEET 33 OF 34

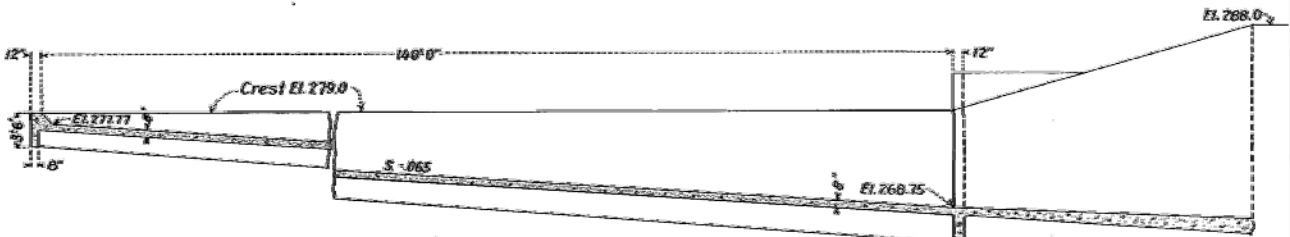


GENERAL PLAN OF SPILLWAY

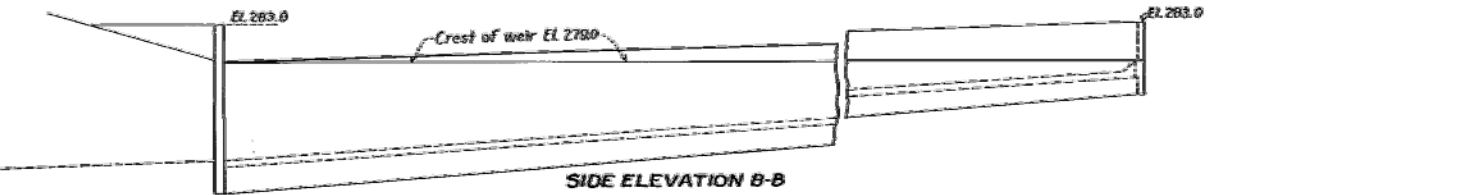
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Scale of Feet



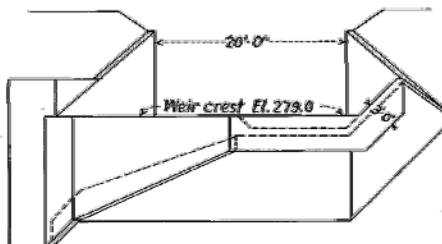
PLAN OF SIDE CHANNEL SPILLWAY



LONGITUDINAL SECTION A-A



SIDE ELEVATION B-B



FRONT ELEVATION C-C

Longit. bars continuous thru construction joints.
Copper expansion strip-22 ga. x 6" wide.

A screed board notched to receive the longit. steel shall be used to form construction joints across base and up slope of walls at intervals of 20 feet. The screed board shall be removed before pouring adjacent panel.

DETAIL OF CONSTRUCTION JOINT

NOTES

Reinforcement bars shall be placed so that the centers of bars in the outer layer will be 2" from the face of the concrete unless otherwise shown. Lap all bars 40 diameters at splices. Slagger splices. The vertical face of the weir shall be backfilled as directed by the engineer. For details of Chute and Stilling Pool see Sheet 2

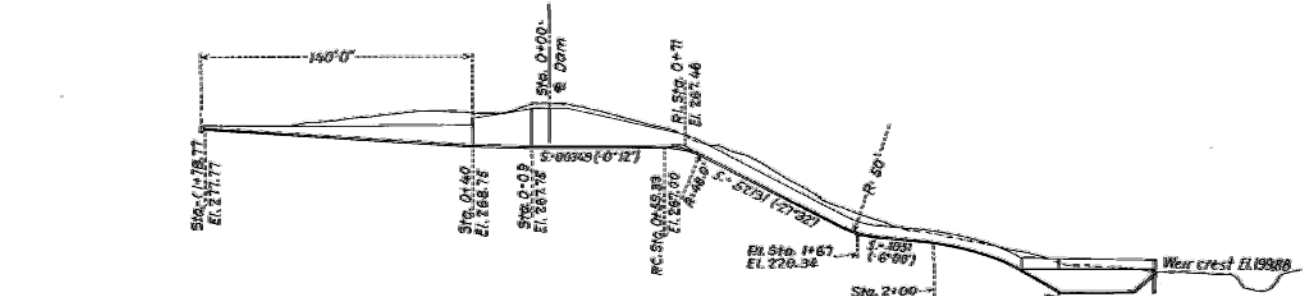
ESTIMATED QUANTITIES

Concrete (in Weir Section) 172 Cu. Yds.
Concrete (Spillway channel lining) 90 Cu. Yds.
Reinforcement Steel 4450 Lbs.
Structural Steel 437 Lbs.

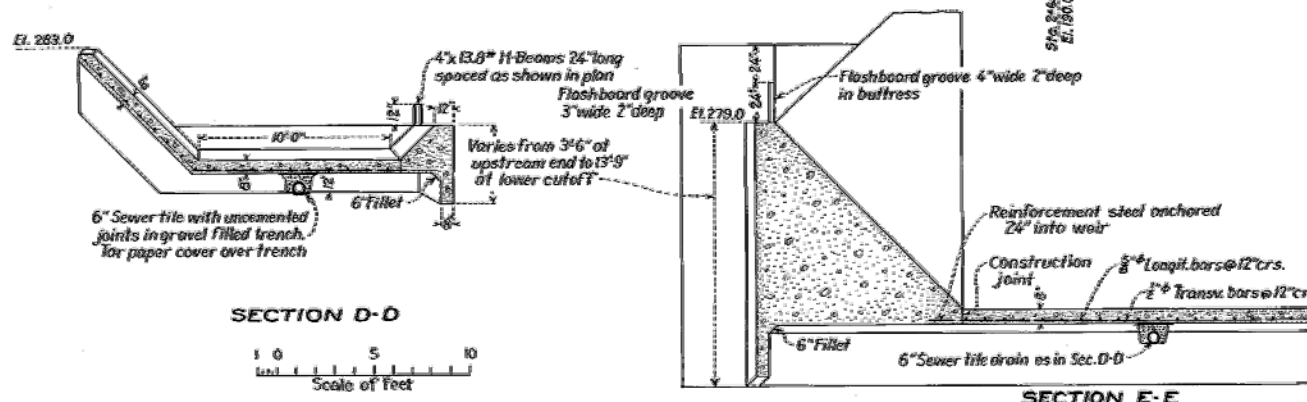
Approved on the 30th day of August, 1932.
M. L. Henderson
SITE ENGINEER

DEL NORTE IRRIGATION DISTRICT-COLO.
CONTINENTAL RESERVOIR
SIDE CHANNEL SPILLWAY
CHUTE AND STILLING POOL
SPILLWAY DETAILS
IRRIGATION DIVISION 3. WATER DISTRICT 20.
Burton Lowther Consulting Engr.
Denver, Colo. August, 1932.
SHEET 1 OF 2 SHEETS

C-259



PROFILE



SECTION D-D

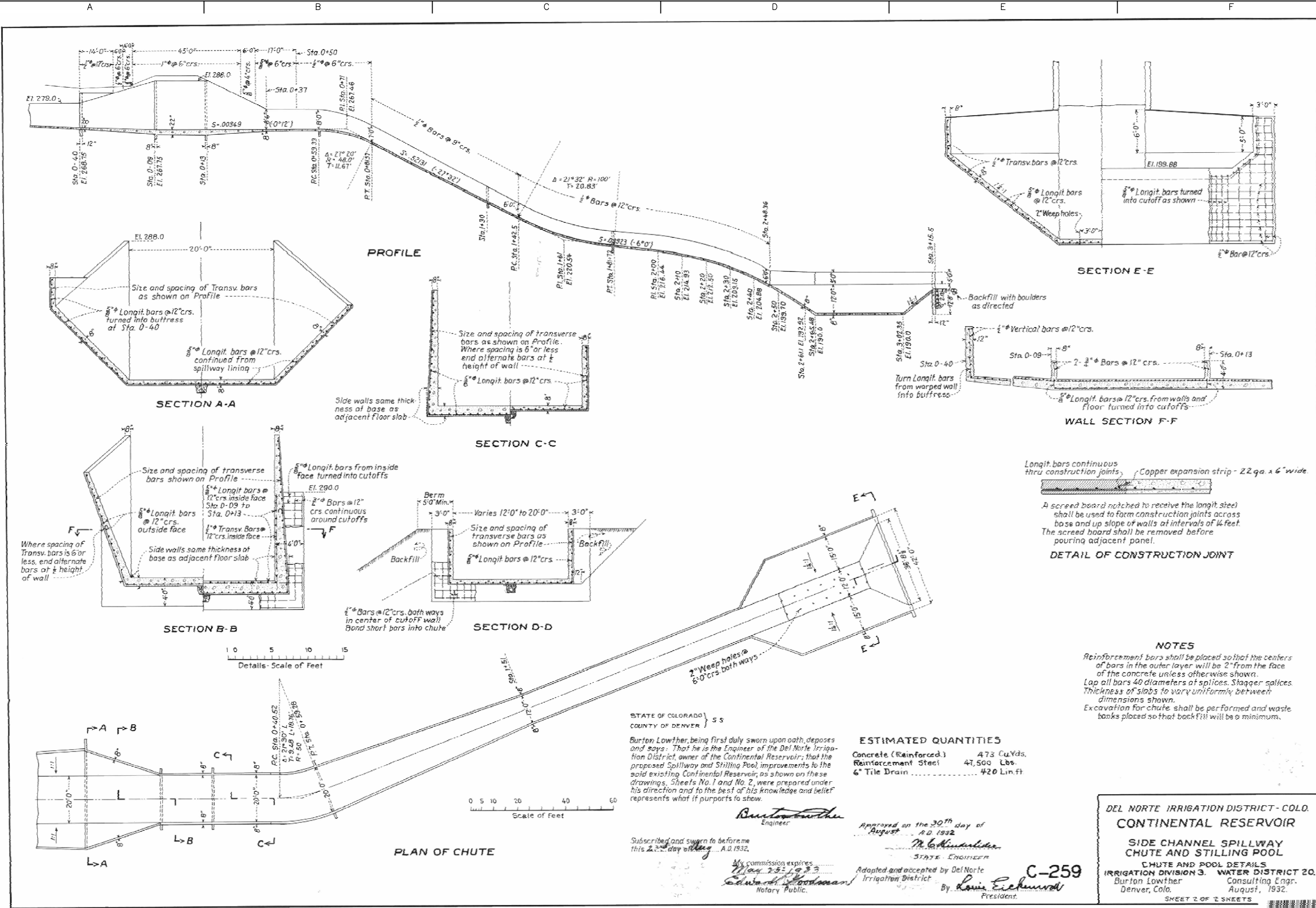
0 5 10
Scale of Feet

SECTION E-E

NOT TO SCALE

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DESIGNED BY: CJW

CHECKED BY: -

DATE CREATED: 12/2011

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CHUTE AND
POOL DETAILS

R-2

SHEET 34 OF 34

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