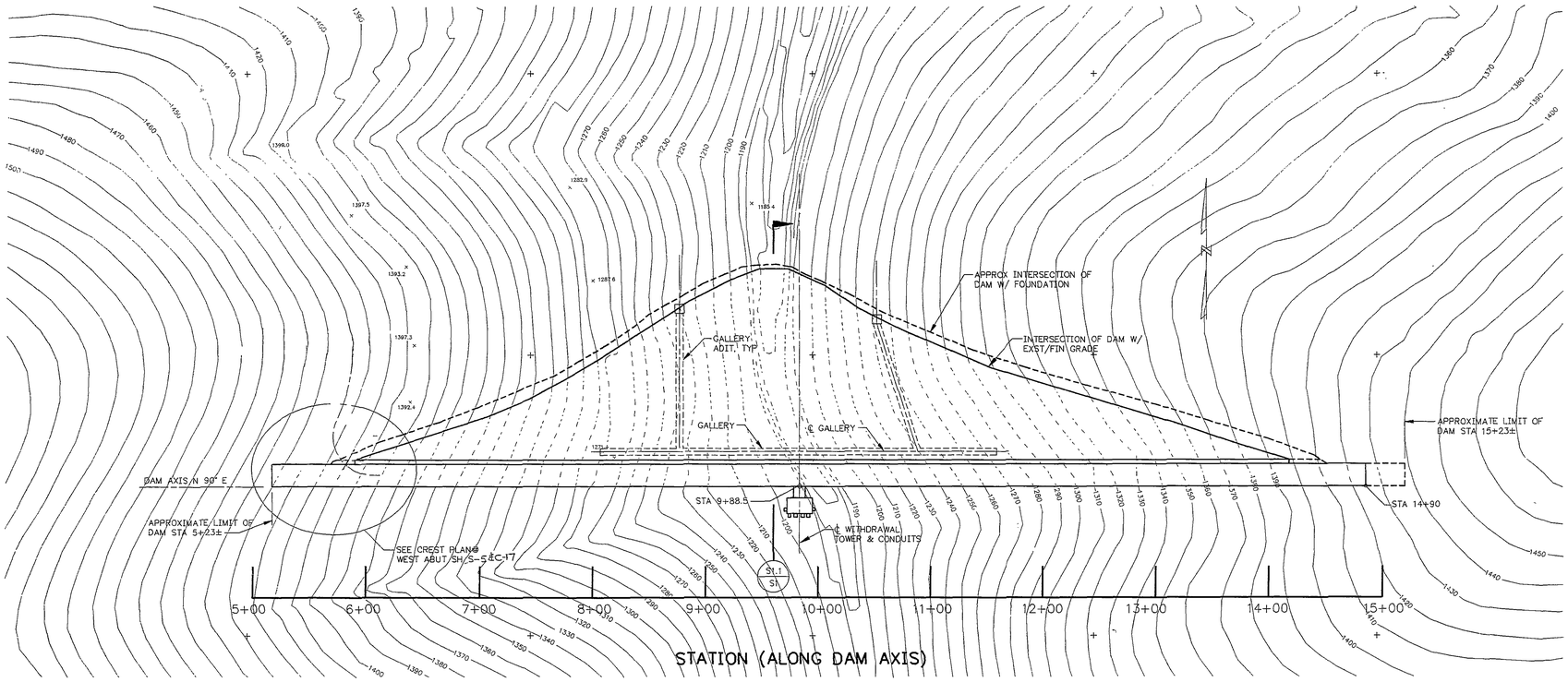
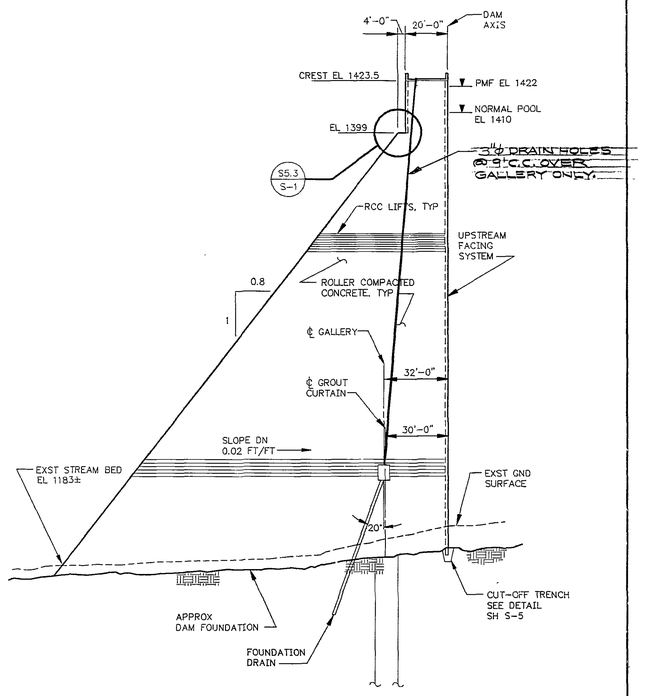
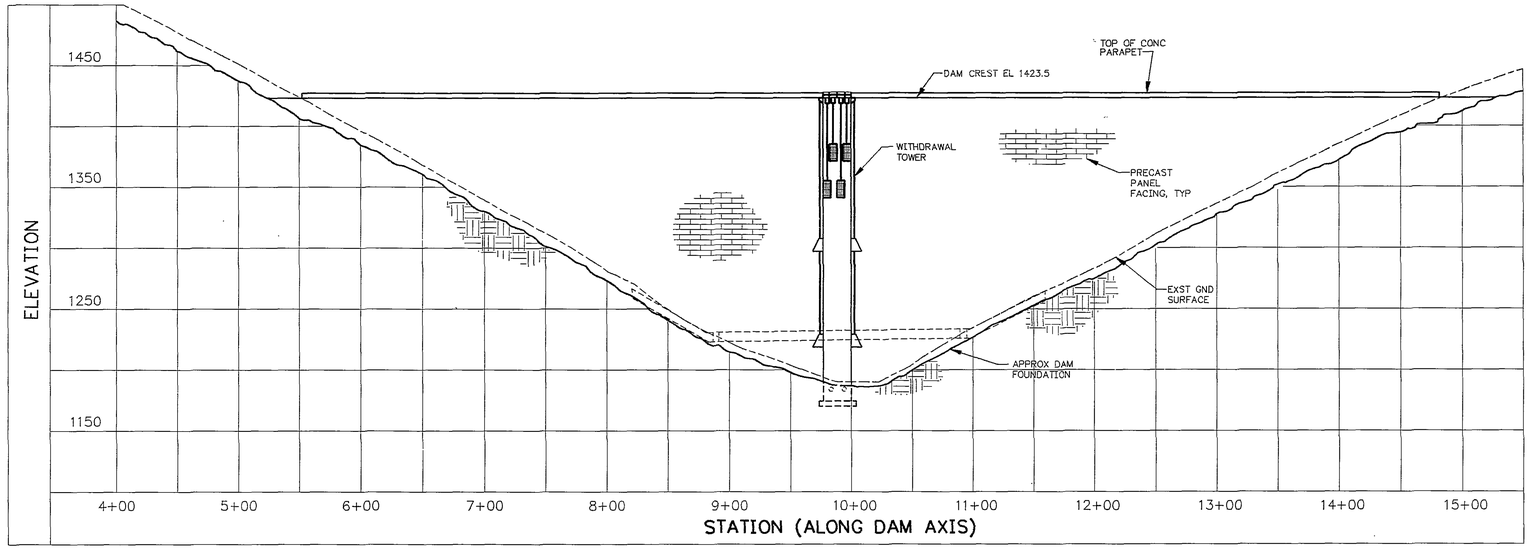


DAM PLAN
SCALE: 1"=50'



NOTE: 1. SECTION CUT @ STA 9+65.
2. WITHDRAWAL TOWER NOT SHOWN FOR CLARITY, SEE SH S-7.
3. SEE SH S-5 FOR DAM FACING & CREST DETAILS.

MAXIMUM SECTION (S1.1, S-1)
SCALE: 1"=30'



UPSTREAM ELEVATION
SCALE: 1"=50'

ROLLER COMPACTED CONCRETE DAM GENERAL NOTES:

1. DAM SHALL BE CLASS I IN ACCORDANCE WITH VIRGINIA DAM SAFETY REGULATIONS/1989.
2. DAM HEIGHT FROM CREST TO STREAMBED AT TOE OF DAM IS 240.5 FT.
3. DAM WAS DESIGNED TO ALLOW FOR 1.25 FT OF EROSION ON DOWN STREAMFACE.
4. DESIGN LOADS
   A. WIND LOADS ARE BASED ON A BASIC SPEED OF 70 MPH, EXPOSURE B (IN ACCORDANCE WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE / BOCA 1987.
   B. EARTHQUAKE LOADS ARE BASED ON A PSEUDOSTATIC ANALYSIS WITH, 1) AN ACCELERATION OF 0.1g PLUS HYDRODYNAMIC EFFECTS AT NORMAL POOL FOR UPSTREAM GROUND MOTION AND 2) AN ACCELERATION OF 0.05g WITH RESERVOIR EMPTY FOR DOWNSTREAM GROUND MOTION.
   C. ICE PRESSURE IS 5 KIPS PER FT AT NORMAL POOL.
5. STABILITY
   A. BASE DESIGNED TO REMAIN IN COMPRESSION FOR ALL LOAD CASES EXCEPT EARTHQUAKE LOADINGS.
   B. SLIDING STABILITY ANALYSIS IS IN ACCORDANCE WITH THE LIMIT EQUILIBRIUM METHOD WITH THE FOLLOWING PARAMATERS
      - CONC/ROCK INTERFACE
        - FRICTION ANGLE 46°
        - COHESION 25 psi
      - RCC LIFT INTERFACE
        - FRICTION ANGLE 45°
        - COHESION 0 psi
6. MATERIALS
   - CONCRETE
     - ROLLER COMPACTED CONCRETE (RCC) — f'c=1200 psi @ 28 DAYS, f'c=2000 psi @ 90 DAYS, f'c=2500 psi @ 365 DAYS
     - CLASS A: FOR PARAPET WALL, TOPPING, SLAB AT CREST, AND ALL OTHER CONCRETE NOT SPECIFIED — f'c=4000 psi @ 28 DAYS
     - CLASS C: FOR ALL CONCRETE INDICATED AS BEDDING, BACKING, DENTAL AND FILL — f'c=2500 psi @ 28 DAYS
   - REINFORCING BARS
     - ASTM A 615 GRADE 60, DEFORMED — f_y=60 ksi

RECORD DRAWINGS
THESE DRAWINGS RECORDED ON THE BASIS OF INFORMATION FURNISHED BY THE CONTRACTOR OR SPECIFICALLY KNOWN TO HSMM. NO OTHER REPRESENTATIONS ARE MADE OR IMPLIED
Date: 6-5-95

1" = 50' 50' 25' 0 50' 100'
1" = 30' 30' 15' 0 30' 60'
GRAPHIC SCALES

DESIGNED	WA, RWF, BA	DATE 4 Aug 91
DRAWN	DAB	DATE 4 Aug 91
CHECKED	RWF	DATE 4 AUG 91
APPROVED	[illegible]	DATE 4 Aug 91
ISSUED	APBJ	DATE 8/21/91

COMMONWEALTH OF VIRGINIA — JOHN F. BRADSHAW, JR. — CERTIFICATE No. 3083 — CERTIFIED PROFESSIONAL ENGINEER

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
8-15-94	BA	PER CONTR RECORD DWG						
6-5-95	JBH	ISSUED TO VA. DAM SAFETY						
5-31-97	RWF	RECORD DRAWING						

COUNTY OF ROANOKE VIRGINIA 1838

SPRING HOLLOW RESERVOIR
ROANOKE COUNTY, VIRGINIA

HAYES, SEAY, MATTERN & MATTERN, INC.
ARCHITECTS — ENGINEERS — PLANNERS
ROANOKE, VIRGINIA

STRUCTURAL
DAM PLAN, ELEVATION AND SECTION

SCALE	DATE	COMM	SHEET	DWG
AS NOTED	8/4/91	4194E	S-1	30

4194E-S1 C4194E AU191 REV. G ACAD