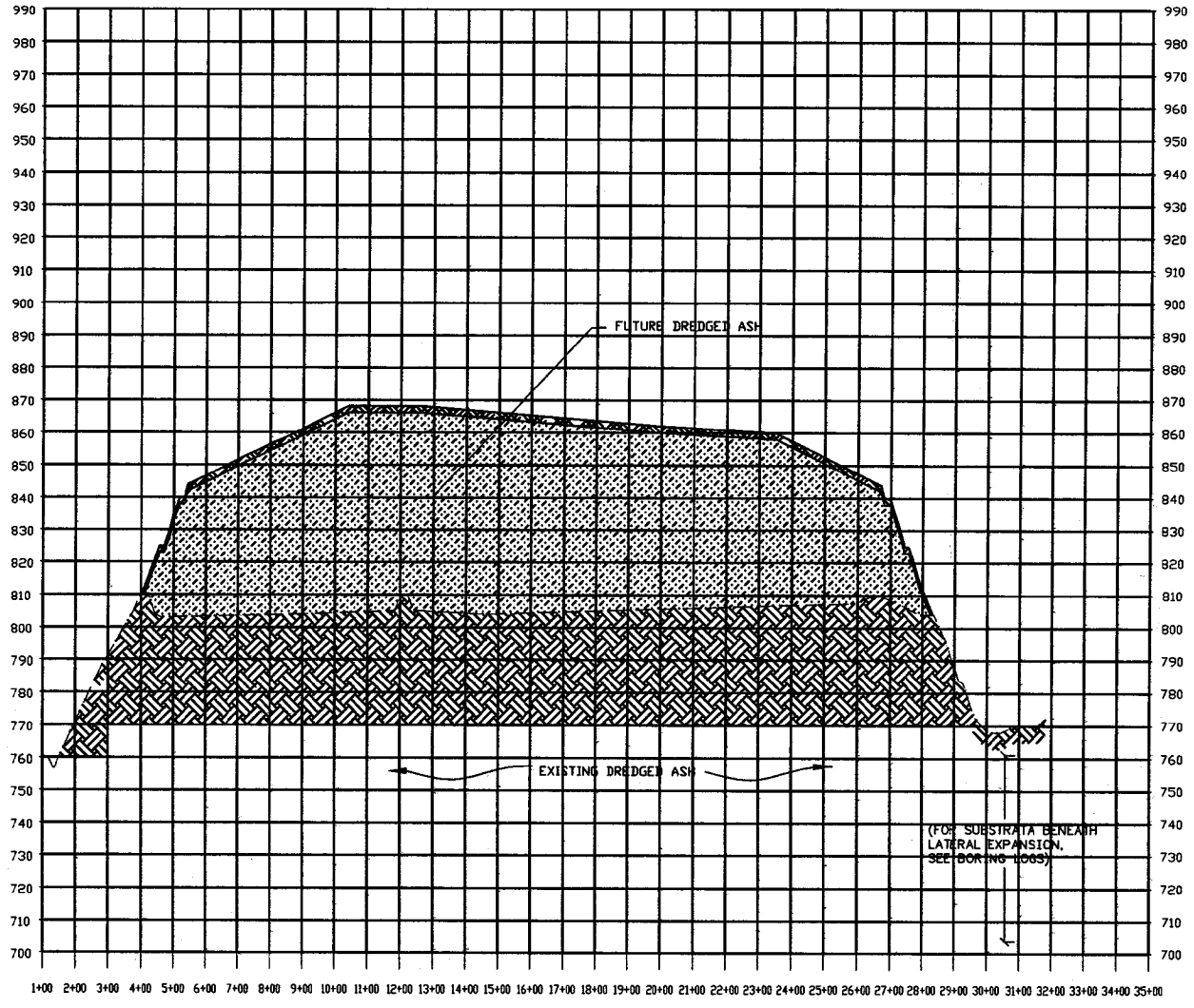
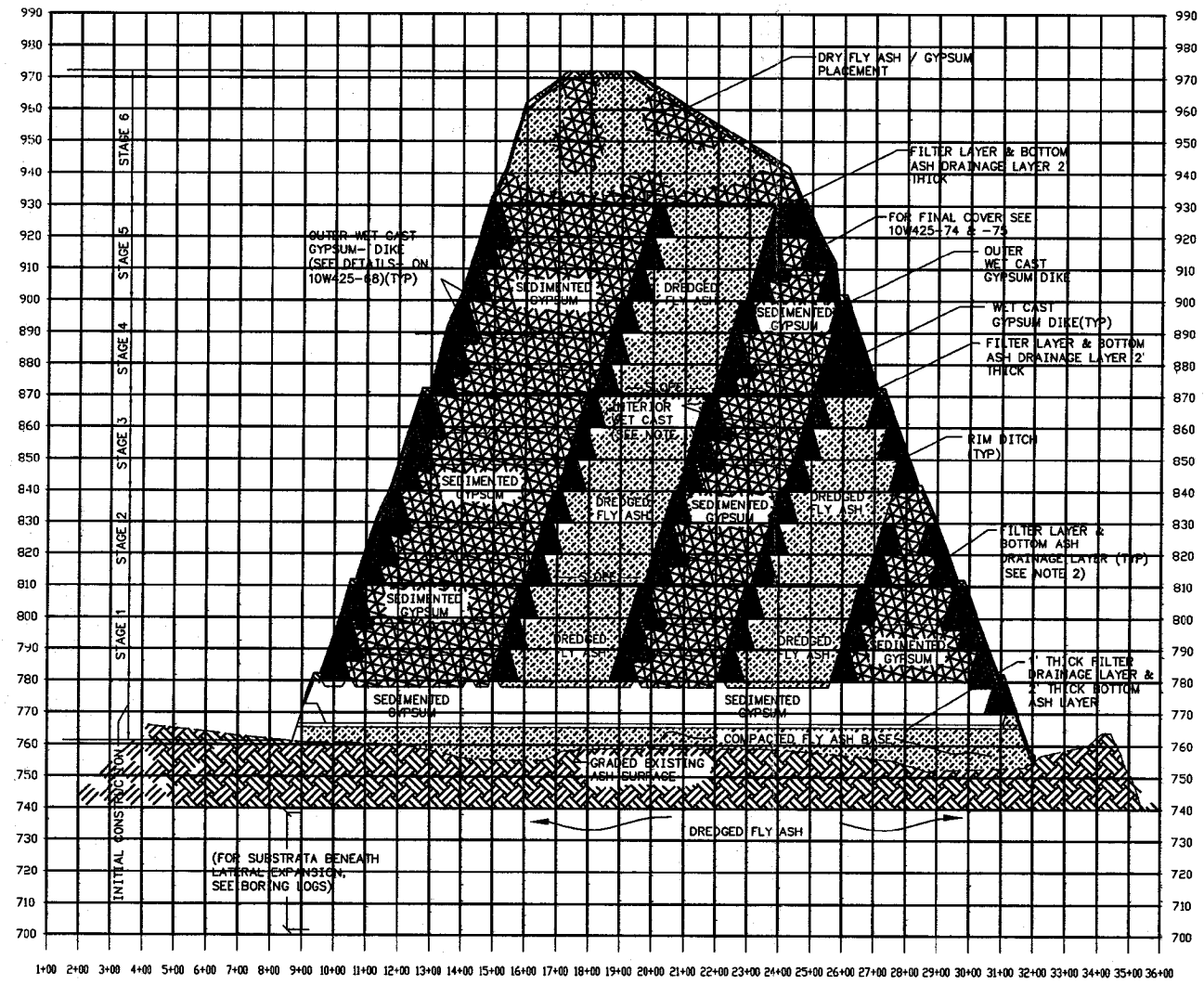


SECTION A63

CLOSED EXISTING DREDGE CELLS

1" = 200' HORIZONTAL

1" = 20' VERTICAL



SECTION B63

CLOSED PHASE 2 & 3

1" = 200' HORIZONTAL

1" = 20' VERTICAL

NOTES FOR SECTION B63

1. CONSTRUCT INTERIOR WET CAST DIKES IN ACCORDANCE WITH DETAIL A72 ON 10W425-72, EXCEPT THAT PERIMETER UNDERDRAIN IS NOT REQUIRED.
2. BOTTOM ASH DRAINAGE LAYER SHALL CONSIST OF 1' THICK FILTER LAYER (BOTTOM ASH/FLY ASH MIXTURE). CROWN THE DRAIN IN THE CENTER SO THAT IS DRAINS TO EITHER SIDE AS SHOWN. MAINTAIN ELEVATION HIGHER IN THE CENTER OF FACILITY. DECANT WATER FROM CELL AND PLACE WET ASH & GYPSUM INTO CELL TO OBTAIN PROPER ELEVATION PRIOR TO PLACEMENT OF BOTTOM ASH LAYER. FLY ASH & GYPSUM DISPOSAL AREAS SHOWN IN PLAN VIEW MAY BE SUBDIVIDED AS NECESSARY TO FACILITATE SEQUENCED DRAINAGE LAYER CONSTRUCTION.
3. GRANULAR DRAINS BENEATH COMPACTED FLY ASH BASE NOT SHOWN. SEE DETAIL A65.

REV NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	DISCIPLINE INTERFACE
R 0		DRS	BSB	WPT	HLP	REP	JGA		F05052		
ISSUED FOR DREDGE CELL EXPANSION											

SCALE: EXCEPT AS NOTED

YARD

DREDGE CELL
DREDGED FLY ASH/DRY FLY ASH DISPOSAL OPTION SECTIONS SHEET#2

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	B.S. BURT	W.P. TAYLOR	H.L. PETTY	R.E. PURVEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R14	DATE	36	10W425-63	R 0

PARSONS	0
TASK COMPLETED BY:	REV NO.

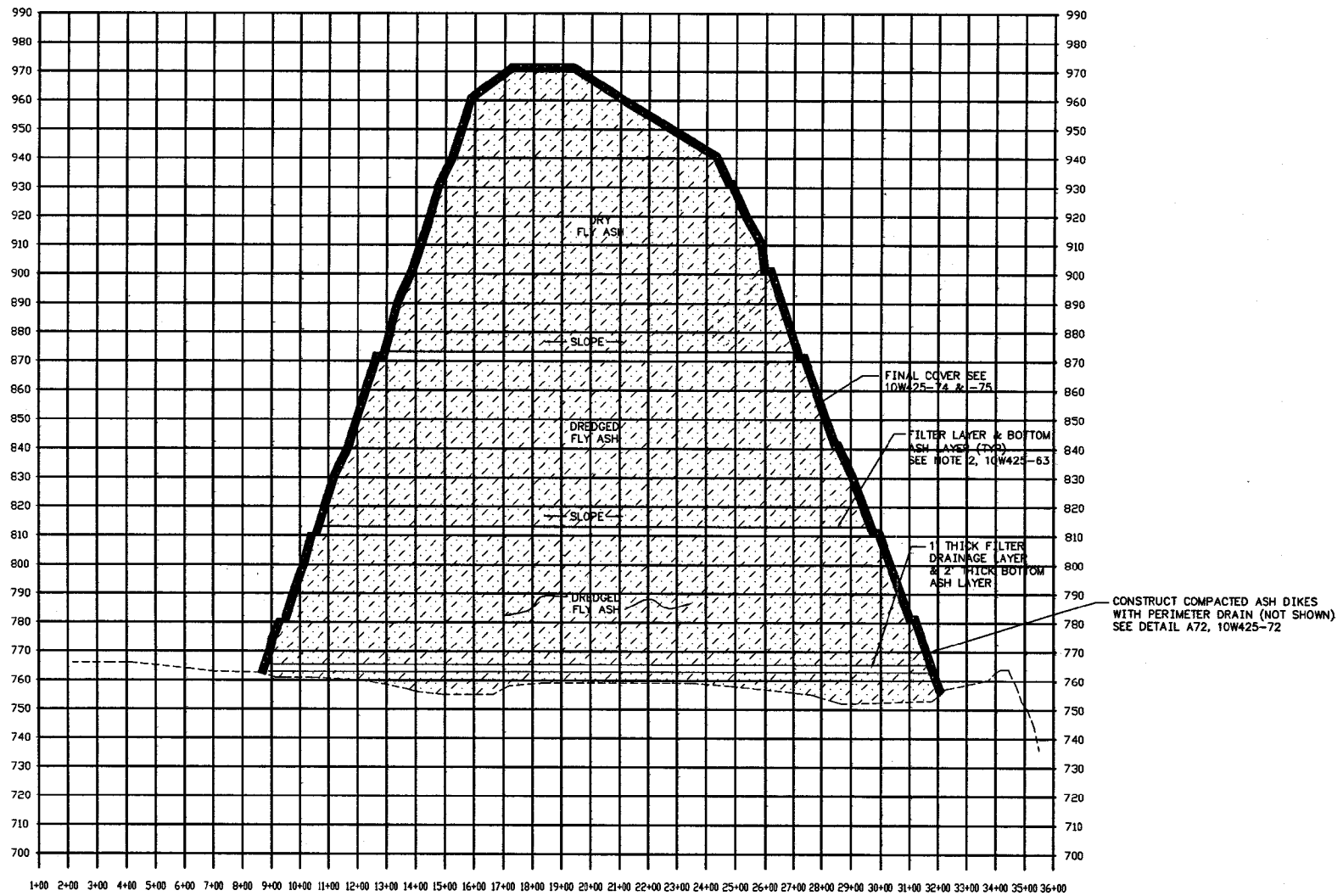
PLOT FACTOR:1200
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

TVA-00002876

NOTES:

1. FOR DRAWINGS LIST AND LEGEND SEE 10W425-20
2. FOR GENERAL NOTES SEE 10W425-26



SECTION A64

REV NO.	DATE	DSGN	DRWN	CHKD	SURV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV NO.
R 0		DRS	BSB	WPT	HLP	REP	JGA		FOS052		
ISSUED FOR DREDGE CELL EXPANSION											

DISCIPLINE INTERFACE

SCALE: 1"=100' EXCEPT AS NOTED

YARD

DREDGE CELL EXPANSION
DREDGED FLY ASH/DRY FLY ASH DISPOSAL OPTION SHEET #1

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	B.S. BURT	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

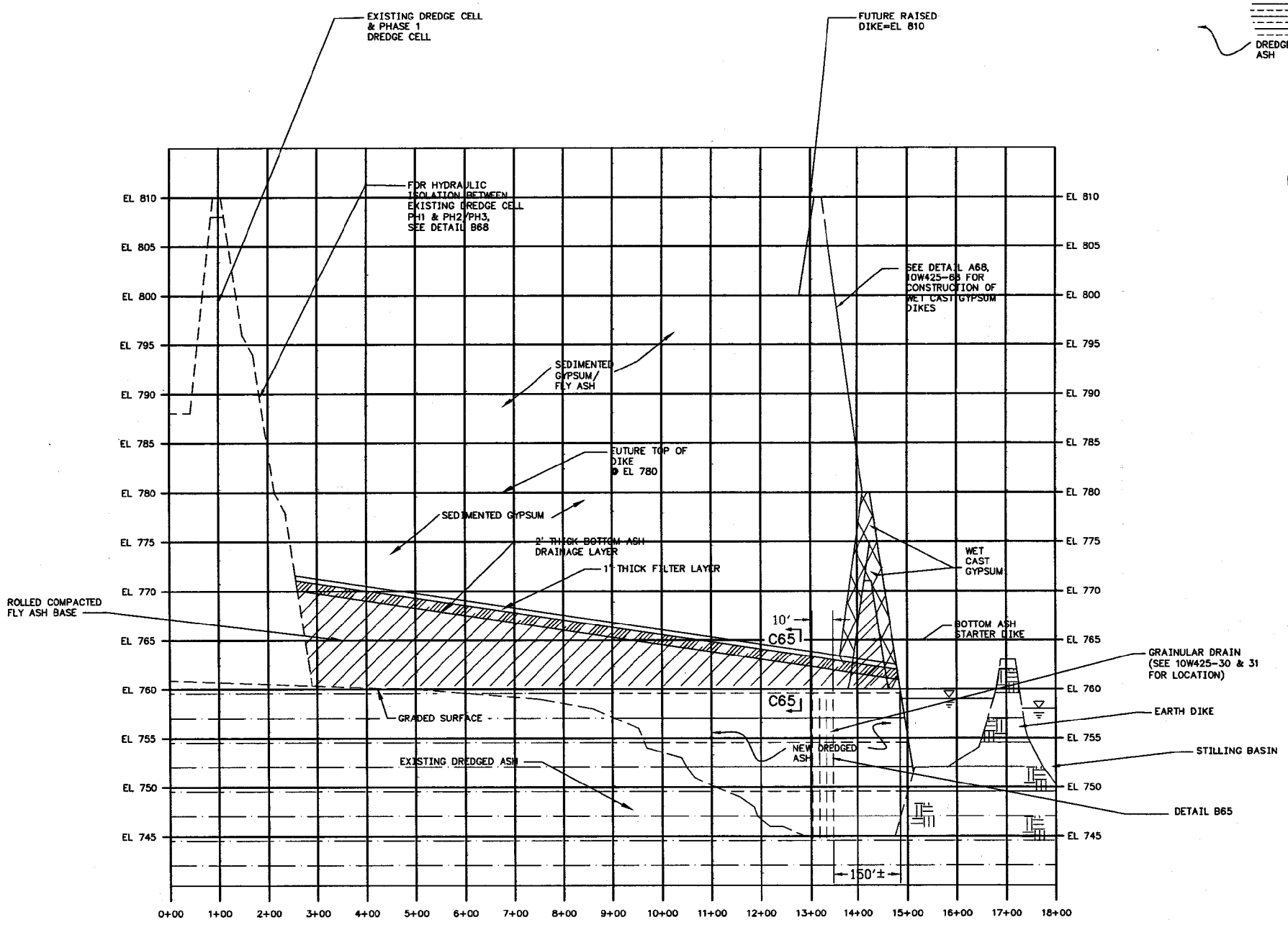
AUTOCAD R14	DATE	36	C	10W425-64	R 0

PARSONS	0
TASK COMPLETED BY:	REV NO.

PLOT FACTOR:1200
W_TVA

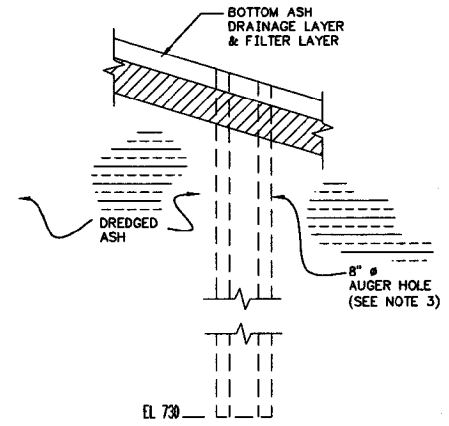
C.A.D. DRAWING
DO NOT ALTER MANUALLY

TVA-00002877



SECTION A 65
TYPICAL CROSS SECTION
INITIAL PHASE 2/PHASE 3 CONSTRUCTION

SCALE: 1" = 100' HORIZONTAL
1" = 5' VERTICAL



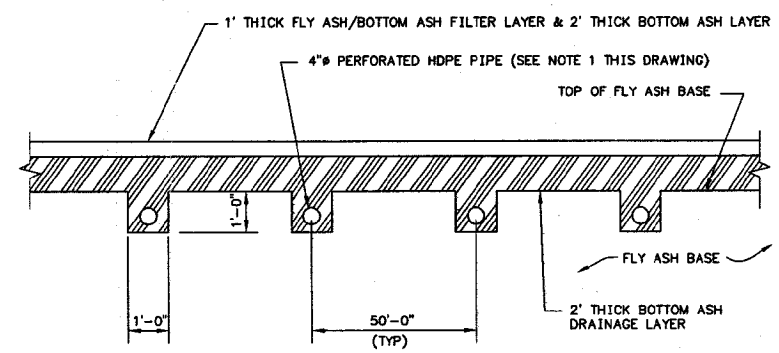
DETAIL B65

NOTES:

1. FOR DRAWINGS LIST AND LEGEND SEE 10W425-20
2. FOR GENERAL NOTES SEE 10W425-26
3. INSTALL GRAINULAR DRAINS IN 2 ROWS. SPACING SHALL BE 10' STAGGERED HOLES IN EACH ROW BY 5 FT. GRAINULAR MATERIAL FOR DRAIN SHALL BE BOTTOM ASH. INSTALLATION SHALL BE BY SPECIALITY CONTRACTOR SUBCONTRACTED BY TVA FES.
4. INSTALL GRANNULAR COLUMNS AFTER CONSTRUCTION OF FLY ASH BASE.

NOTES FOR HDPE PIPING:

1. PIPE AND FITTINGS SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE) PE 3408 PIPE, CELL CLASSIFICATION 345444C, IN ACCORDANCE WITH ASTM D 3350. ALL PIPING AND FITTINGS SHALL BE NEW AND THE SAME MATERIAL AND HAVE A DIMENSION RATION OF 35 IN ACCORDANCE WITH ASTM D 714.
2. HDPE PIPING AND FITTINGS SHALL BE JOINED BY BUTT FUSION WELDING, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
3. UNDERDRAIN PIPING SHALL BE PERFORATED 1/8 INCH DIA IN ACCORDANCE WITH ASTM F810. HOLES SHALL BE EQUALLY SPACED, ON 5-INCH OUTERS, ROWS AND SPACES SHALL BE PARALLEL TO THE AXIS OF THE PIPE AND SHALL BE 120±5.



SECTION C65

R												
R 0		DRS	JLM	WPT	HLP	REP	JGA					
ISSUED FOR DREDGE CELL EXPANSION												
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWR	APPD	ISSD	PROJECT EP	AS CONST	REV. NO.	

SCALE: EXCEPT AS NOTED

YARD

DREDGE CELL
LATERAL EXPANSION PHASE 2/3
TYPICAL CROSS SECTION & DETAILS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	J.L. MILES	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

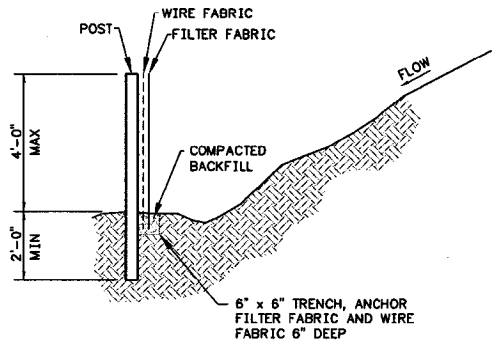
AUTOCAD R14	DATE	36	C	10W425-65	R 0

PLOT FACTOR:100
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

PARSONS	0
TASK COMPLETED BY:	REV NO.

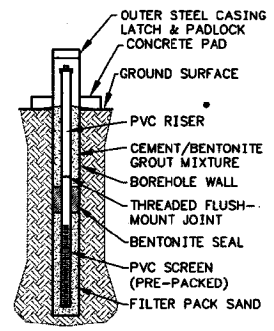
TVA-00002878



DETAIL A66
TEMPORARY SILT FENCE

NOTES:

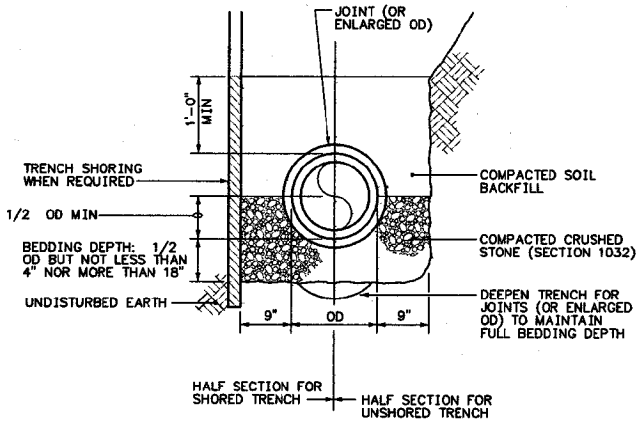
1. FILTER FABRIC FENCE TO BE PLACED PRIOR TO THE START OF ROUGH GRADING.
2. STEEL POSTS SHALL BE METAL "T" POSTS – 6'–0" LONG.
3. WOOD POSTS SHALL BE 2" x 2" NOMINAL OR LARGER (CCA TREATED).
4. POSTS SHALL BE PLACED AT 5' INTERVALS MAX.
5. WIRE FABRIC AND FILTER FABRIC SHALL BE SECURELY BOUND TO POSTS WITH EITHER STAPLES OR WIRE TIES.
6. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONDITION OF FILTER FABRIC FENCE IN A CONDITION THAT IS SATISFACTORY UNTIL FINAL ACCEPTANCE OF WORK.
7. FILTER FABRIC SHALL BE A CLASS A FABRIC IN ACCORDANCE WITH TVA SPECIFICATION T-1, SECTION 571.



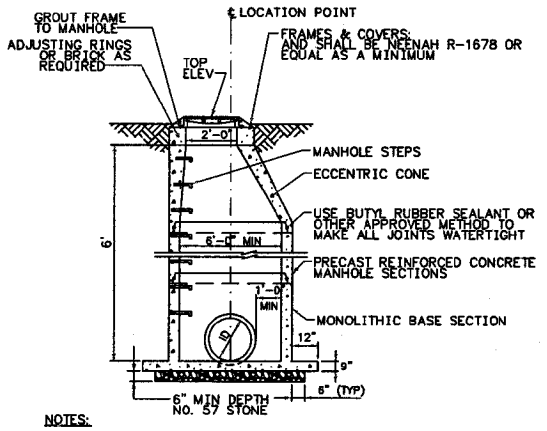
DETAIL B66
TYPICAL PVC MONITORING WELL MW-1 THROUGH 9

NOTES:

1. MONITORING WELL INSTALLATION RECORDS ARE CONTAINED IN THE HYDROGEOLOGICAL REPORT APRENDED TO THE OPERATIONS PLAN.
2. BOLLARDS ARE SHOWN ON DETAIL F66.



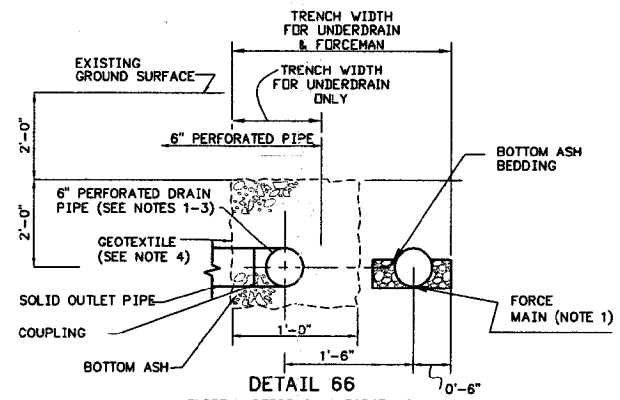
DETAIL E66
CLASS "B" PIPE BEDDING



NOTES:

1. ALL PRECAST RISERS, CONES, BASES, TOPS, AND STEPS SHALL CONFORM TO ASTM C 478.
2. GROUT ANNULAR SPACE BETWEEN WALL AND PIPE WITH NON-SHRINK MORTAR TO ENSURE WATERTIGHT SEAL.

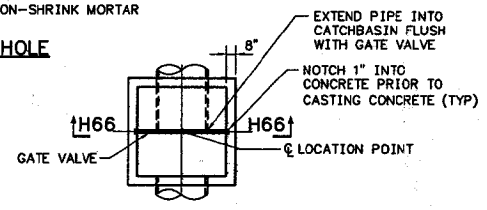
DETAIL C66 – PRECAST CONCRETE MANHOLE
NOT TO SCALE



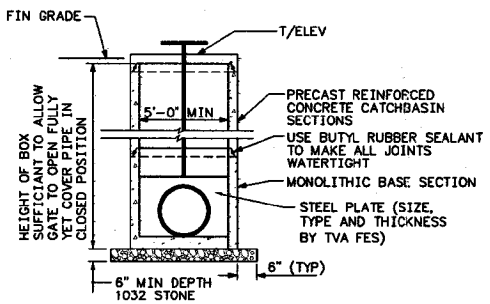
DETAIL 66
SLOPE UNDERDRAIN & FORCEMAIN DETAIL

NOTES:

1. FOR DRAWINGS LIST AND LEGEND SEE 10W425-20
2. FOR GENERAL NOTES SEE 10W425-26



DETAIL G66
PRECAST CONCRETE CATCH BASIN



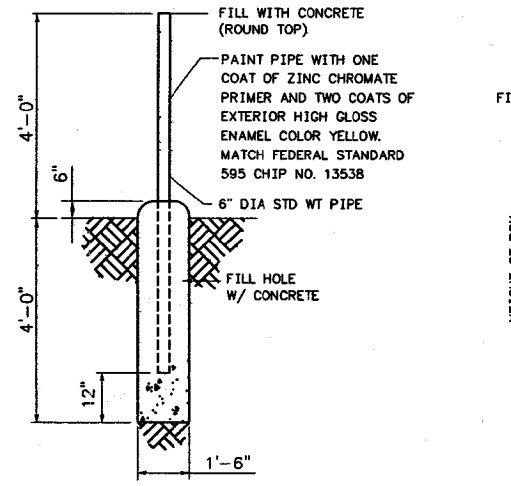
NOTES:

1. ALL PRECAST RISERS, CONES, BASES, TOPS, AND STEPS SHALL CONFORM TO ASTM C 478.
2. GROUT ANNULAR SPACE BETWEEN WALL AND PIPE WITH NON-SHRINK MORTAR TO ENSURE WATERTIGHT SEAL.

SECTION H66

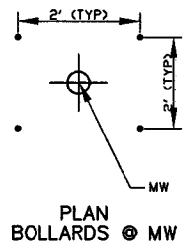
NOTES FOR SLOPE UNDERDRAIN

1. PIPE AND FITTINGS USED TO CONSTRUCT FORCE MIN PIPING SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE) PE 3408 PIPE, CELL CLASSIFICATION 345444C, IN ACCORDANCE WITH ASTM D 3350. ALL PIPING AND FITTINGS SHALL BE NEW AND THE SAME MATERIAL AND HAVE A DIMENSION RATION OF 35 IN ACCORDANCE WITH ASTM D 714.
2. ALL HDPE PIPING AND FITTINGS SHALL BE JOINED BY BUTT FUSION WELDING, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
3. PLACE WARNING TAPE APPROXIMATELY 1 FT ABOVE ALL HDPE PIPING AS BACKFILL IS BEING PLACED WITHIN TRENCH EXCAVATED FOR PIPE INSTALLATION UNDERGROUND WARNING TAPE SHALL CONSIST OF A ALUMINUM CORE, A COATED IMPRINT, AND A REINFORCED PROTECTIVE PLASTIC JACKET BONDED TO THE FOIL CORE. THE TAPE SHALL STATE THE FOLLOWING WARNING, UNDERGROUND STORM WATER FORCE MAIN.
4. GEOTEXTILE SHALL BE A WOVEN MONOFILAMENT WITH AN APPARENT OPENING SIZE (AOS) OF 70 TO 140 (US STANDARD SIEVE SIZE) WHEN TESTED IN ACCORDANCE WITH ASTM D 4751. THE GEOTEXTILE SHALL BE GEOTEX 104F AS MANUFACTURED BY SYNTHETIC INDUSTRIES OR APPROVED EQUAL. TVA FES WILL SELECT APPROPRIATE AOS FOR FABRIC.
5. PREFORATED DRAIN PIPE SHALL BE NEW MATERIAL & SHALL BE SLOTTED HDPE DRAIN TUBING AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEM (APS) OR APPROVED EQUAL. SOLID OUTLET PIPE SHALL BE NON-PERFORATED PIPE BY SAME MANUFACTURER. PIPE SHALL BE JOINED BY COUPLINGS MANUFACTURED BY ADS, OR EQUAL.

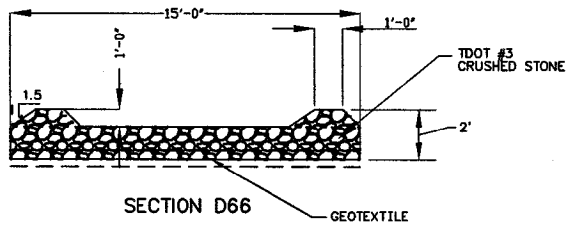


NOTE FOR DETAIL F66:
PLACE 4 BOLLARDS AROUND EACH MONITORING WELL 5 FT FROM WELL

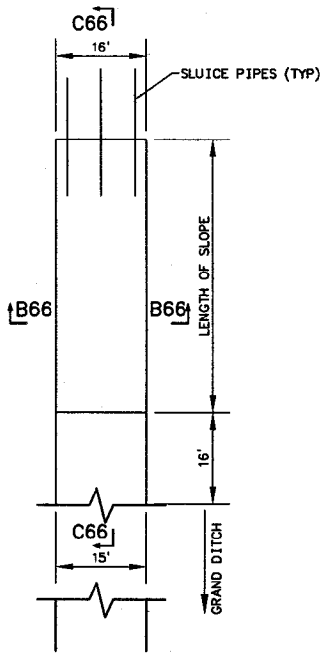
DETAIL F66
PIPE BOLLARD



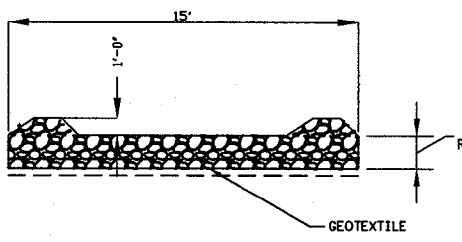
PLAN
BOLLARDS @ MW



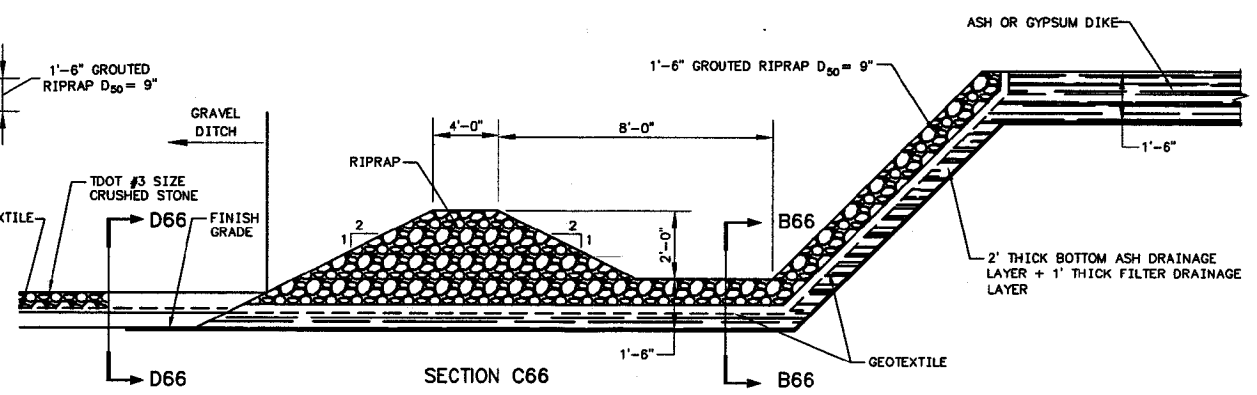
SECTION D66



PLAN E66
EROSION PROTECTION FOR SUBGRADE



SECTION B66



SECTION C66

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	REVWD	APPD	ISSD	PROJECT ENGR	AS CONST	REV NO
R 0	ISSUED FOR DREDGE CELL EXPANSION	DRS	JLM	WPT	HLP	REP	JGA				D

SCALE: NOT TO SCALE EXCEPT AS NOTED

YARD

DREDGE CELL LATERAL EXPANSION
DETAILS
SHEET #1

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	J.L. MILES	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

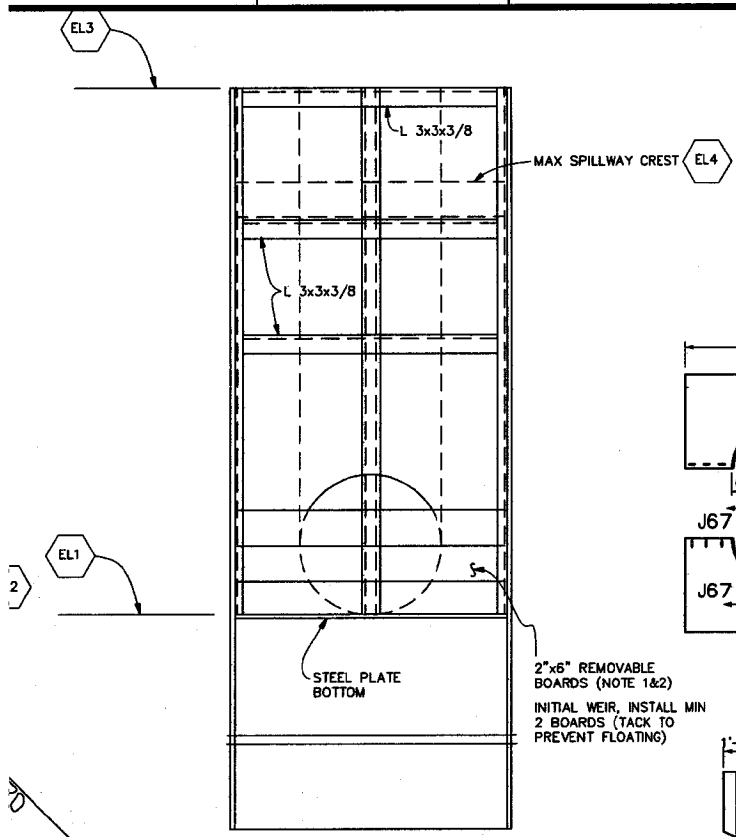
AUTOCAD R14	DATE	36	C	10W425-66	R 0

PARSONS	0
TASK COMPLETED BY:	REV NO.

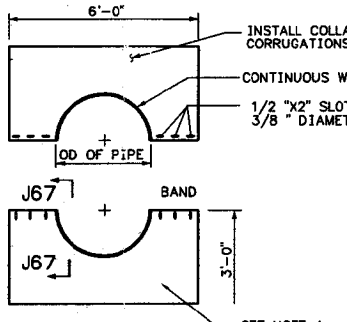
PLOT FACTOR:48
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

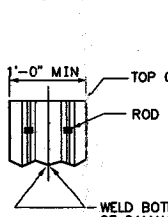
TVA-00002879



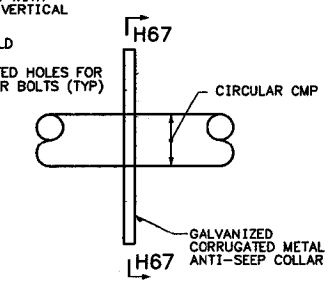
SECTION B67
NTS



SECTION H67



SECTION J67



DETAIL G67

CORRUGATED METAL ANTI-SEEP COLLAR

NOTES FOR METAL COLLARS:
1. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.

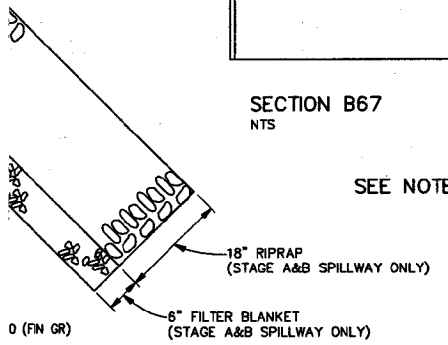
2. THE LAP BETWEEN THE TWO HALF SECTIONS INCLUDING BOLTS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.

3. EACH COLLAR SHALL BE FURNISHED WITH TWO 1/2 " DIA RODS WITH STANDARD TANK LUGS FOR CONNECTING COLLARS TO PIPE.

4. CONTRACTOR MAY CONSTRUCT ANTI-SEEP COLLARS USING 1 FT THICK CONCRETE, 3,000 PSI MIN., TO THE SAME DIMENSIONS SHOWN.

NOTES:
1. ALL TIMBER STOPLOGS SHALL BE SOUTHERN PINE NO. 2 DENSE SELECT TIMBER
2. ALL WOOD SHALL BE PRESSURE TREATED WITH 0.4–0.6 POUNDS OF PRESERVATIVE PER CUBIC FOOT OF WOOD. THE PRESERVATIVE SHALL BE WOLMAN PRESERVATIVE CCA BY KOPPERS OR EQUAL. SYNTHETIC MATERIALS (I.E. HDPE) MAY BE USED IN LIEU OF TIMBER STOPLOGS. MATERIAL SELECTION SELECTION BY TVA FES.

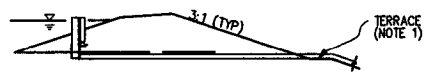
3. ALL NAILS SHALL BE GALVANIZED.
4. 30 INCH CORRUGATED METAL PIPE SHALL BE FULLY BITUMINOUS COATED AND 14 GAGE (MIN) THICKNESS.
5. RIPRAP SHALL CONSIST OF 50% OF THE STONES WEIGHING 100 LBS EACH OR GREATER, PER SECTION 575.
6. 30 INCH CROSS SECTION AND STANDPIPE NOT REQUIRED FOR STAGE E SPILLWAY.
7. A 6' x 6' HOLE SHALL BE EXCAVATED TO A DEPTH OF 8' FOR PLACEMENT OF THE 48" HALF–PIPE, THE AREA IS TO BE BACKFILLED WITH 1032 CRUSHED STONE AND COMPACTED UNTIL A STABLE BASE IS ACHIEVED.



SEE NOTE A: THIS SHEET

NOTE A:

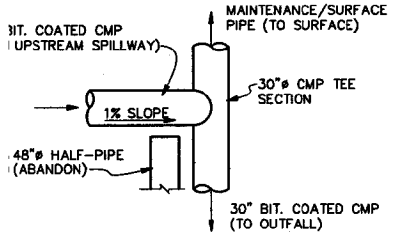
AN AGRI–DRAIN INLET (24" BY 120" WCS) IS AN ALLOWABLE ALTERNATIVE TO THIS STRUCTURE AT THE ENTRANCE AND EXIT OF THE PHASE I DREDGE CELL. SEE 10W425–77



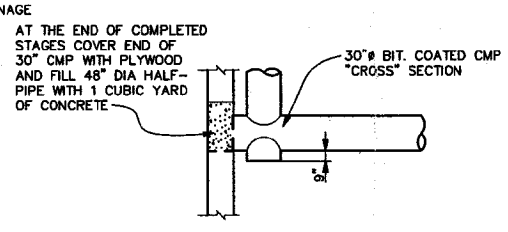
DETAIL K67

OPTIONAL METAL SPILLWAY CONFIGURATION

NOTE: DO NOT USE THIS DETAIL WHERE VEHICLE TRAFFIC MUST TRAVEL ON TERRACE.



DETAIL E67
SPILLWAY CONNECTION
1"=5'



DETAIL F67
BOTTOM OF SPILLWAY
1"=5'

R														
R 0		DRS	J&M	WPT	HLP	REP	JGA		F05052				D	DISCIPLINE INTERFACE
ISSUED FOR DREDGE CELL EXPANSION														
REV NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV NO.			

SCALE: 1"=40' EXCEPT AS NOTED

YARD

DREDGE CELL LATERAL EXPANSION METAL SPILLWAY DETAILS SHEET 2

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	J.L. MILES	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

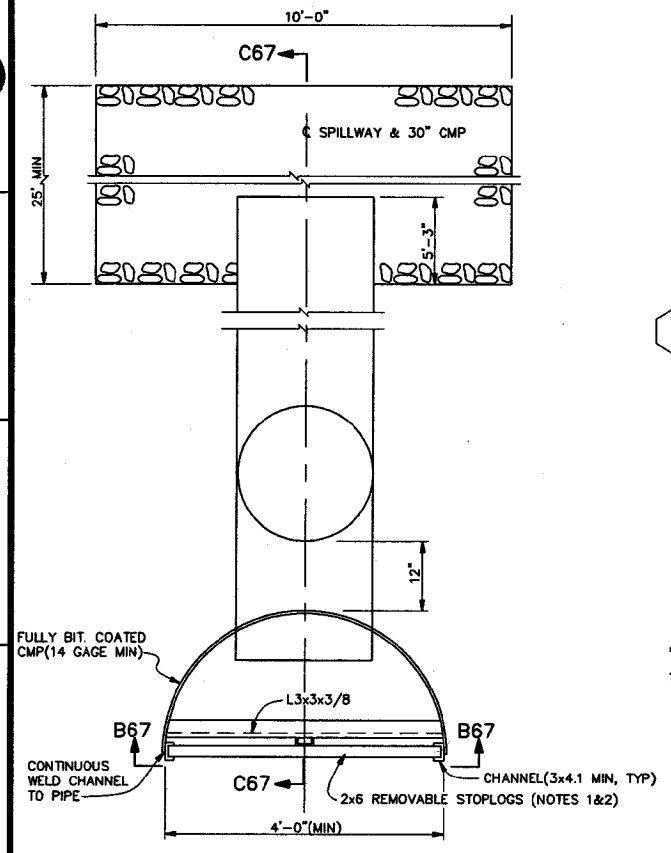
AUTOCAD R14	DATE	36	C	10W425–67	R 0

PARSONS
TASK COMPLETED BY: REV NO.

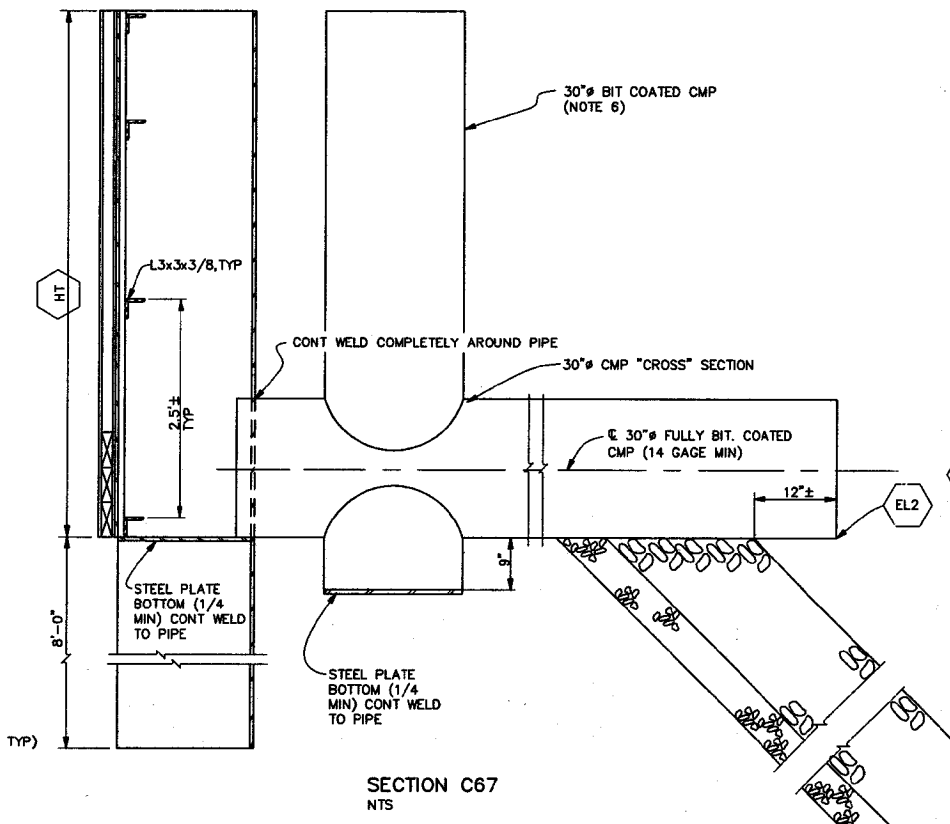
PLOT FACTOR:1=1
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

TVA-00002880

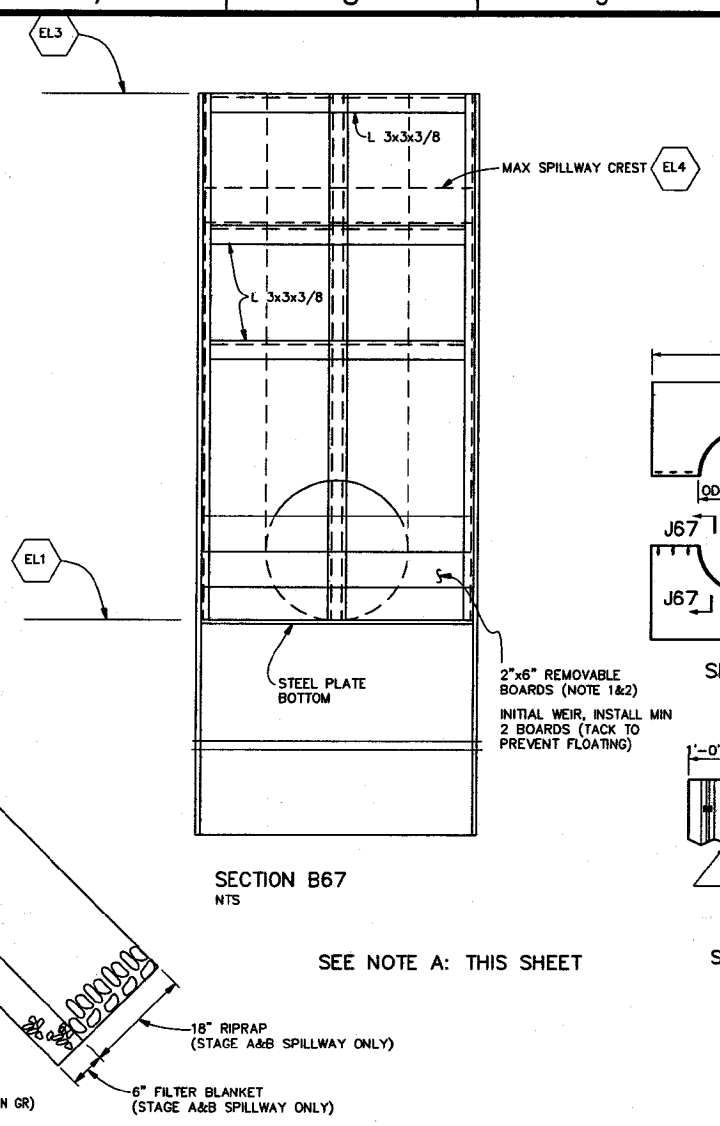


DETAIL A67
PLAN-METAL SPILLWAY
NTS



SECTION C67
NTS

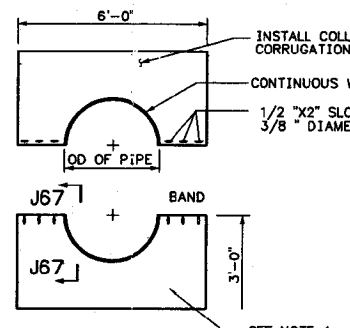
SEE NOTE A: THIS SHEET



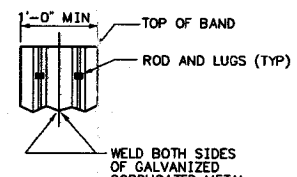
SECTION B67
NTS

SEE NOTE A: THIS SHEET

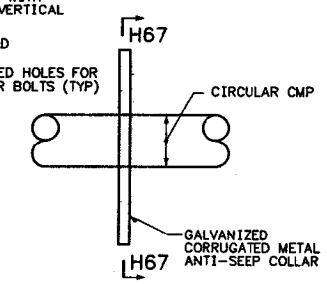
NOTES:
1. ALL TIMBER STOPLOGS SHALL BE SOUTHERN PINE NO. 2 DENSE SELECT TIMBER
2. ALL WOOD SHALL BE PRESSURE TREATED WITH 0.4-0.6 POUNDS OF PRESERVATIVE PER CUBIC FOOT OF WOOD. THE PRESERVATIVE SHALL BE WOLMAN PRESERVATIVE CCA BY KOPPERS OR EQUAL. SYNTHETIC MATERIALS (I.E. HDPE) MAY BE USED IN LIEU OF TIMBER STOPLOGS. MATERIAL SELECTION SELECTION BY TVA FES.
3. ALL NAILS SHALL BE GALVANIZED.
4. 30 INCH CORRUGATED METAL PIPE SHALL BE FULLY BITUMINOUS COATED AND 14 GAGE (MIN) THICKNESS.
5. RIPRAP SHALL CONSIST OF 50% OF THE STONES WEIGHING 100 LBS EACH OR GREATER, PER SECTION 575.
6. 30 INCH CROSS SECTION AND STANDPIPE NOT REQUIRED FOR STAGE E SPILLWAY.
7. A 6' x 6' HOLE SHALL BE EXCAVATED TO A DEPTH OF 8' FOR PLACEMENT OF THE 48" HALF-PIPE, THE AREA IS TO BE BACKFILLED WITH 1032 CRUSHED STONE AND COMPACTED UNTIL A STABLE BASE IS ACHIEVED.



SECTION H67

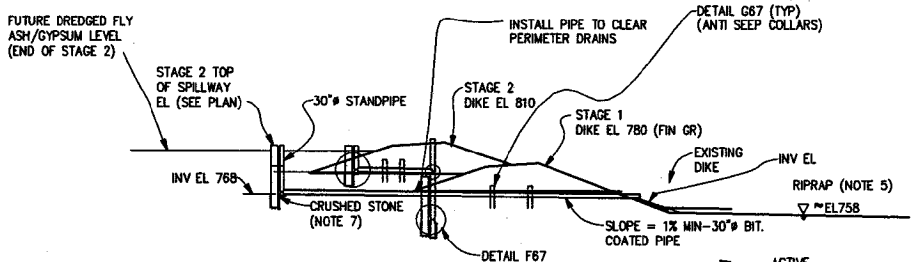


SECTION J67

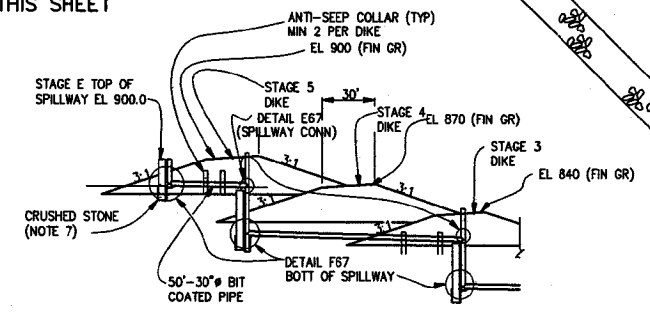


DETAIL G67
CORRUGATED METAL ANTI-SEEP COLLAR

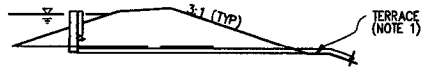
NOTES FOR METAL COLLARS:
1. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
2. THE LAP BETWEEN THE TWO HALF SECTIONS INCLUDING BOLTS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.
3. EACH COLLAR SHALL BE FURNISHED WITH TWO 1/2 " DIA RODS WITH STANDARD TANK LUGS FOR CONNECTING COLLARS TO PIPE.
4. CONTRACTOR MAY CONSTRUCT ANTI-SEEP COLLARS USING 1 FT THICK CONCRETE, 3,000 PSI MIN., TO THE SAME DIMENSIONS SHOWN.



STAGES 1 & 2 SPILLWAY



STAGE 5 SPILLWAY



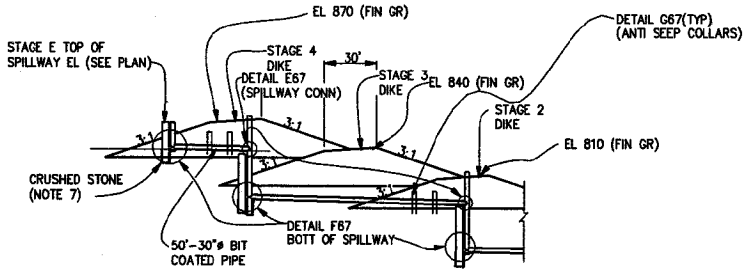
DETAIL K67

OPTIONAL METAL SPILLWAY CONFIGURATION

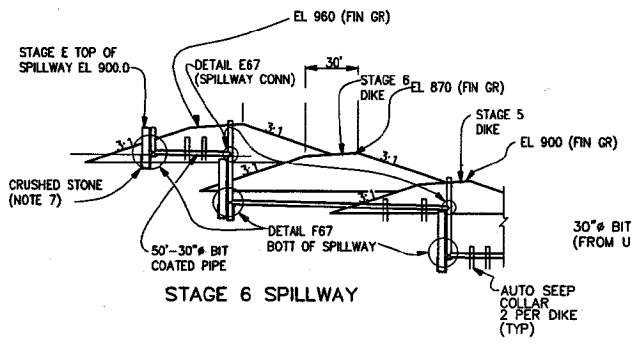
NOTE: DO NOT USE THIS DETAIL WHERE VEHICLE TRAFFIC MUST TRAVEL ON TERRACE.

NOTE A:

AN AGRI-DRAIN INLET (24" BY 120" WCS) IS AN ALLOWABLE ALTERNATIVE TO THIS STRUCTURE AT THE ENTRANCE AND EXIT OF THE PHASE 1 DREDGE CELL. SEE 10W425-77

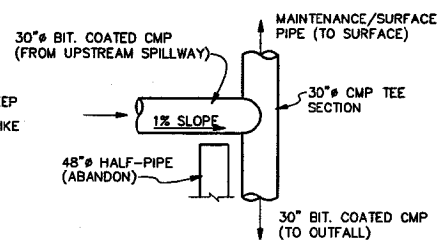


STAGES 3&4 SPILLWAYS

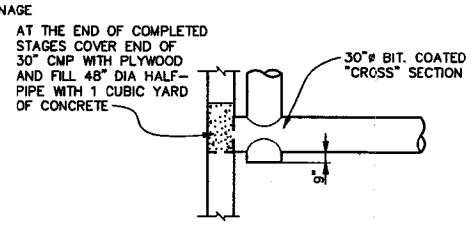


STAGE 6 SPILLWAY

DETAIL D67
METAL SPILLWAY STAGED CONSTRUCTION
(SEE OPTIONAL DETAIL K67)



DETAIL E67
SPILLWAY CONNECTION
1"=5'



DETAIL F67
BOTTOM OF SPILLWAY
1"=5'

R											
R 0		DRS	JLM	WPT	HLP	REP	JGA		FOS052		D
ISSUED FOR DREDGE CELL EXPANSION											DISCIPLINE INTERFACE
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	VERD	PROJECT ID	AS CONST	QC

SCALE: 1"=40' EXCEPT AS NOTED

YARD

DREDGE CELL LATERAL EXPANSION
METAL SPILLWAY DETAILS
SHEET 2

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	J.L. MILES	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

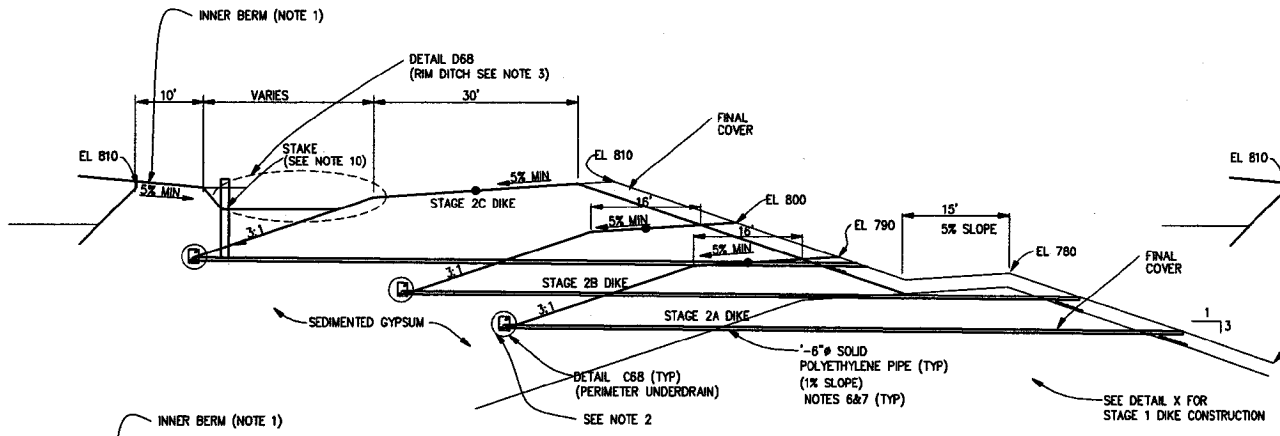
AUTOCAD R14	DATE	36	C	10W425-67	R 0

PARSONS	
TASK COMPLETED BY:	REV NO.

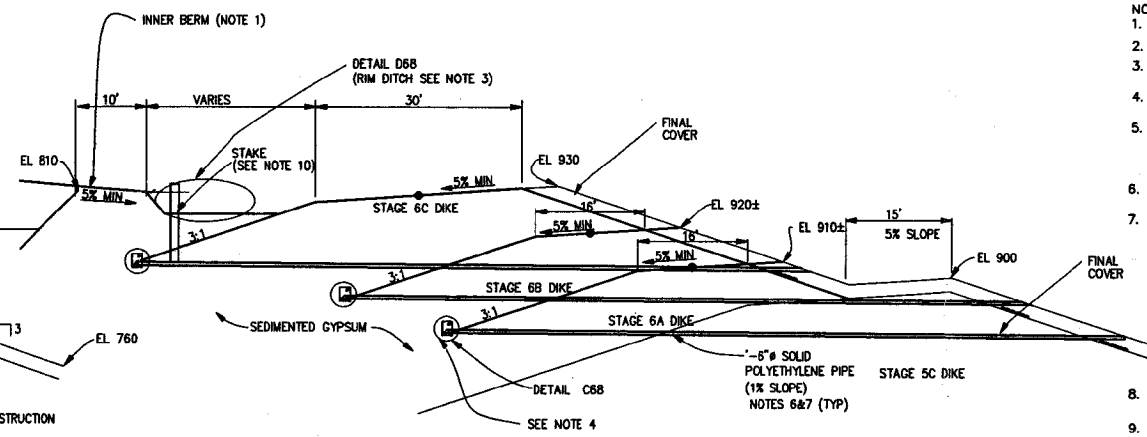
PLOT FACTOR:1=1
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

TVA-00002881

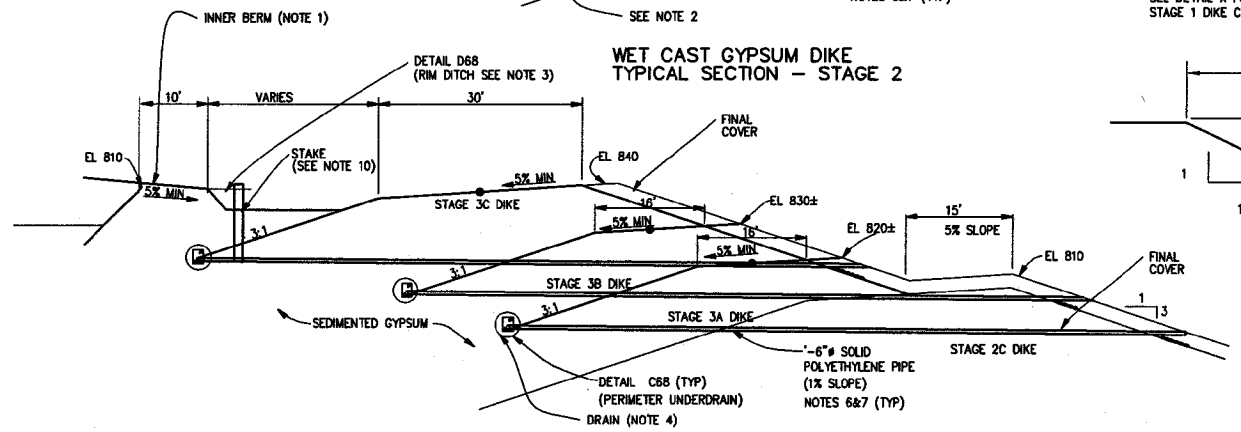


WET CAST GYPSUM DIKE
TYPICAL SECTION – STAGE 2

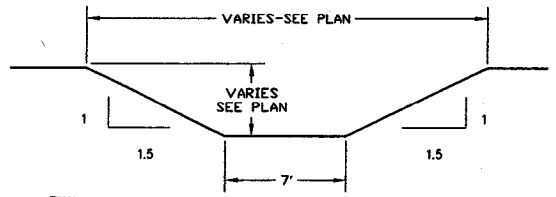


WET CAST GYPSUM DIKE
TYPICAL SECTION – STAGE 6

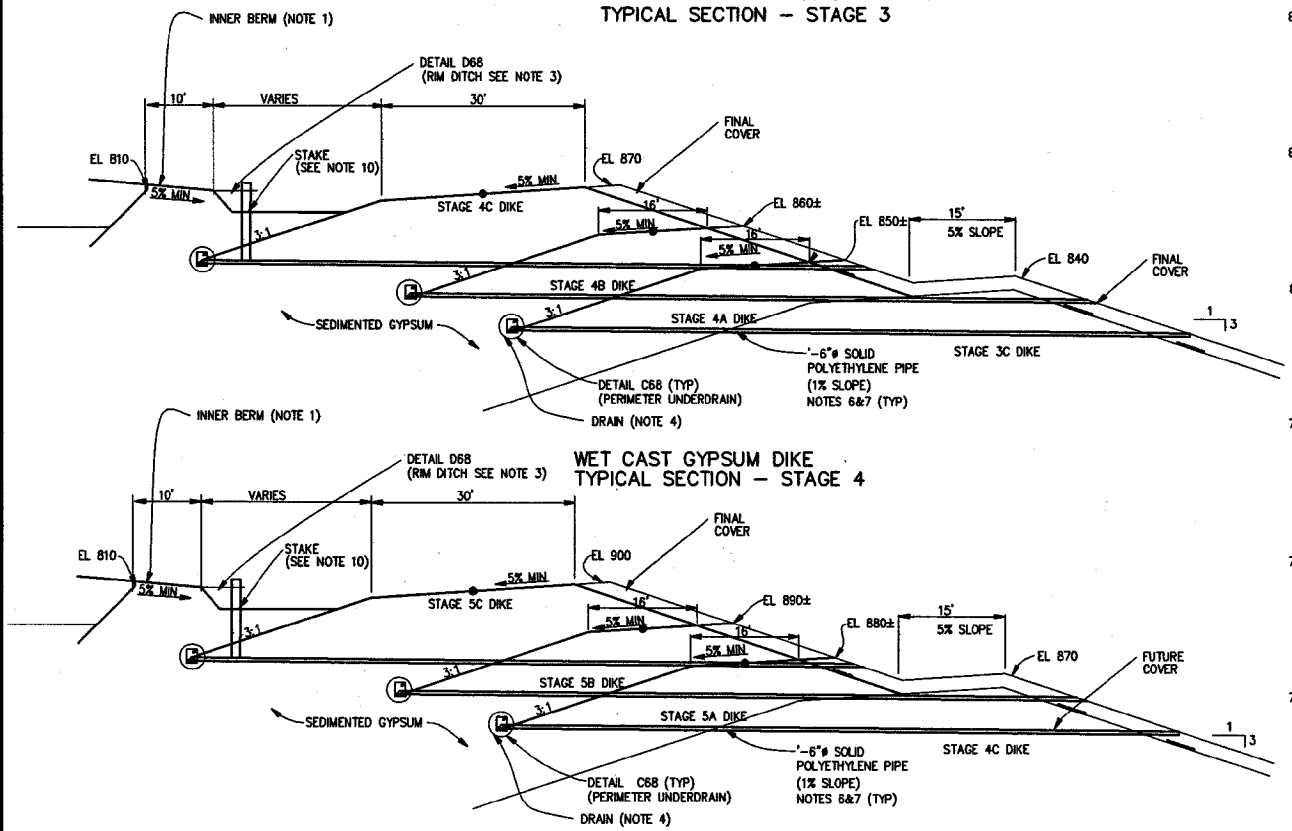
NOTES:
1. FOR DRAWINGS LIST AND LEGEND SEE 10W425-20.
2. FOR GENERAL NOTES SEE 10W425-26.
3. CONSTRUCT RIM DITCHES AT EACH INTERMEDIATE A,B, & C DIKE RIM DITCHES FOR A & B DIKES NOT SHOWN FOR CLARITY.
4. INSTALL DRAINS SO THAT THEY ARE BENEATH INVERT ELEVATION OF RIM DITCH.
5. UNDERDRAIN PIPE SHALL BE PERFORATED POLYETHYLENE CORRUGATED TUBING AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC., COLUMBUS, OHIO (614) 457-3051 OR EQUAL. UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 500.
6. PERIMITER UNDERDRAIN SHALL HAVE MIN 1% SLOPE FROM HIGH PTS TO LOW POINTS PLACE LOCATOR OUTLET PIPES AT LOW POINTS.
7. LATERAL OUTLET PIPE SHALL BE NON-PERFORATED POLYETHYLENE CORRUGATED TUBING AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC., COLUMBUS, OHIO (614) 457-3051 OR EQUAL.
8. LATERAL OUTLET PIPES SHALL BE PLACED EVERY 200 FEET ON CENTER.
9. GEOTEXTILE SHALL BE A WOVEN MONOFILAMENT WITH AN APPARENT OPENING SIZE (AOS) SELECTED BY TVA FES (US STANDARD SIEVE SIZE) WHEN TESTED IN ACCORDANCE WITH ASTM D 4751. THE GEOTEXTILE SHALL BE GEOTEX 104F AS MANUFACTURED BY SYNTHETIC INDUSTRIES OR APPROVED EQUAL.
10. AFTER INSTALLATION OF PERIMETER DRAIN, INSTALL STAKES AT DRAINAGE OUTLET. PROVIDE A MARK ON THE STAKE INDICATING THE DEPTH TO THE DRAIN PIPE VISIBLE TO EQUIPMENT OPERATOR TO PREVENT DAMAGE TO DRAIN PIPE.



WET CAST GYPSUM DIKE
TYPICAL SECTION – STAGE 3

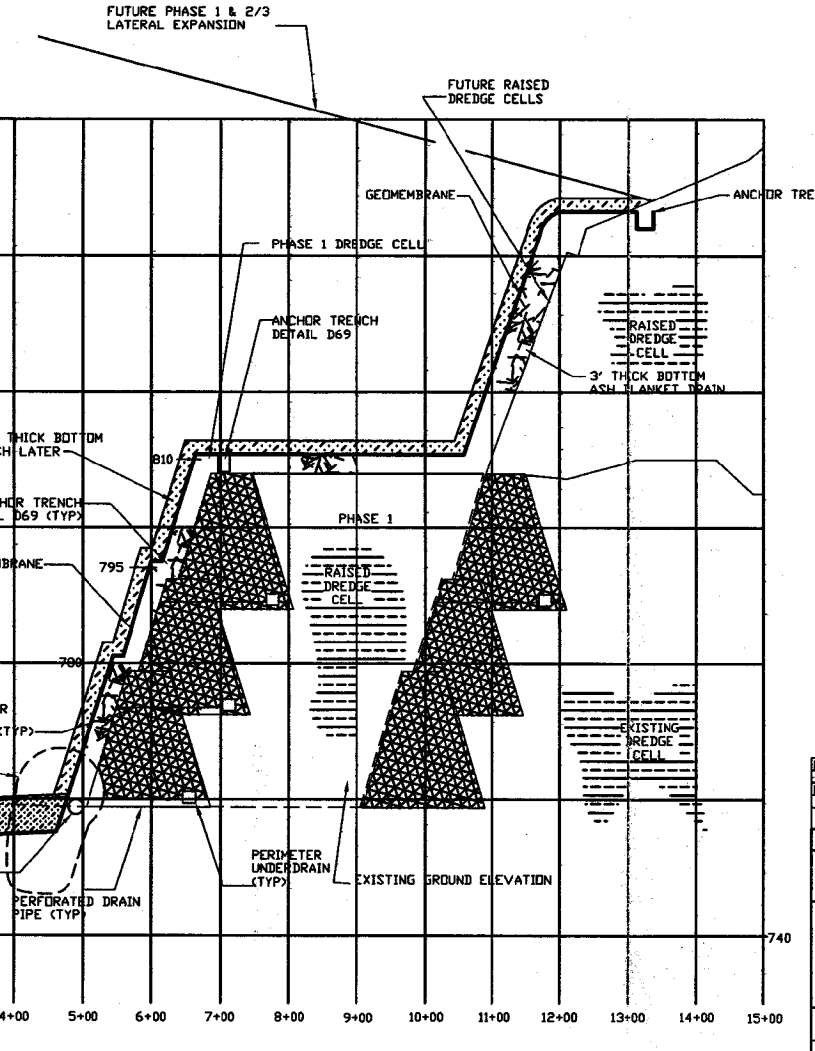


DETAIL D68 RIM DITCH
NTS

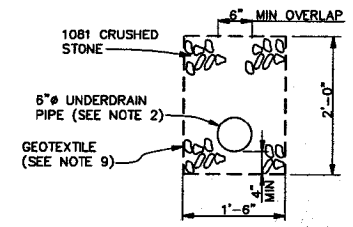


WET CAST GYPSUM DIKE
TYPICAL SECTION – STAGE 4

DETAIL A68
WET CAST GYPSUM DIKE
TYPICAL SECTION – STAGE 5



DETAIL B68
BLANKET DRAIN/HYDRAULIC ISOLATION
PHASE 1 & 2/3 INTERFACE



DETAIL C68
PERIMETER UNDERDRAIN
1" = 1'-0"

NOTES FOR PHASE 1 & 2/3 INTERFACE:
1. CONSTRUCT BLANKET DRAIN & GEOMEMBRANE IN SEGMENTS AS EACH STAGE IS COMPLETED.
2. EXPOSED GEOMEMBRANE SHALL BE COVERED WITH NON-WOVEN GEOTEXTILE.
3. PROVIDE A SYSTEM OF SANDBAGS OR OTHER APPROVED METHOD TO SECURE EXPOSED GEOMEMBRANE FROM WIND.

R												
R 0		DRS	BSB	WPT	HLP	REP	JGA		FOS052			DISCIPLINE INTERFACE
ISSUED FOR DREDGE CELL EXPANSION												
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	QA	

SCALE: NTS EXCEPT AS NOTED

YARD

DREDGE CELL LATERAL EXPANSION PHASE 2/3 TYPICAL CROSS SECTION & DETAILS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	B.S. BURT	W.P. TAYLOR	H.L. PETTY	R.E.PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

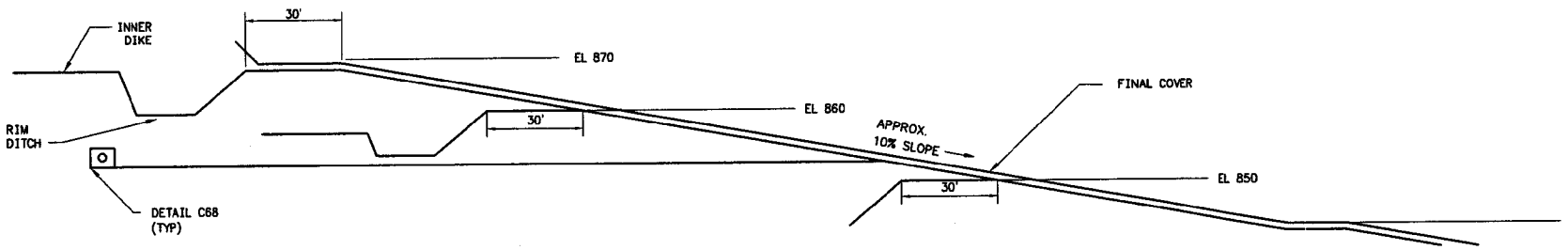
AUTOCAD R14	DATE	36	C	10W425-68	R 0

PARSONS	0
TASK COMPLETED BY:	REV NO.

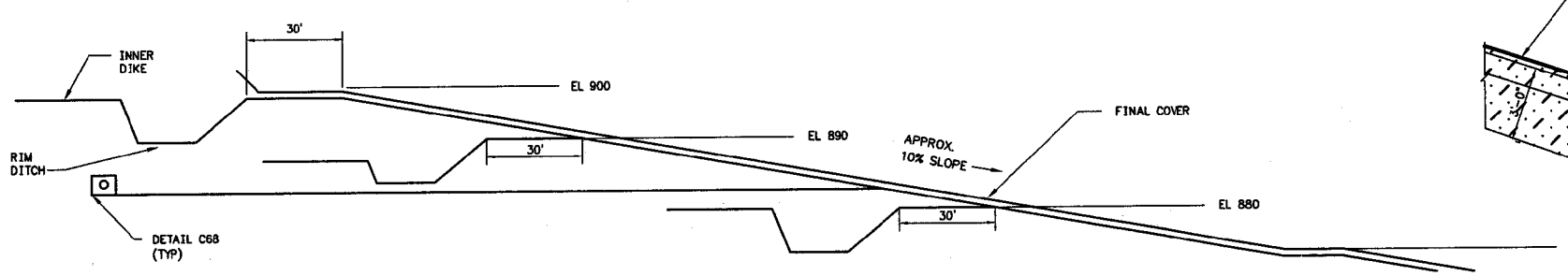
PLOT FACTOR: W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY

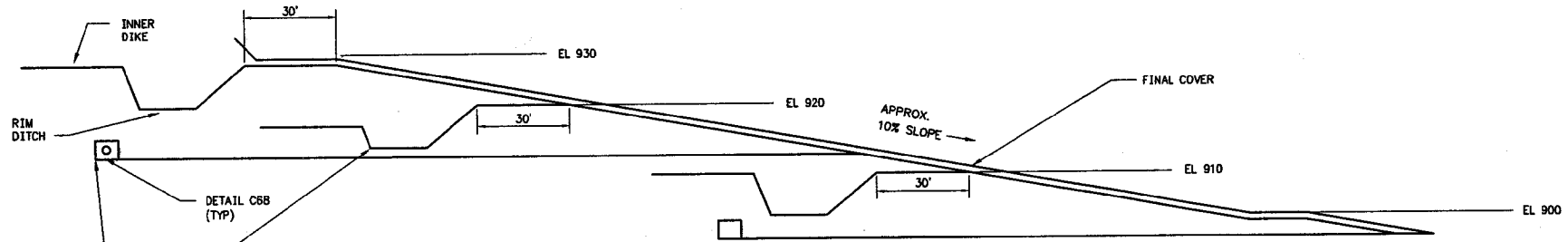
TVA-00002882



STAGE 4 DIKE W/10% OUTER SLOPE



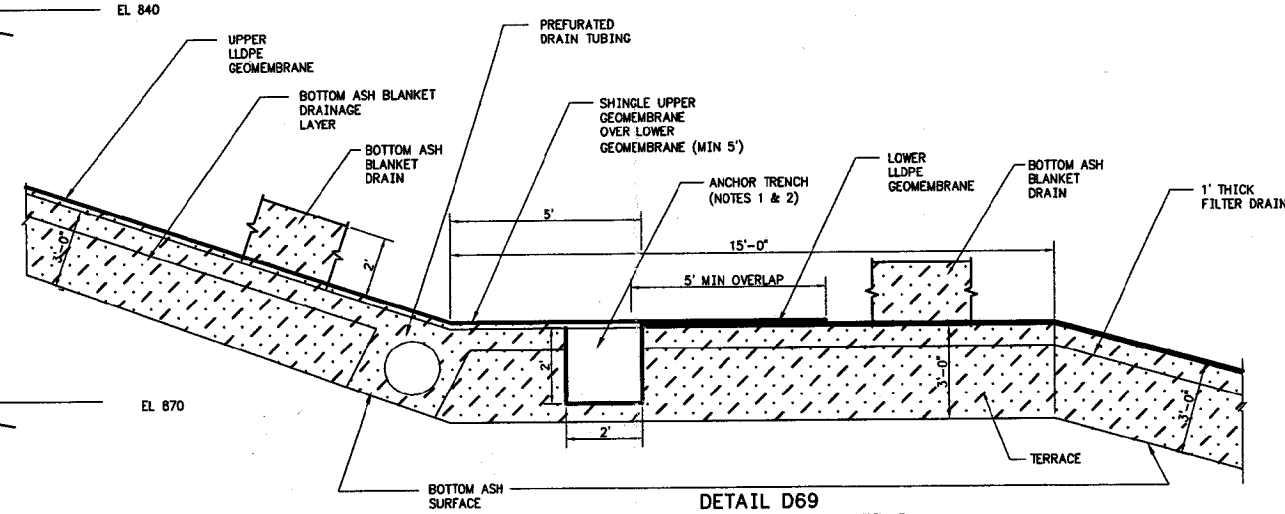
STAGE 5 DIKE W/10% OUTER SLOPE



STAGE 6 DIKE W/10% OUTER SLOPE

DETAIL A69

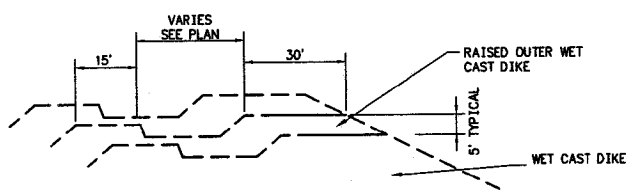
INSTALL DRAIN AT EACH APPROXIMATE 10' LIFT. ENSURE THAT DRAIN CLEARS RIM DITCH. INSTALL STAKES & MARK ELEV. OF DRAIN PIPES SO THAT EQUIPMENT OPERATORS DO NOT DAMAGE DRAIN PIPES.



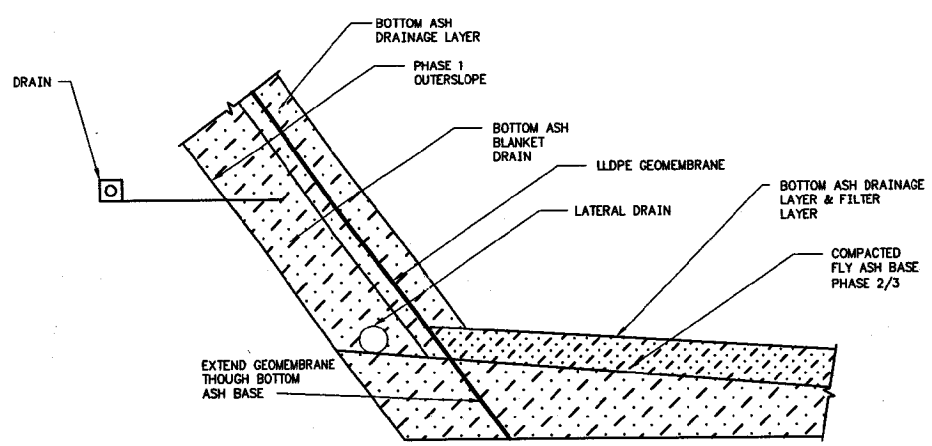
DETAIL D69
GEOMEMBRANE ANCHOR DETAIL
FOR HYDRAULIC ISOLATION

1. EXCAVATE ANCHOR TRENCH INTO BOTTOM ASH DRAINAGE LAYER BACKFILL WITH EXCAVATED BOTTOM ASH & COMPACT TO 95% STANDARD PROCTOR DENSITY
2. OMIT ANCHOR TRENCH FOR TERRACE AT EL 780.

NOTES:
1. FOR DRAWINGS LIST AND LEGEND SEE 10W425-20
2. FOR GENERAL NOTES SEE 10W425-28



DETAIL B69
DIKE RAISING 5' INCREMENT



DETAIL C69
GEOMEMBRANE TIE DETAIL
(10W425-68)

R										
R 0		DRS	BSB	WPT	HLP	REP	JGA		F05052	
ISSUED FOR DREDGE CELL EXPANSION										
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST

SCALE: NTS EXCEPT AS NOTED

YARD

DREDGE CELL LATERAL EXPANSION DETAILS- WET CAST GYPSUM DIKE RAISING SHEET #4

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	B.S. BURT	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ADAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

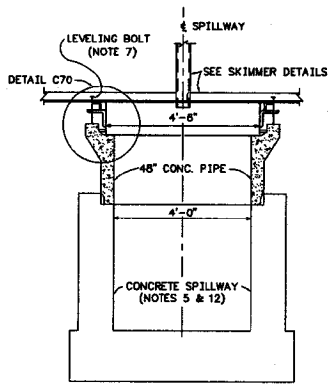
AUTOCAD R14	DATE	36	C	10W425-69	R 0

PARSONS	0
TASK COMPLETED BY:	REV NO.

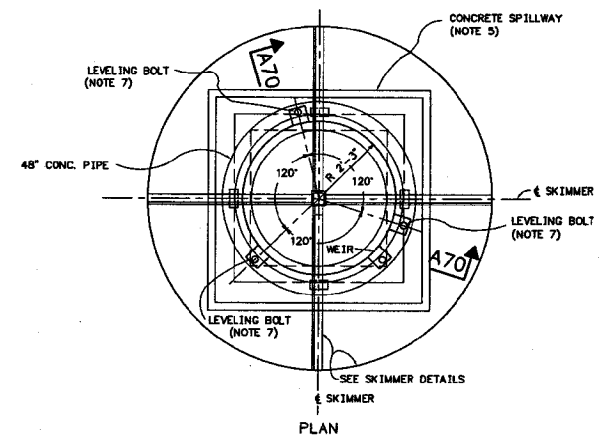
PLOT FACTOR:1
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

TVA-00002883

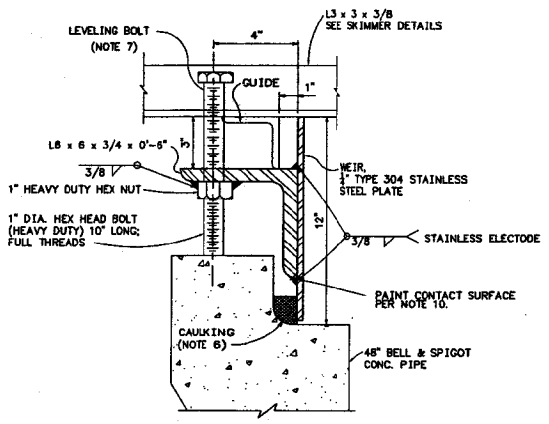


SECTION A70



PLAN

DETAIL B70
WEIR DETAILS



DETAIL C70
3 REQUIRED
3"=1'-0"

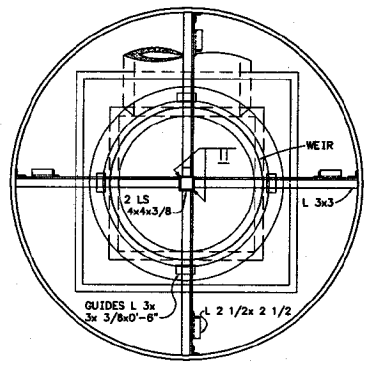
WEIR DISCHARGE *
IN CUBIC FEET PER SECOND

HEAD IN FEET	0.0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	.0	.04	.11	.21	.35	.52	.72	.95	1.20	1.34
0.1	1.54	1.75	1.97	2.20	2.44	2.70	2.96	3.24	3.52	3.81
0.2	4.11	4.41	4.72	5.04	5.38	5.89	6.04	6.38	6.73	7.10
0.3	7.47	7.85	8.23	8.62	9.00	9.41	9.82	10.20	10.60	11.10
0.4	11.50	11.90	12.40	12.80	13.30	13.70	14.20	14.70	15.10	15.60
0.5	16.10	16.60	17.10	17.60	18.10	18.60	19.10	19.60	20.10	20.70
0.6	21.20	21.70	22.30	22.80	23.40	23.90	24.50	25.00	25.60	26.20
0.7	26.70	27.30	27.90	28.50	29.10	29.70	30.30	30.90	31.50	32.10
0.8	32.70	33.40	34.00	34.60	35.20	35.90	36.50	37.20	37.80	38.50
0.9	39.10	39.80	40.40	41.10	41.80	42.50	43.10	43.80	44.50	45.20
1.0	45.90									

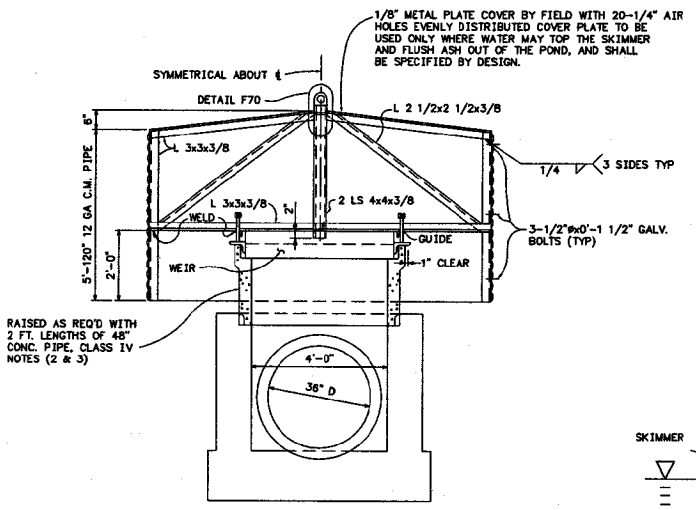
* 4'-6" DIAMETER

BILL OF MATERIAL

ITEM	DESCRIPTION	NO. SPLWYS.	PER SPLWY.	TOTAL REQ'D.
	WEIR			
ANGLE	6 x 6 x 3/4 x 0'-6"		3	
BOLT	1"ø x 0'-10" HEAVY DUTY (FULL THREADS) WITH NUT		3	
PL CAULKING	1/4 x 12 x 14'-2" TYPE 430 STAINLESS BY FIELD		1	
	SKIMMER			
660	120" x 12 GAGE CORRUGATED METAL PIPE (NOTE 4)		5 FT.	
BOLT	1/2"ø x 0'-1 1/2 GALVANIZED		12	
PL	1/8" METAL COVER (BY FIELD SEE DETAILS)		1	
ANGLE	2 1/2 x 2 1/2 x 3/8		23 FT.	
ANGLE	3 x 3 x 3/8		64 FT.	
ANGLE	4 x 4 x 3/8		8 FT.	

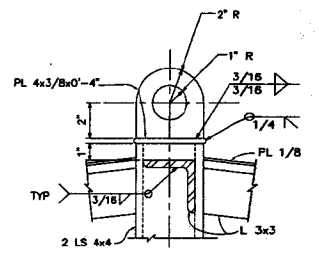


SECTIONAL PLAN

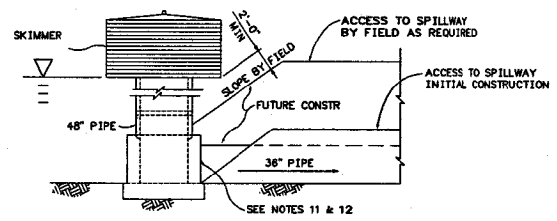


SECTIONAL ELEVATION

DETAIL D70
SKIMMER DETAILS



DETAIL F70
3"=1'-0"



DETAIL E70
TYPICAL SECTION FOR
ACCESS TO SPILLWAY
3/16"= 1'-0"

BENT BAR LIST

BAR MARK	NO REQD	BENDING DIMENSIONS a	b	c	e
4L6-3	10	4-4	EX		
4T20-6	1	5-0	5-0		
4U14-9	1	5-0	5-0	EX	
4L2-6	4	1-3	EX		

TYPE A SPILLWAYS

BENT BAR LIST

BAR MARK	NO REQD	BENDING DIMENSIONS a	b	c	e
4L6-3	16	4-4	EX		
4T20-6	1	5-0	5-0		
4U14-9	3	5-0	5-0	EX	

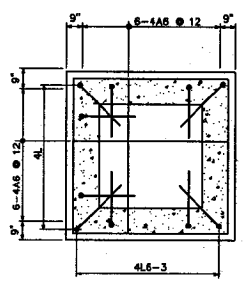
TYPE B SPILLWAYS

BILL OF MATERIAL

ITEM	DESCRIPTION	NO. OF SPLWYS	PER SPLWY	TOTAL REQD
402	CLASS X CONCRETE		5 CU. YD.	
418	REINFORCING STEEL		170 LB.	
	18" D REINFORCED CONCRETE PIPE-CLASS II		-	
	36" D REINFORCED CONCRETE PIPE-CLASS III			
803	48" D REINFORCED CONCRETE PIPE-CLASS IV			

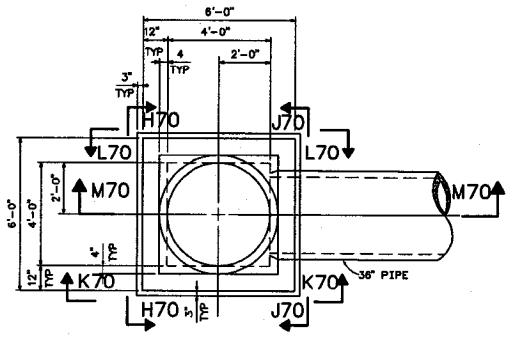
NOTES:
1. A SECTION OF 120" DIA. CORRUGATED METAL PIPE, FULLY COATED, SHALL BE USED FOR THE SKIMMER DEVICE. ALL SEAMS AND JOINTS SHALL BE RIVETED. FABRICATION OF THE PIPE SHALL BE COMPLETE PRIOR TO COATING.
2. ONE SECTION OF 48" PIPE SHALL BE INSTALLED DURING INITIAL CONSTRUCTION.
3. AS ADDITIONAL SECTIONS OF 48" PIPE ARE ADDED, GROUT THE JOINT TO FORM A STABLE AND WATER TIGHT CONNECTION.
4. ALL CONNECTIONS TO BE WELDED.
5. FOR SPILLWAY DETAILS SEE STD. DWG. SD-C11.1.
6. CAULKING SHALL EXTEND COMPLETELY AROUND THE WEIR AND FORM A WATER TIGHT SEAL.
7. WHEN THE WEIR IS INSTALLED THE TOP SHALL BE LEVELED WITH THE USE OF LEVELING BOLTS.
8. ALL WELDS BY TVA FIELD SHALL BE MADE AND INSPECTED IN ACCORDANCE WITH TVA CONSTRUCTION SPECIFICATION G29C.
9. ALL WELDS BY TVA TO HAVE VISUAL INSPECTION.
10. ALL SURFACES OF FABRICATED STEEL ITEMS SHALL BE PAINTED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION G14, PART XIX.
11. DEWATER AREA WHERE WEIRS ARE TO BE INSTALLED BY CONSTRUCTING ASH DIKES OR INSTALLING SHEET PILE, AND REMOVING WATER FROM THE INSTALLATION AREA. DESIGN OF ASH DIKES AND/OR SHEET PILE BY TVA FES.
12. PROVIDE ADEQUATE FIRM BASE FOR INSTALLATION OF CONCRETE SPILLWAY BY INSTALLING ROCK BASE OR TENSAR GEOGRID. SELECTION OF TENSAR GEOGRID. SELECTION OF TENSAR GEOGRID BY TVA FES.

NOTES:
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE T-1 SPECIFICATIONS, UNLESS OTHERWISE NOTED.
2. ALL CONCRETE SHALL BE CLASS "X" IN ACCORDANCE WITH SECTION 400.
3. ALL REINFORCEMENT SHALL CONFORM TO ASTM SPECIFICATION A615 GRADE 60, DEFORMED.
4. DIMENSIONS SHOWN ARE TO THE CENTERLINE OF REINFORCING BARS, UNLESS OTHERWISE NOTED.
5. CONCRETE CLEAR COVER DIMENSIONS ARE AS FOLLOWS: 3 INCHES FOR FACES CAST AGAINST EARTH OR ROCK; 2 INCHES FOR ALL OTHER FACES.

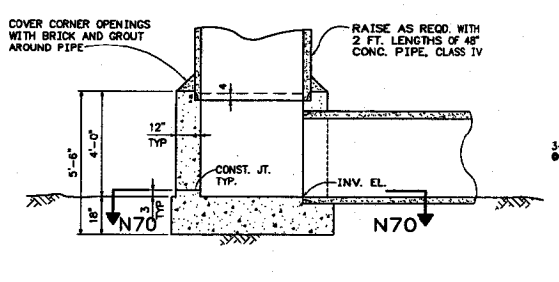


SECTION N70
(TYPE A & B)

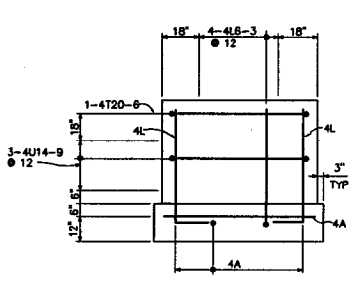
NOTE:
PIPES NOT SHOWN



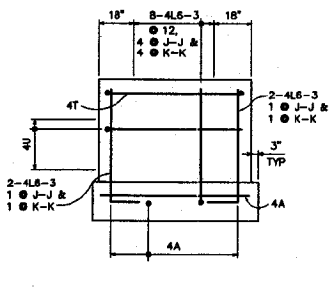
DETAIL G70
PLAN-SPILLWAY TYPE B



SECTION M70



SECTION H70
SECTION J70
(OPPOSITE HAND)



SECTION K70
SECTION L70
(OPPOSITE HAND)

REV NO.	DATE	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	DISCIPLINE INTERFACE
R 0		DRS	J&M	WPT	HLP	REP	JGA			D
ISSUED FOR DREDGE CELL EXPANSION										

SCALE: 1/2"=1'-0" EXCEPT AS NOTED

YARD

ASH DISPOSAL AREA LATERAL EXPANSION WEIR & SKIMMER DETAILS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
D.R. SMITH	J.L. MILES	W.P. TAYLOR	H.L. PETTY	R.E. PURKEY	J.G. ABAIR	

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R14	DATE	36	C	10W425-70	R 0

PARSONS	0
TASK COMPLETED BY:	REV NO.

PLOT FACTOR:1
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

TVA-00002884