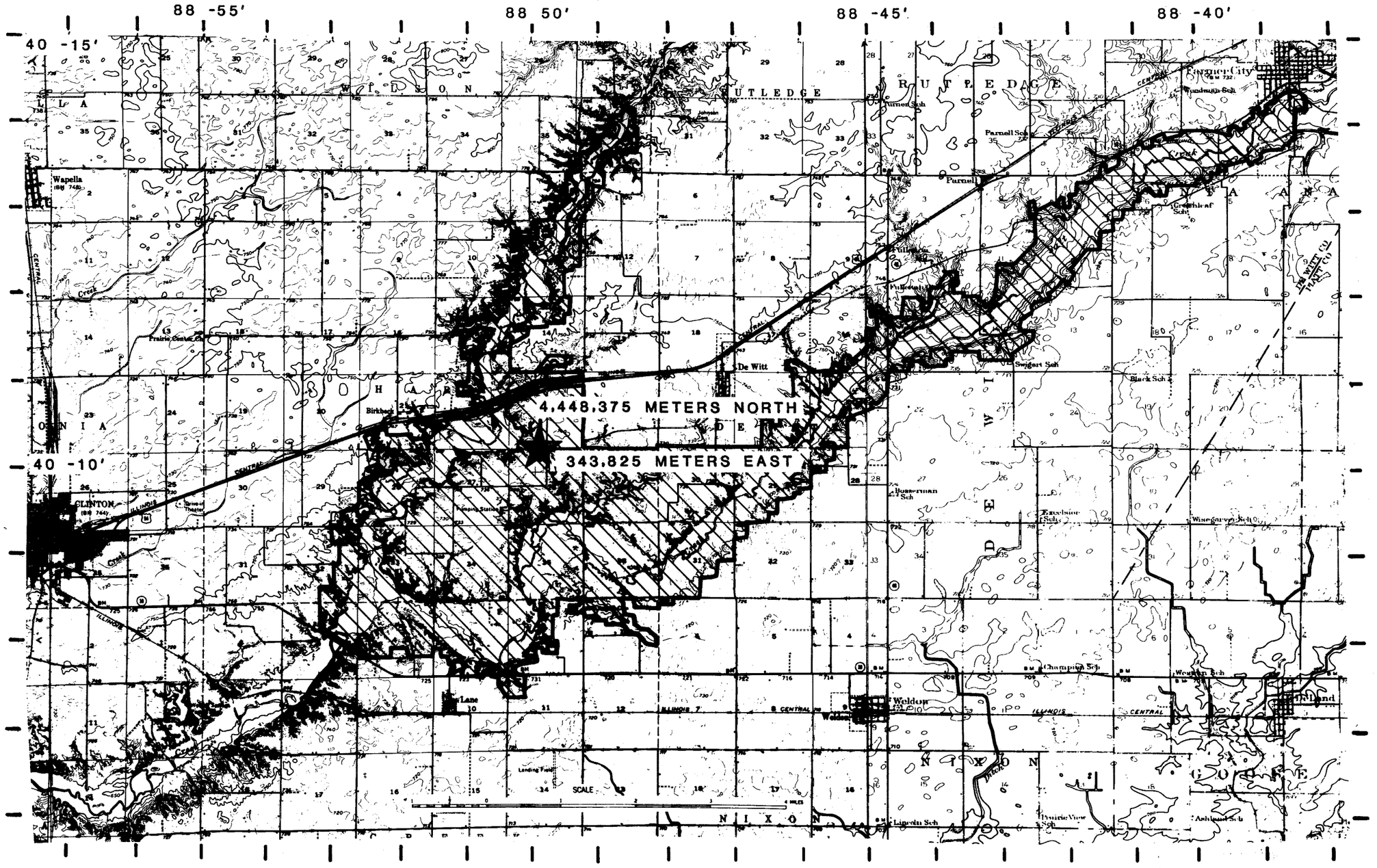


LEGEND

★ PLANT

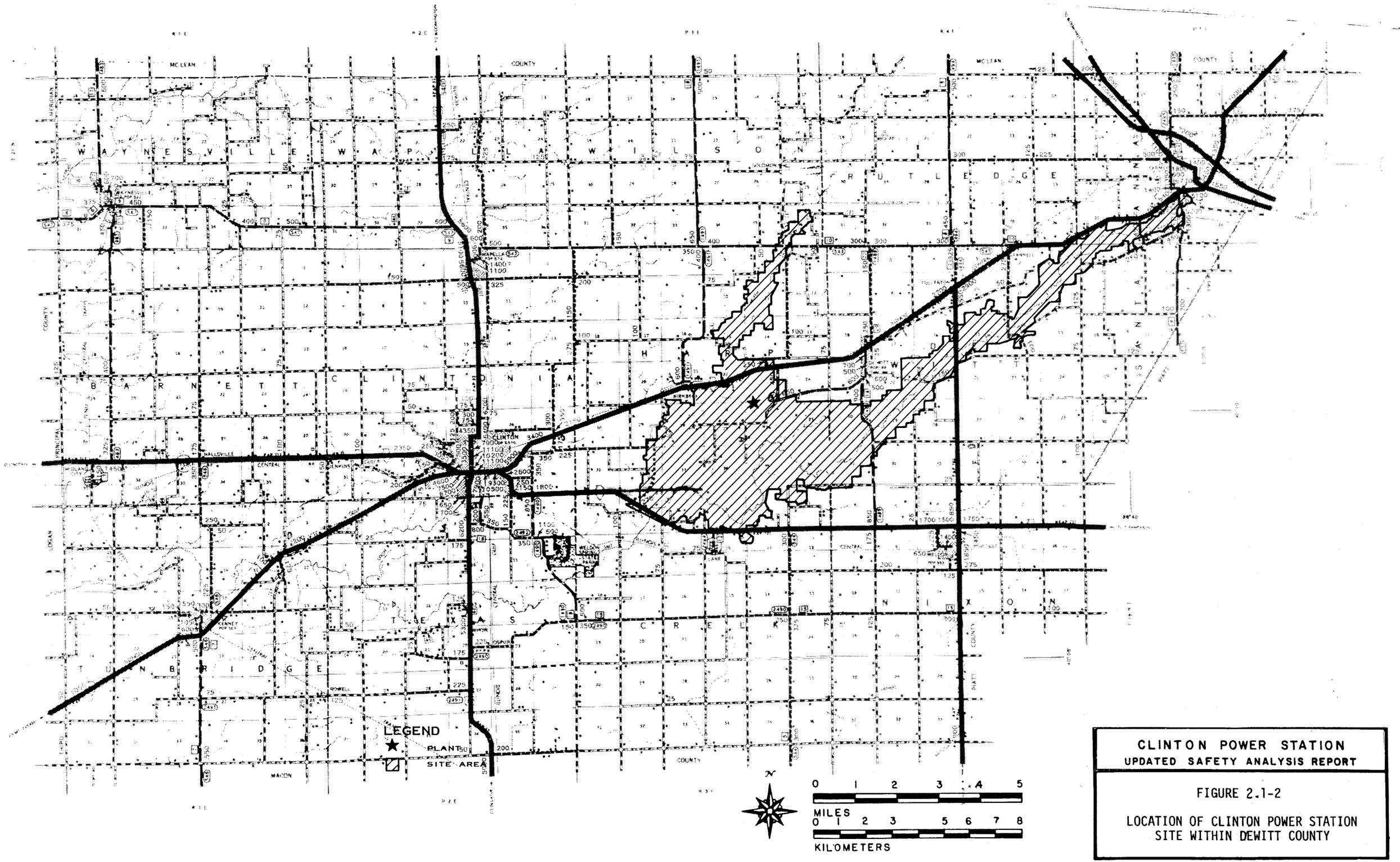
SITE AREA

N

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-1

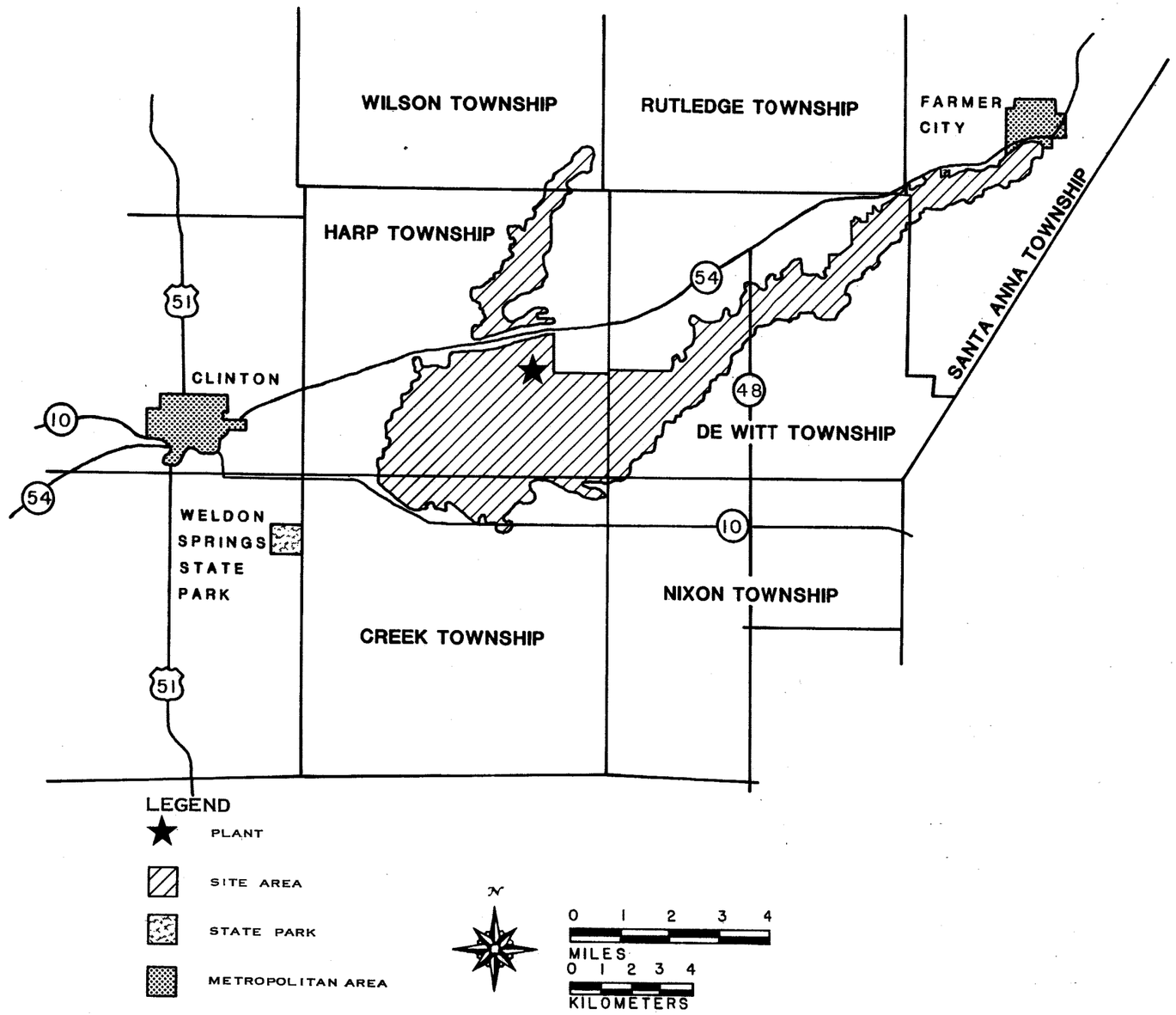
PLANT AND SITE LOCATION



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-2

LOCATION OF CLINTON POWER STATION SITE WITHIN DEWITT COUNTY



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-3

LOCATION OF CLINTON POWER STATION SITE WITHIN POLITICAL TOWNSHIPS

CE-CLT6-01.1-A

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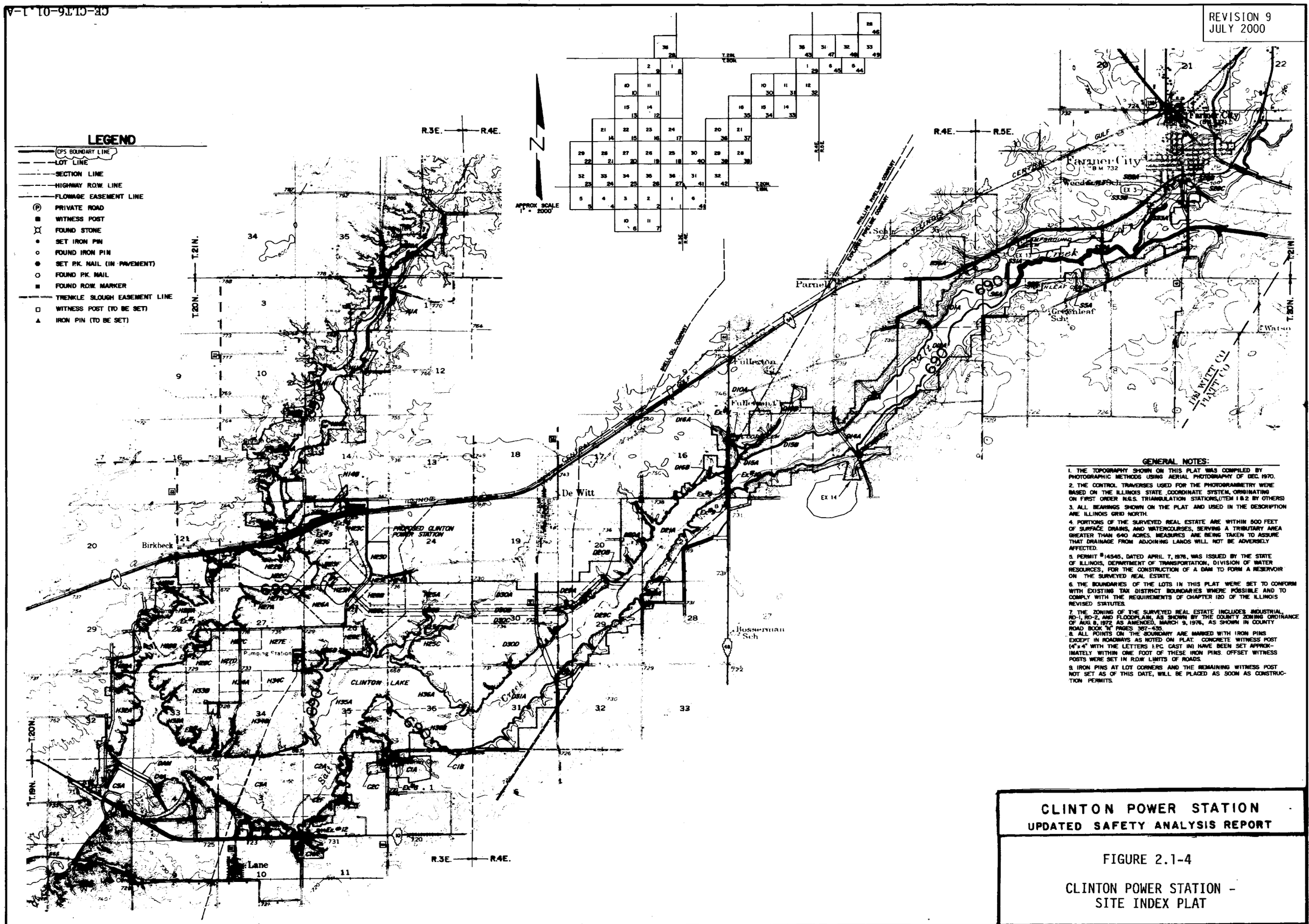


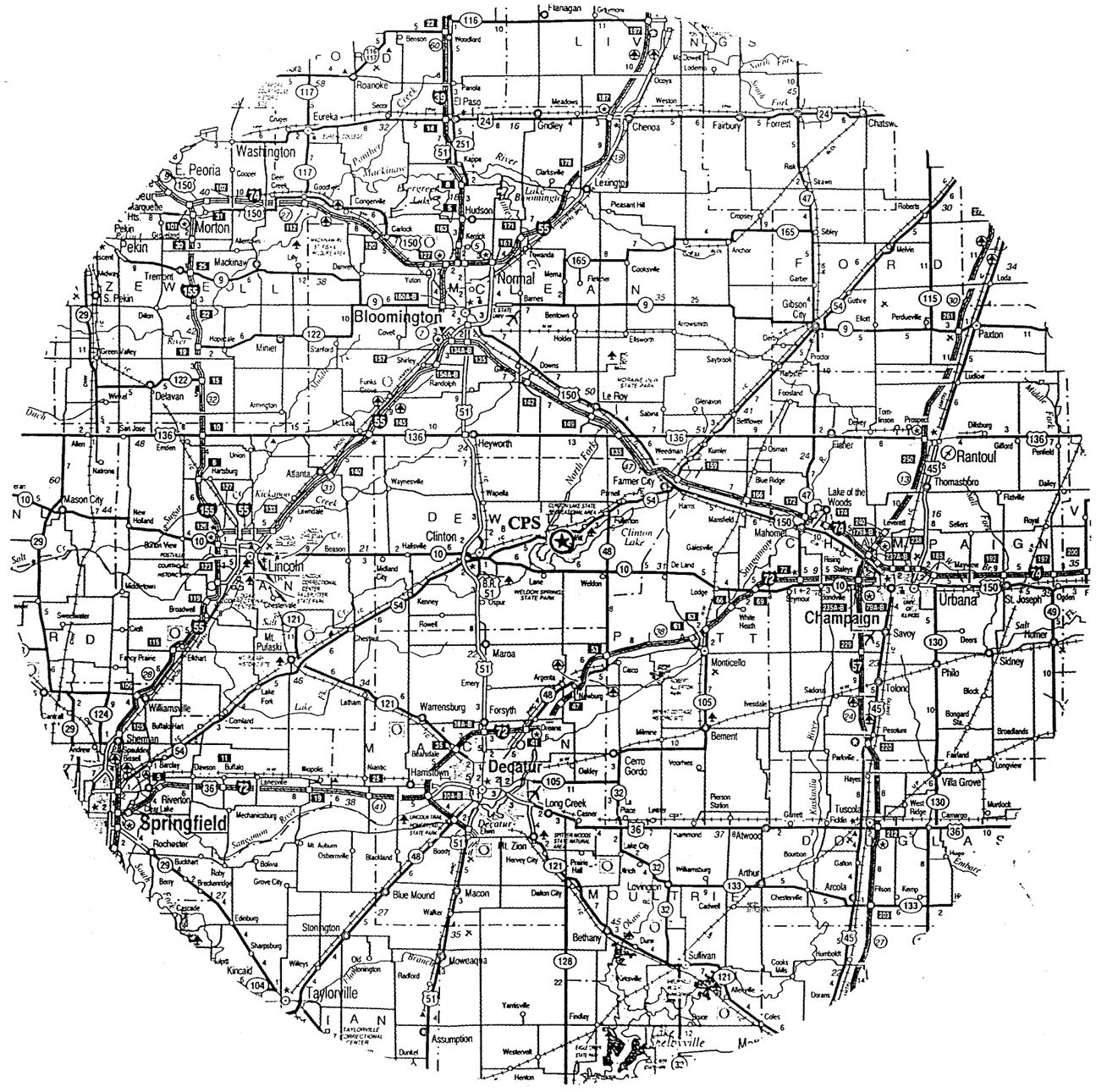
GENERAL NOTES:

1. THE TOPOGRAPHY SHOWN ON THIS PLAT WAS COMPILED BY PHOTOGRAPHIC METHODS USING AERIAL PHOTOGRAPHY OF DEC. 1970.
2. THE CONTROL TRAVERSES USED FOR THE PHOTOGRAMMETRY WERE BASED ON THE ILLINOIS STATE COORDINATE SYSTEM, ORIGINATING ON FIRST ORDER N.G.S. TRIANGULATION STATIONS.(ITEM 1 & 2 BY OTHERS)
3. ALL BEARINGS SHOWN ON THE PLAT AND USED IN THE DESCRIPTION ARE ILLINOIS GRID NORTH.
4. PORTIONS OF THE SURVEYED REAL ESTATE ARE WITHIN 500 FEET OF SURFACE DRAINS, AND WATERCOURSES, SERVING A TRIBUTARY AREA GREATER THAN 640 ACRES. MEASURES ARE BEING TAKEN TO ASSURE THAT DRAINAGE FROM ADJOINING LANDS WILL NOT BE ADVERSELY AFFECTED.
5. PERMIT #14545, DATED APRIL 7, 1976, WAS ISSUED BY THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION, DIVISION OF WATER RESOURCES, FOR THE CONSTRUCTION OF A DAM TO FORM A RESERVOIR ON THE SURVEYED REAL ESTATE.
6. THE BOUNDARIES OF THE LOTS IN THIS PLAT WERE SET TO CONFORM WITH EXISTING TAX DISTRICT BOUNDARIES WHERE POSSIBLE AND TO COMPLY WITH THE REQUIREMENTS OF CHAPTER 120 OF THE ILLINOIS REVISED STATUTES.
7. THE ZONING OF THE SURVEYED REAL ESTATE INCLUDES INDUSTRIAL, RD-1, RD-2, AND FLOODPLAIN, AS SHOWN BY THE COUNTY ZONING ORDINANCE OF AUG. 8, 1972 AS AMENDED, MARCH 9, 1976, AS SHOWN IN COUNTY ROAD BOOK "M" PAGES 367-435.
8. ALL POINTS ON THE BOUNDARY ARE MARKED WITH IRON PINS EXCEPT IN ROADWAYS AS NOTED ON PLAT. CONCRETE WITNESS POST (4"x4" WITH THE LETTERS I.P.C. CAST IN) HAVE BEEN SET APPROXIMATELY WITHIN ONE FOOT OF THESE IRON PINS. OFFSET WITNESS POSTS WERE SET IN R.O.W. LIMITS OF ROADS.
9. IRON PINS AT LOT CORNERS AND THE REMAINING WITNESS POST NOT SET AS OF THIS DATE, WILL BE PLACED AS SOON AS CONSTRUCTION PERMITS.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-4

CLINTON POWER STATION -
SITE INDEX PLAT



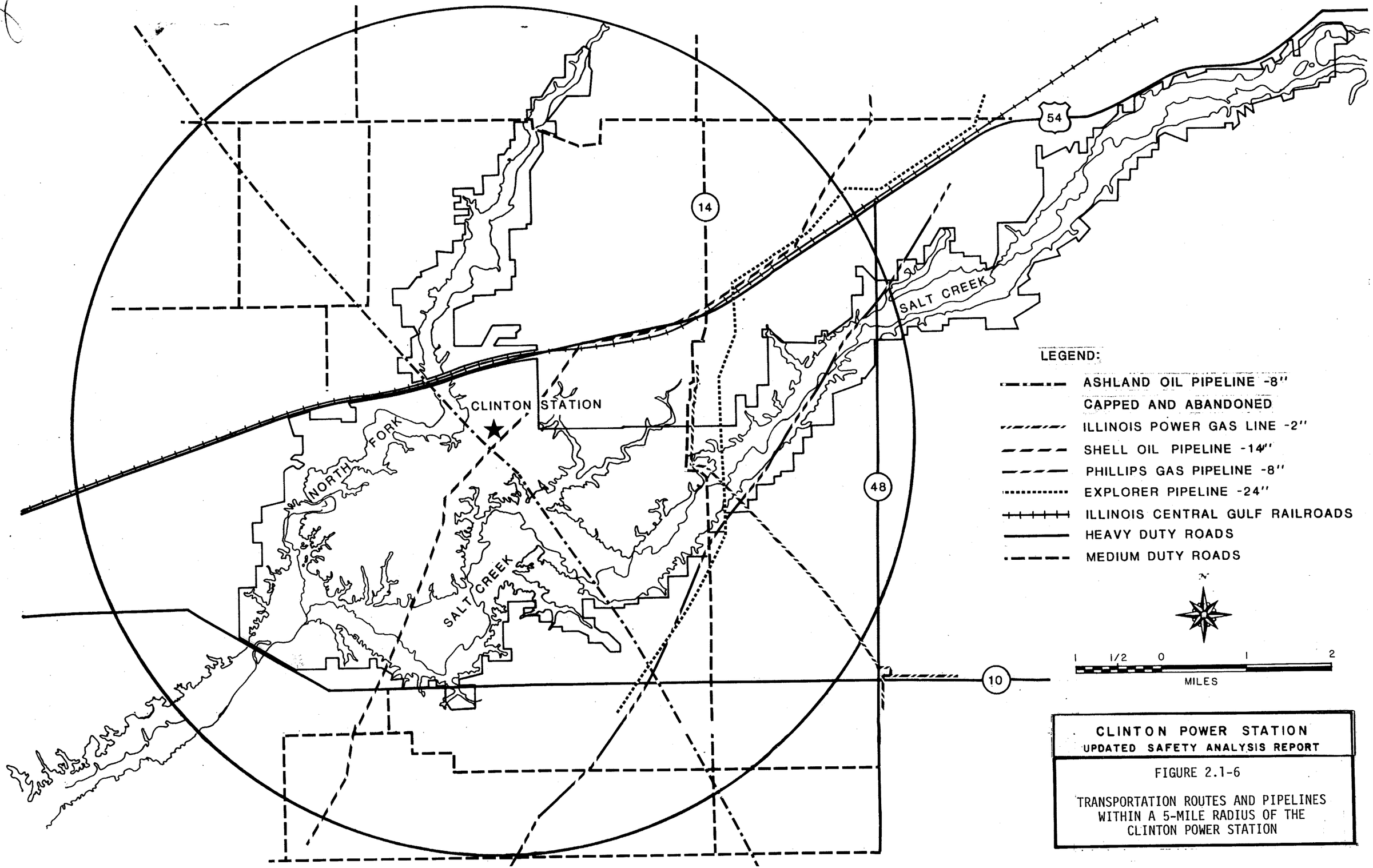
LEGEND

═══	PRIMARY ROADS
┼┼┼┼┼┼┼	RAILROADS
AMTK	AMTRACK
BLOL	BLOOME LINE
CNW	CHICAGO & NORTHWESTERN
CSXT	CSX TRANSPORTATION
IC	ILLINOIS CENTRAL
IHRC	HIRAIL CORPORATION
NW	NORFOLK & WESTERN
SPSCL	SOUTHERN PACIFIC CHICAGO LINE
TPW	TOLEDO, PEORIA & WESTERN
UP	UNION PACIFIC

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-5

RAILROADS WITHIN A 50-MILE RADIUS OF THE SITE



CLINTON POWER STATION
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FIGURE 2.1-6

TRANSPORTATION ROUTES AND PIPELINES WITHIN A 5-MILE RADIUS OF THE CLINTON POWER STATION

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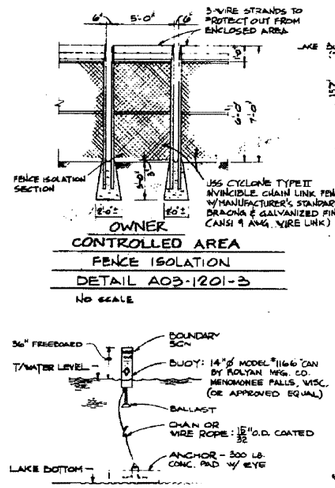
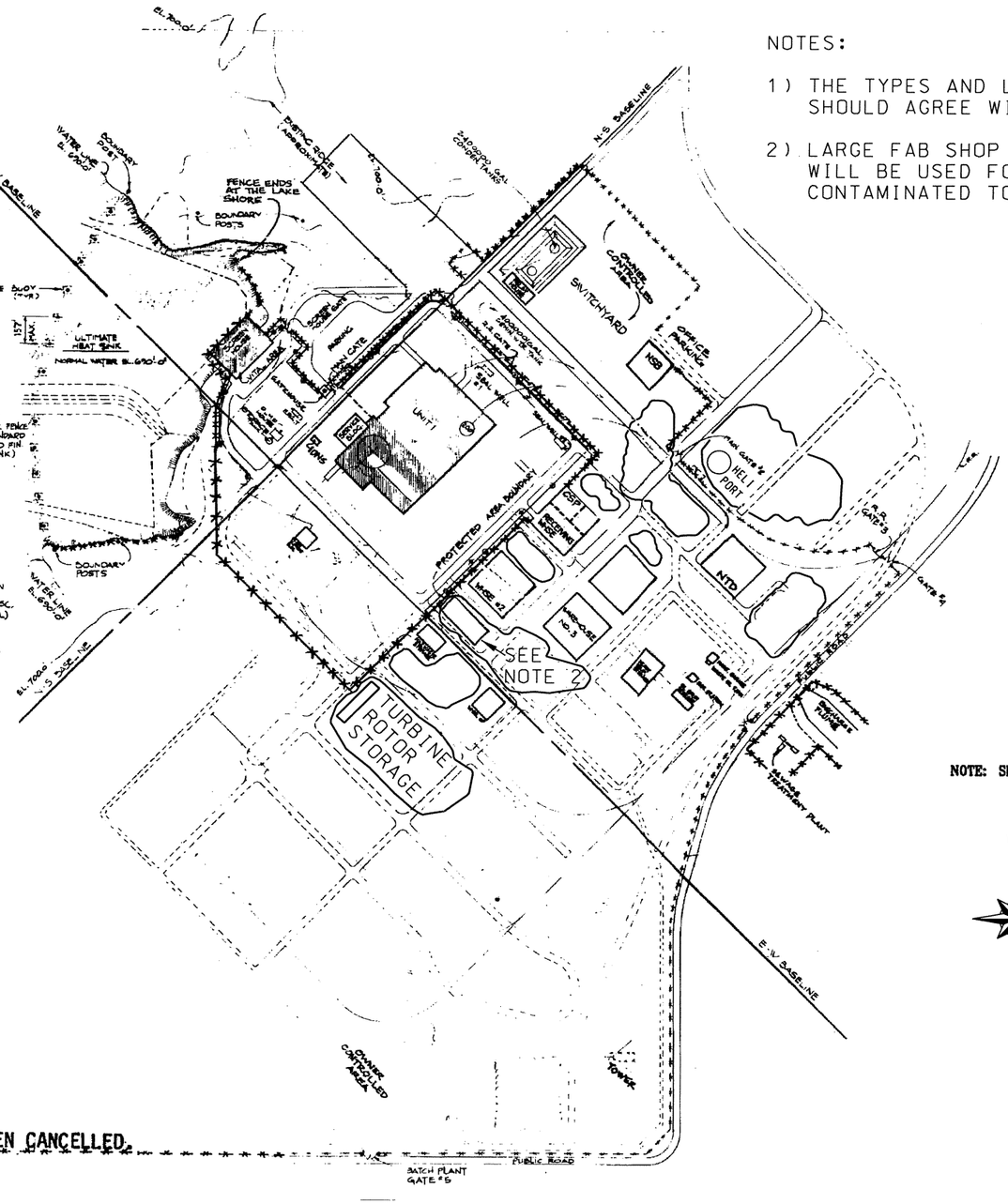
NOTES:

1) THE TYPES AND LOCATIONS OF GATES IN THE PROTECTED AREA SHOULD AGREE WITH DRAWING S03-1133.

2) LARGE FAB SHOP WILL NO LONGER BE USED AS A FAB SHOP, BUT WILL BE USED FOR STORAGE OF TURBINE DIAPHRAGMS AND CONTAMINATED TOOLS STORED IN SEA VANS.

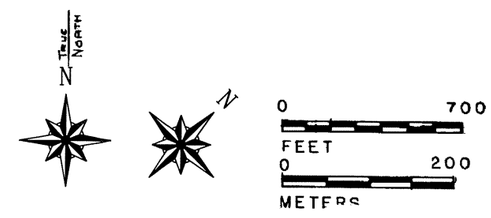




LEGEND

- PERMANENT PROTECTED AREA BOUNDARY FENCE
- RESTRICTED AREA BOUNDARY
- ELECTRICAL DUCT
- PATROL PATH OR TEMP ROADS
- SLIDING GATE
- SINGLE SWING GATE
- DOUBLE SWING GATE
- GATEHOUSE
- TEMP CONSTR. BLDGS.
- R.R. TRACK
- LAKE BUOY WITH SIGN LIGHTING

NOTE: SEE FIGURE 1.2-3 SHEET 2 FOR NUISANCE FENCE LOCATION



THE FENCE TURNS NORTH AT THE ROAD TO THE CPS RECREATION AREA AND ENDS AT THE LAKE SHORE

NOTE: UNIT 2 HAS BEEN CANCELLED.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-7

CLINTON POWER STATION RESTRICTED AREA

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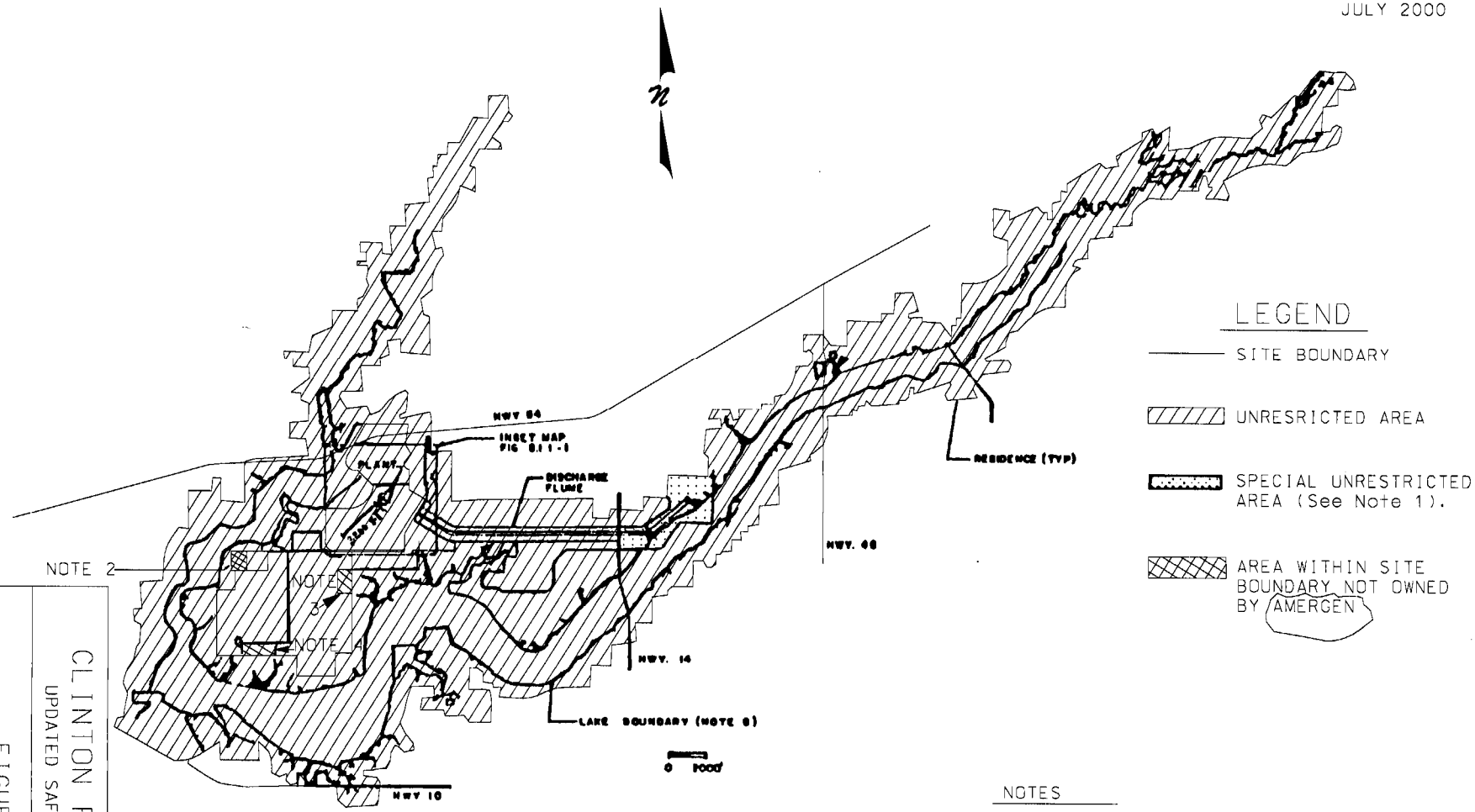
JULY 2000



NOTES

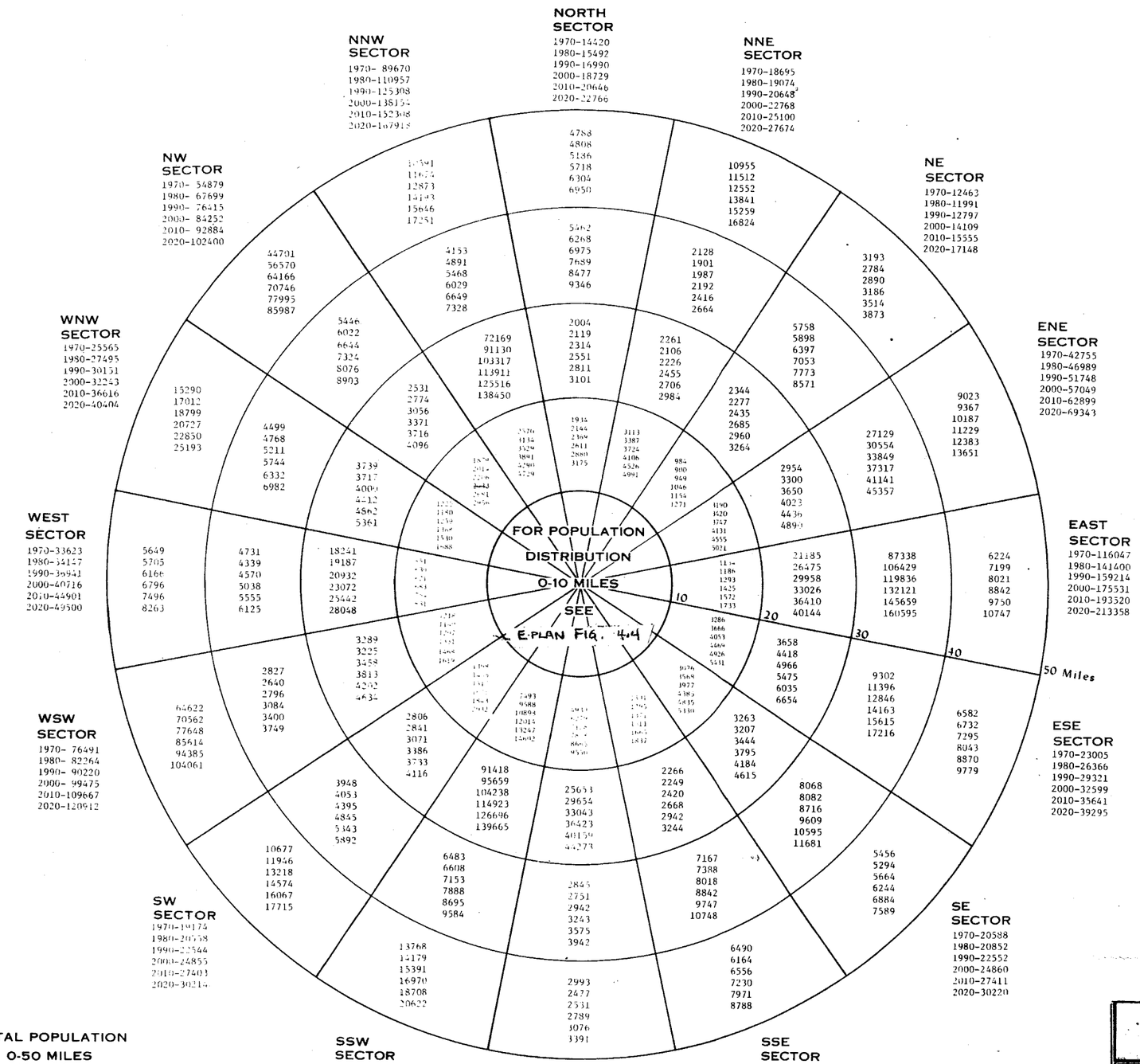
1. THE AREA IN THE LAKE BETWEEN THE BUOYS AND THE EXLUSION AREA BOUNDARY IS UNRESTRICTED AT THIS TIME, BUT WILL BE CONTROLLED IF PLANT EFFLUENT CONDITIONS WARRANT CLOSURE.
2. LAND PARCEL NOT OWNED BY AMERGEN, INCLUDES RESIDENCES
3. LAND PARCEL NOT OWNED BY AMERGEN, OIL COMPANY PIPELINE PUMPING STATION.
4. LAND PARCEL NOT OWNED BY AMERGEN, AGRICULTURAL USE.
5. THE LAKE SHORE IS APPROXIMATED BY 690 FT MSL ELEVATION LINE.

CLINTON POWER STATION
UPDATED SAFTEY ANALYSIS REPORT

FIGURE 2.1-8
UNRESTRICTED AREAS FOR
RADIOACTIVE EFFLUENTS

FIGURE 2.1-9

HAS BEEN DELETED

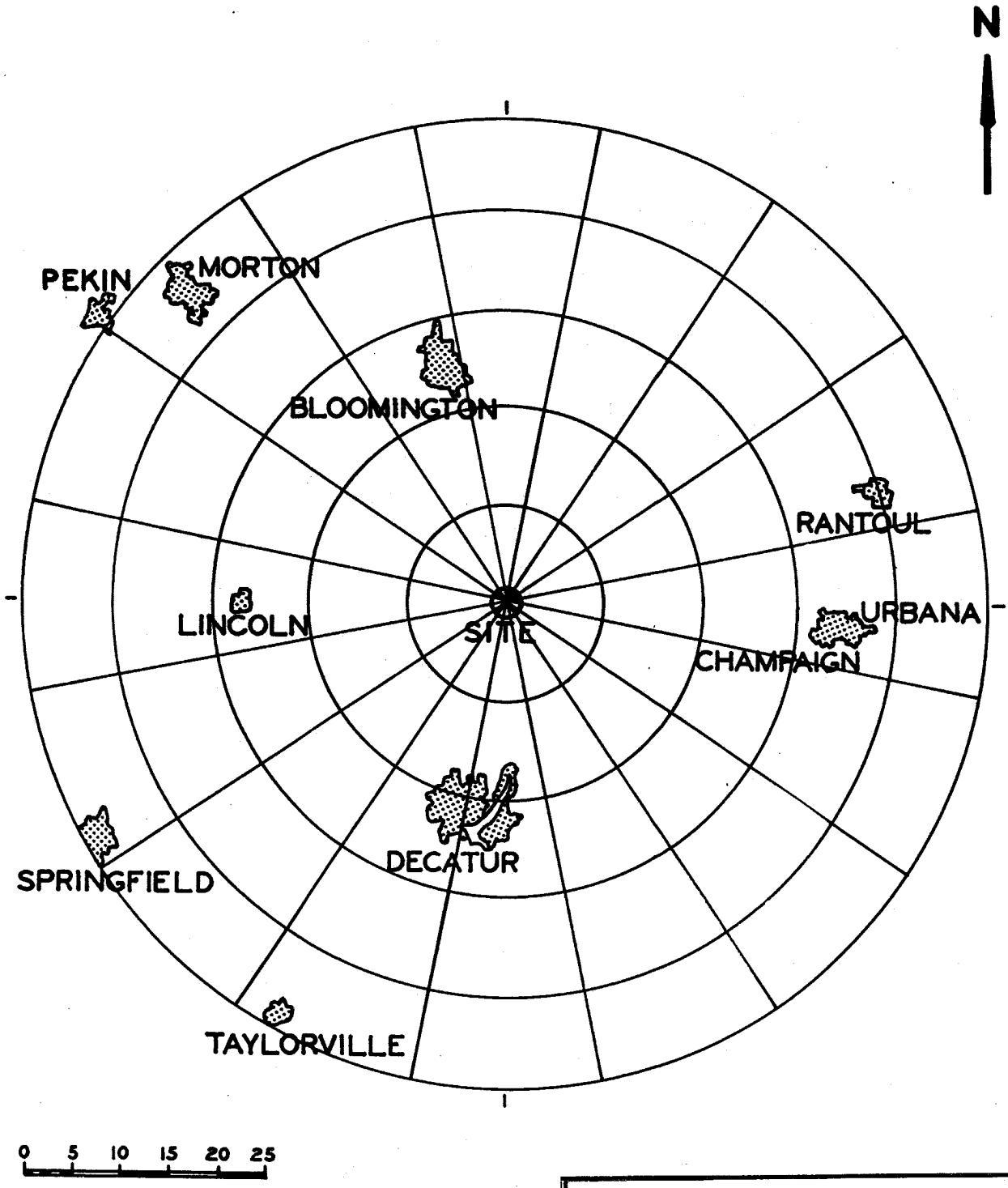


TOTAL POPULATION
0-50 MILES
1970- 720998
1980- 810296
1990- 897220
2000- 988491
2010-1090530
2020-1112310

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-10

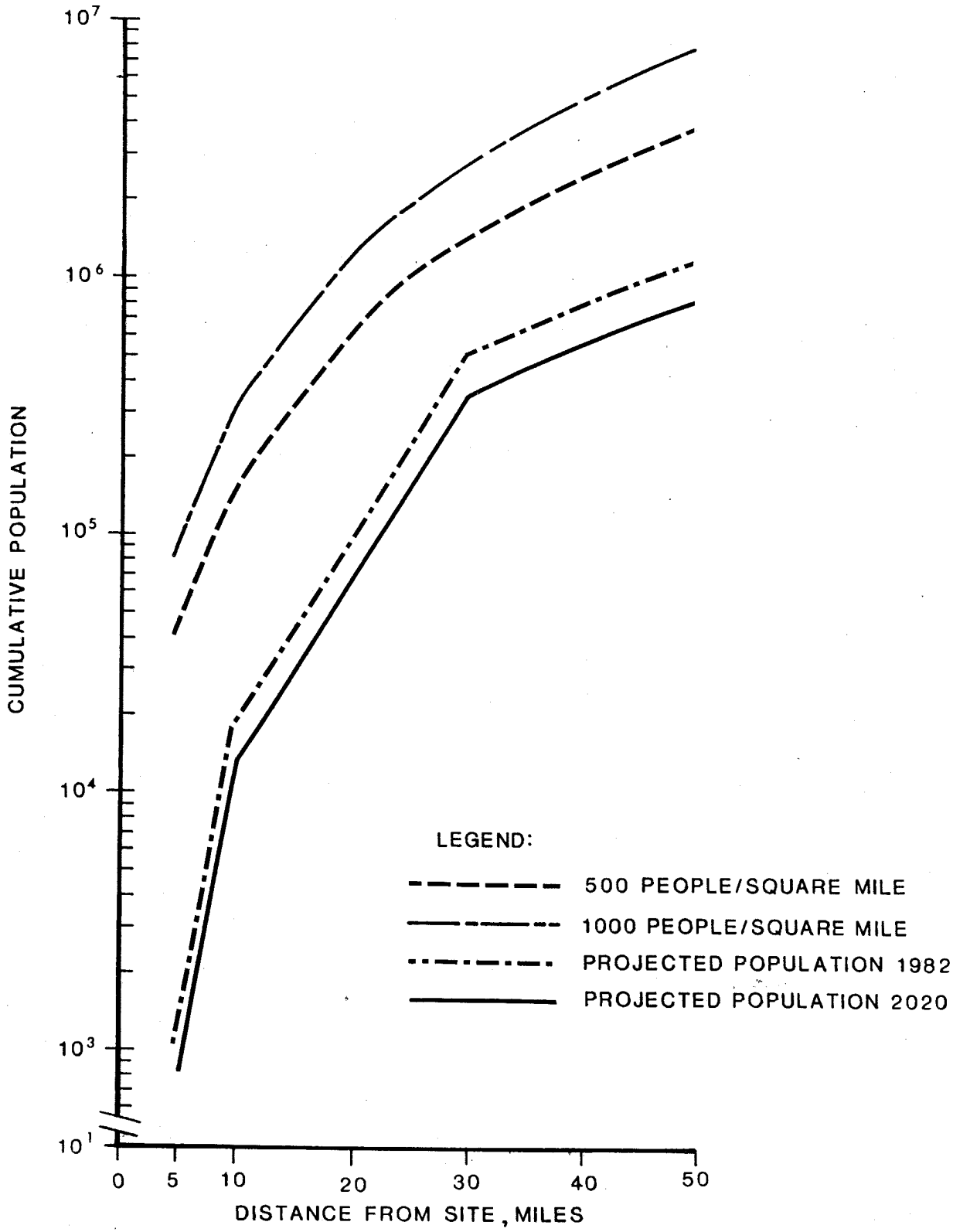
POPULATION WITHIN 50 MILES OF THE SITE



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-11

MAJOR CITIES WITHIN 50 MILES
OF THE SITE

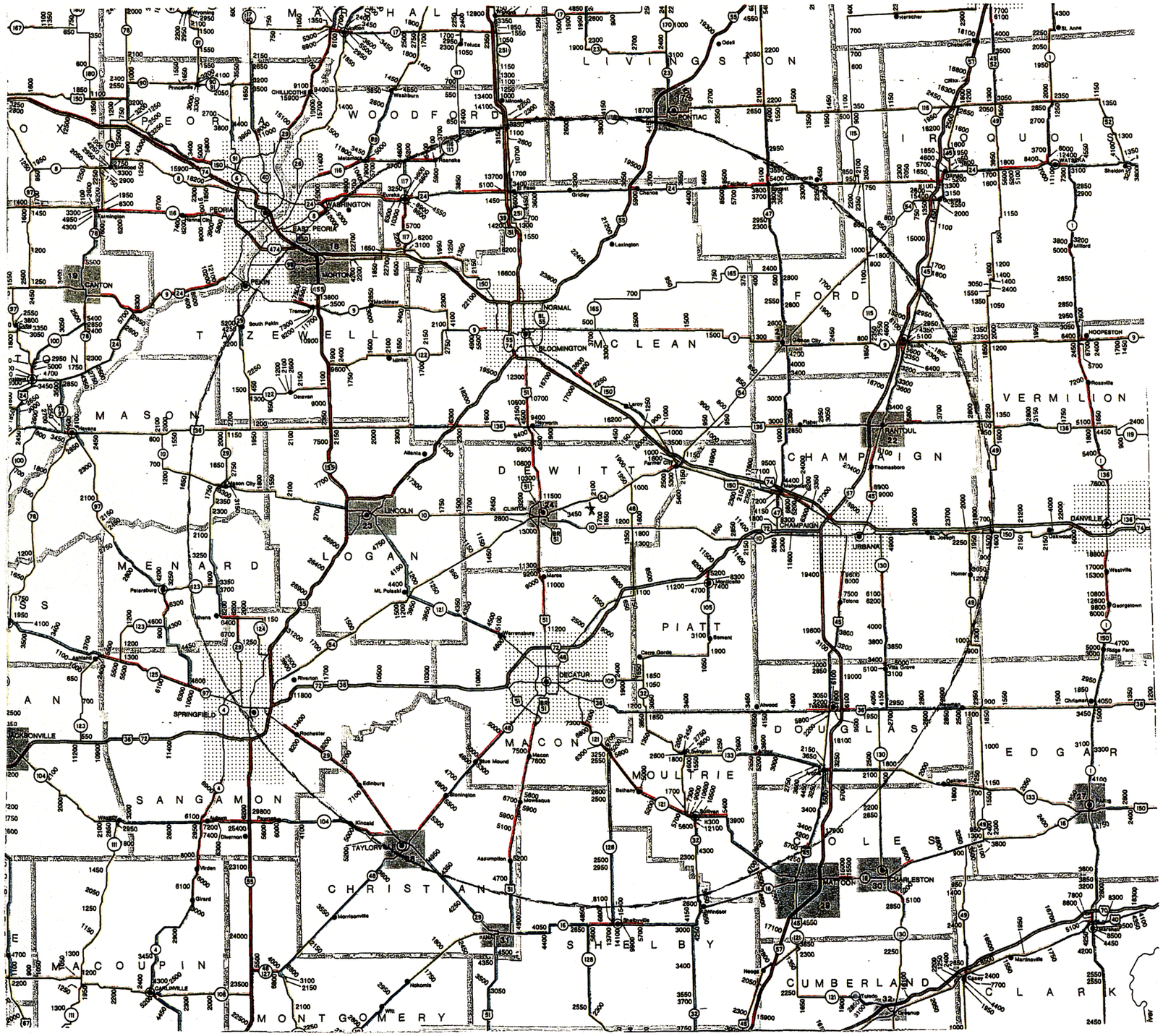


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.1-12

CUMULATIVE POPULATION DISTRIBUTION

REVISION 8
AUGUST 1999



1995 AVERAGE DAILY TOTAL TRAFFIC

TRAFFIC VOLUME GROUPS

0-999	1000-2499	2500-4999	5000 AND OVER
900	2400	4900	9000

ANNUAL AVERAGE
24-HOUR TRAFFIC VOLUMES

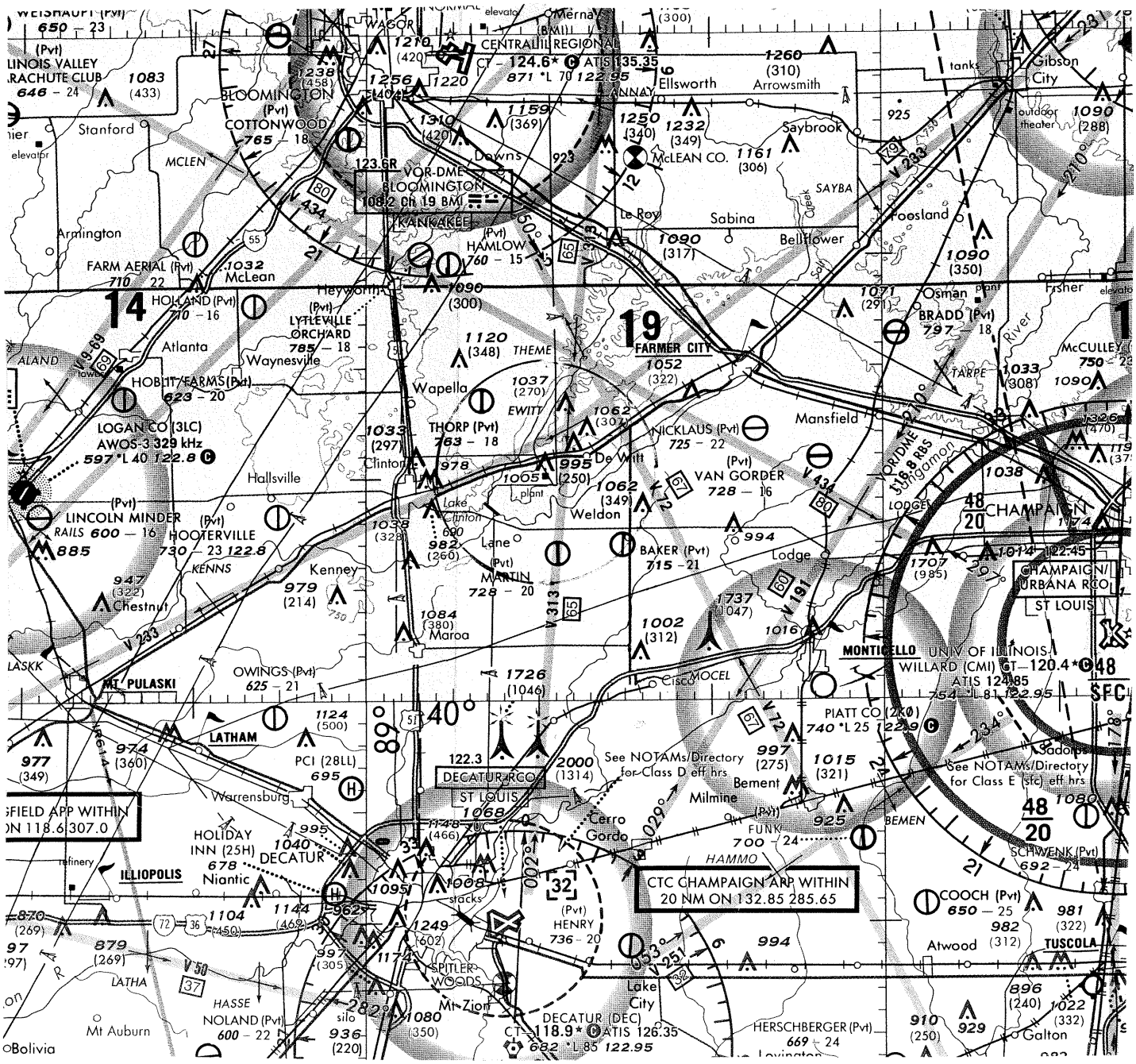
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.2-1

HIGHWAY TRANSPORTATION NETWORK AND TRAFFIC VOLUME OF DEWITT COUNTY AND ROUTES WITHIN 50 MILES OF THE SITE

FIGURE 2.2-2

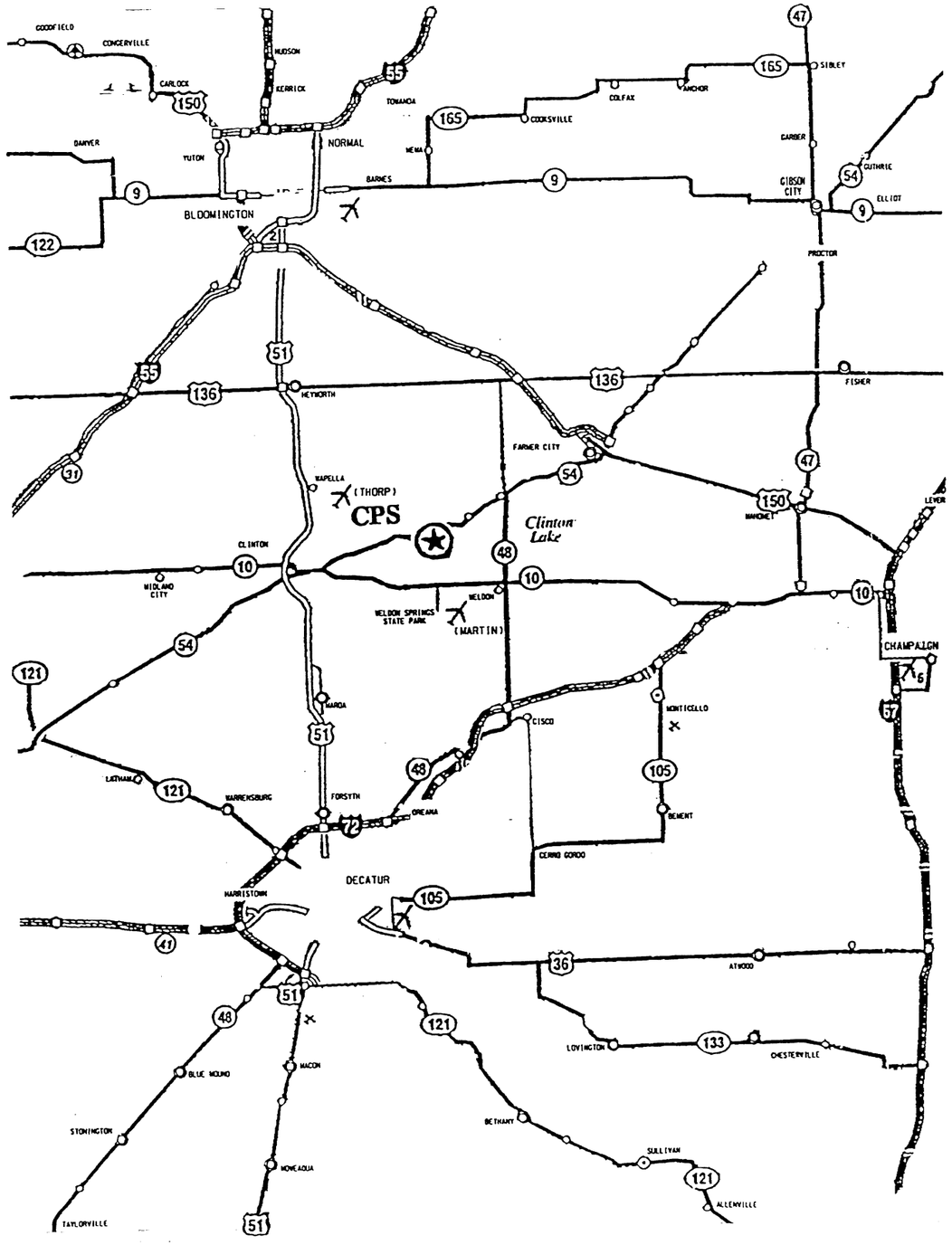
HAS BEEN DELETED



CLINTON POWER STATION

FIGURE 2.2-3
CHART OF LOW ALTITUDE
FEDERAL AIRWAYS

REVISION 10
OCTOBER 2001



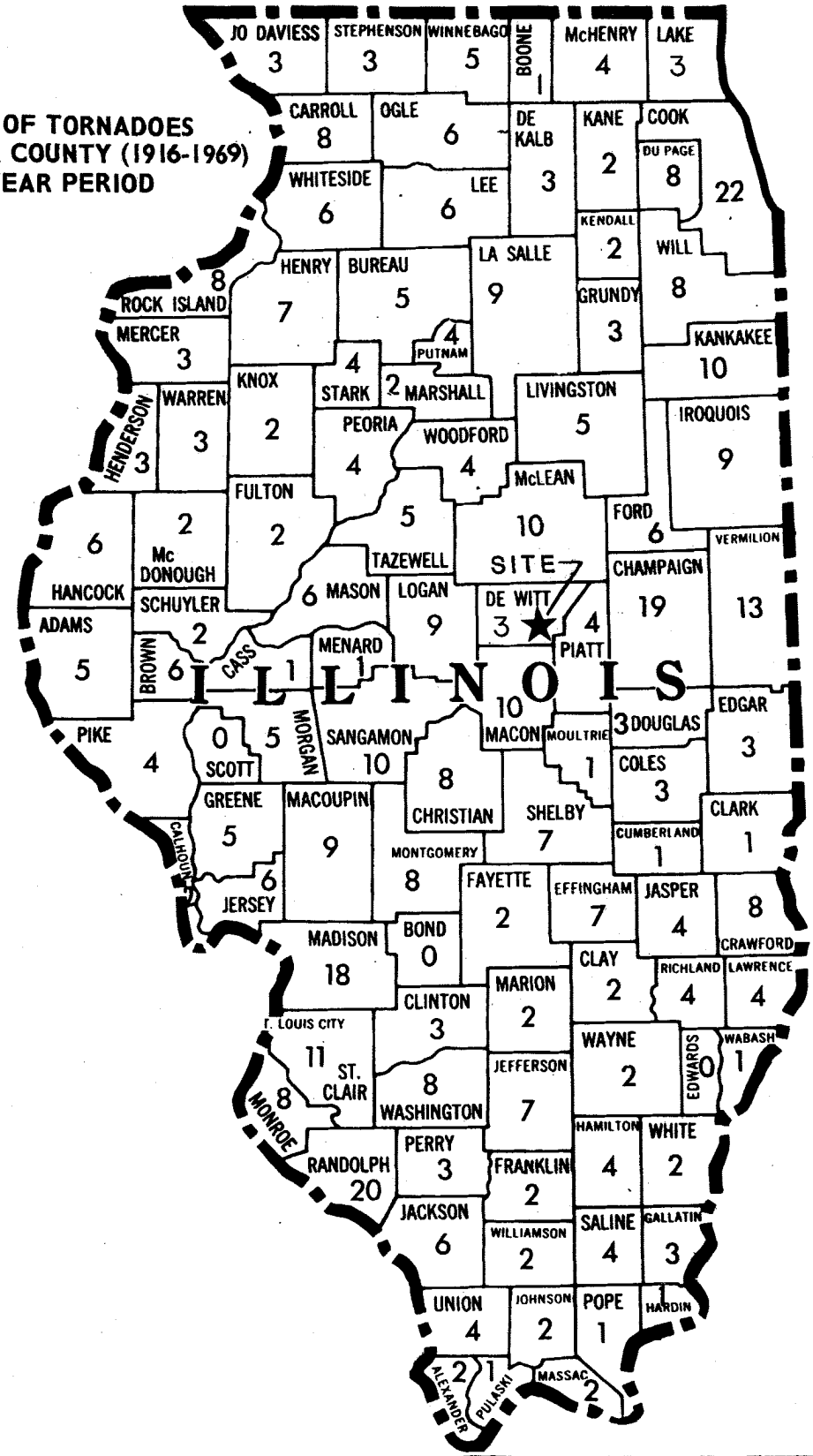
AIRPORTS WITHIN 5 MILES OF CPS AND SURROUNDING COMMERCIAL AIRPORTS

AIRPORT	DISTANCE & DIRECTION FROM STATION	LAYOUT
SPENCER (RLA)*	1.8 MILES WSW	
MARTIN (RLA)(PRIVATE)	4.5 MILES S	(1) 2000 FT. RUNWAY
THORP (RLA)(PRIVATE)	4.75 MILES NW	(2) 1800 FT. TURF RUNWAYS EAST TO WEST/NORTH TO SOUTH
BAKER (RLA)(PRIVATE)	5.0 MILES SE	(1) 2100 FT. TURF RUNWAY NORTH-SOUTH
BLOOMINGTON/NORMAL	22.5 MILES NNW	(11-29) 6500 FT. CONCRETE RUNWAY EAST TO WEST (2-20) 7000 FT. CONCRETE RUNWAY SOUTH TO NORTH
DECATUR	22.5 MILES S	(6-24) 8500 FT. CONCRETE RUNWAY NORTHEAST TO SOUTHWEST (12-30) 6800 FT. CONCRETE RUNWAY NORTHWEST TO SOUTHEAST (18-36) 5300 FT. CONCRETE RUNWAY NORTH - SOUTH

* This airport is now owned by Illinois Power Company and is no longer operational.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.2-4
LOCATIONS AND LAYOUTS OF AIRPORTS WITHIN 5 MILES OF CPS AND DECATUR AND BLOOMINGTON AIRPORTS



CLINTON POWER STATION
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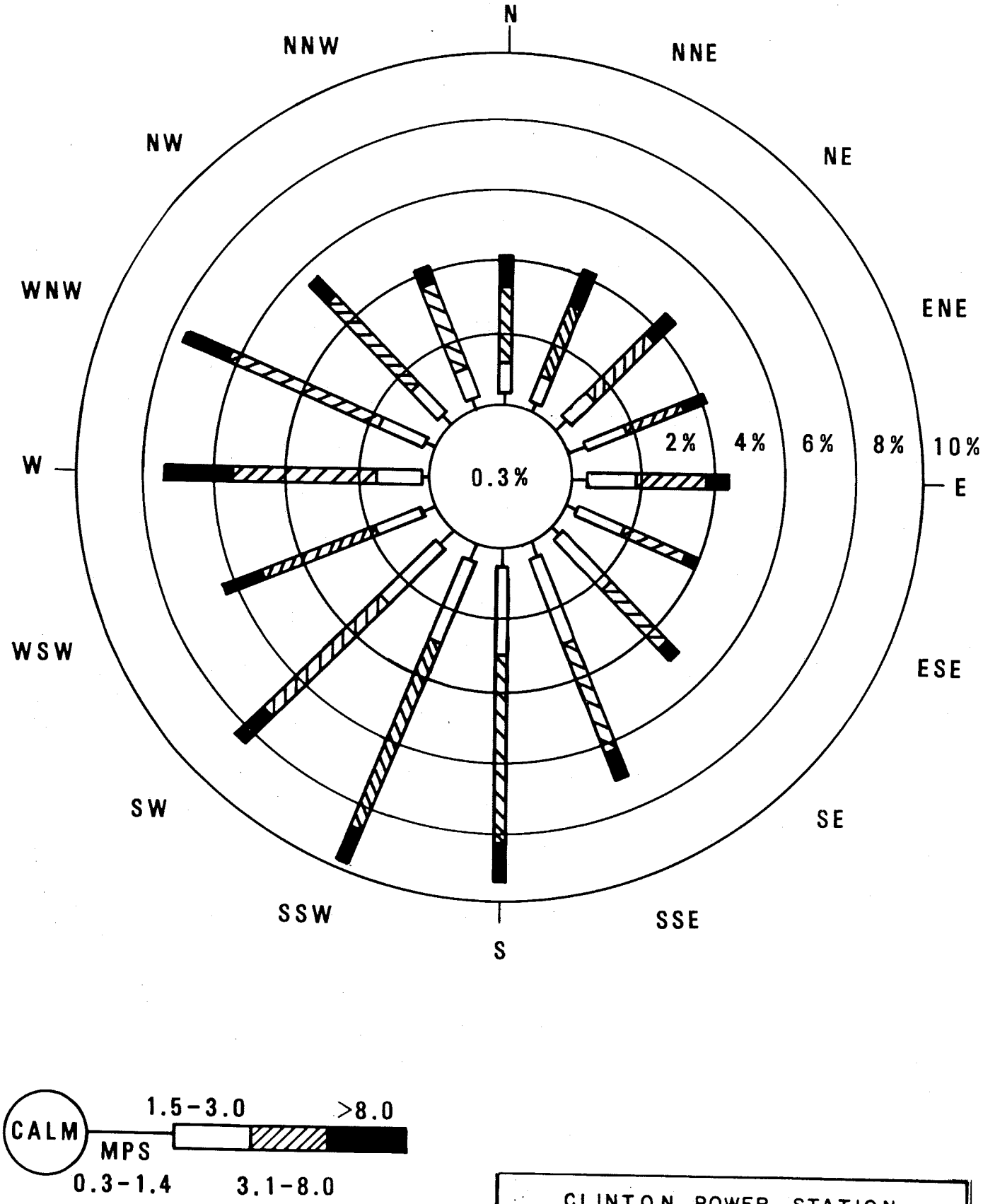
FIGURE 2.3-1

NUMBER OF TORNADOES PER COUNTY
(1916-1969) 54 YEAR PERIOD



CLINTON POWER STATION
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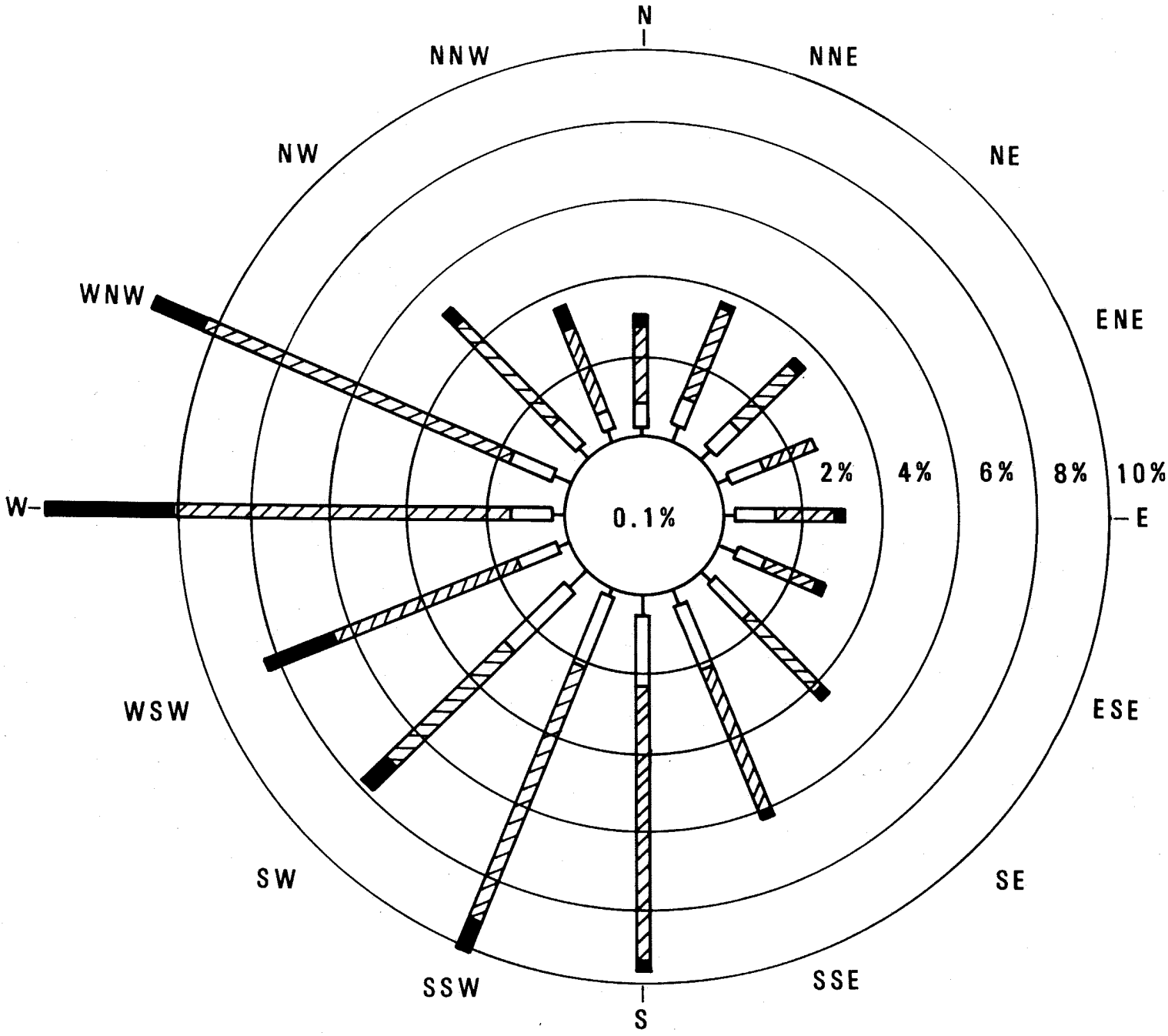
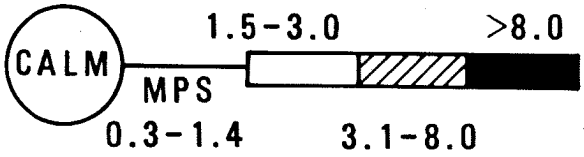
FIGURE 2.3-2

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, PERIOD OF RECORD





CLINTON POWER STATION
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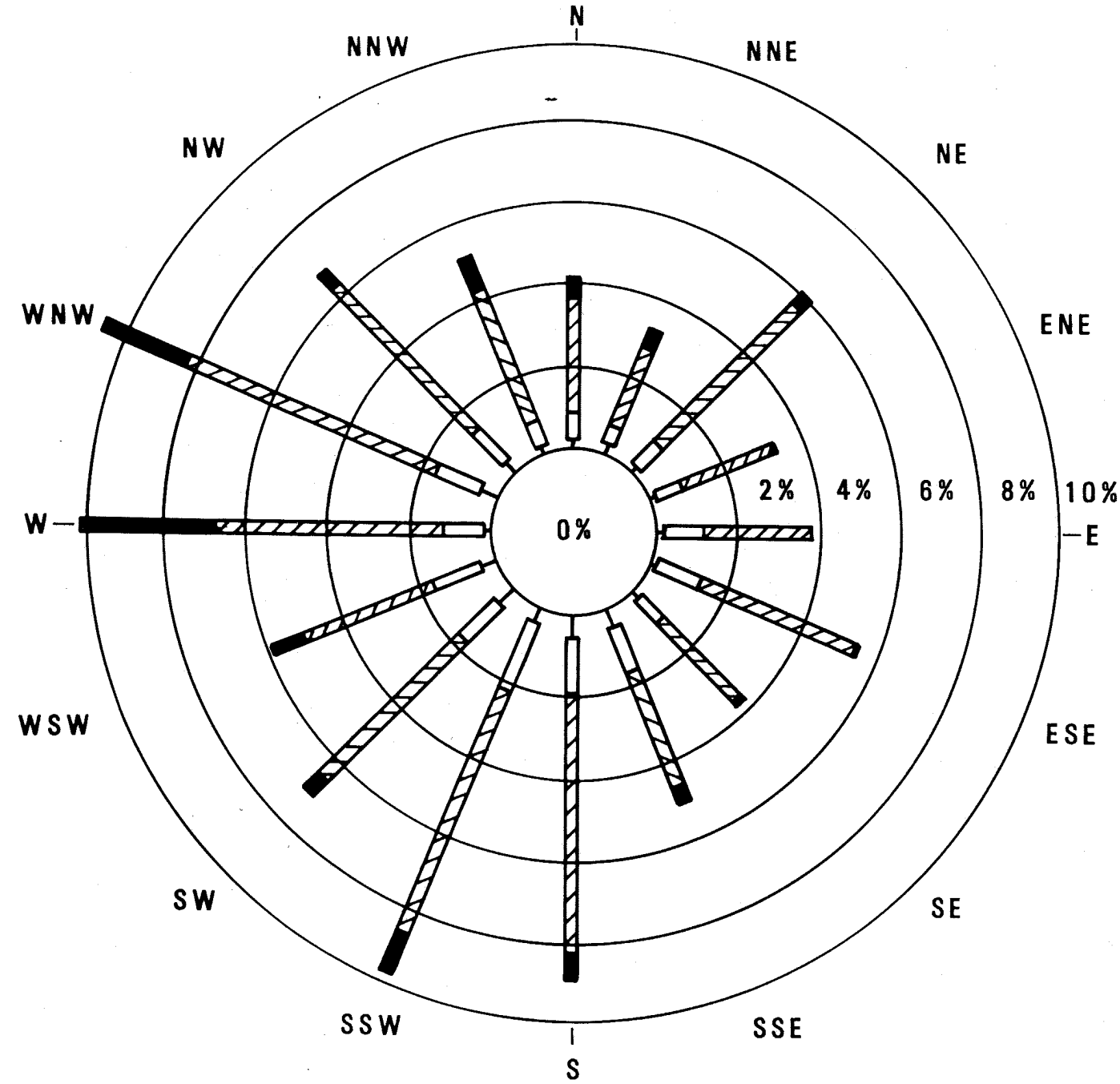
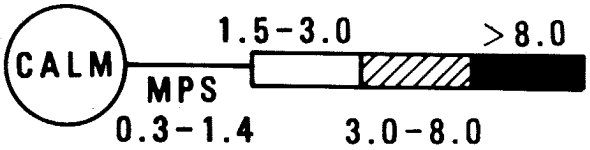
FIGURE 2.3-3

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE JANUARY

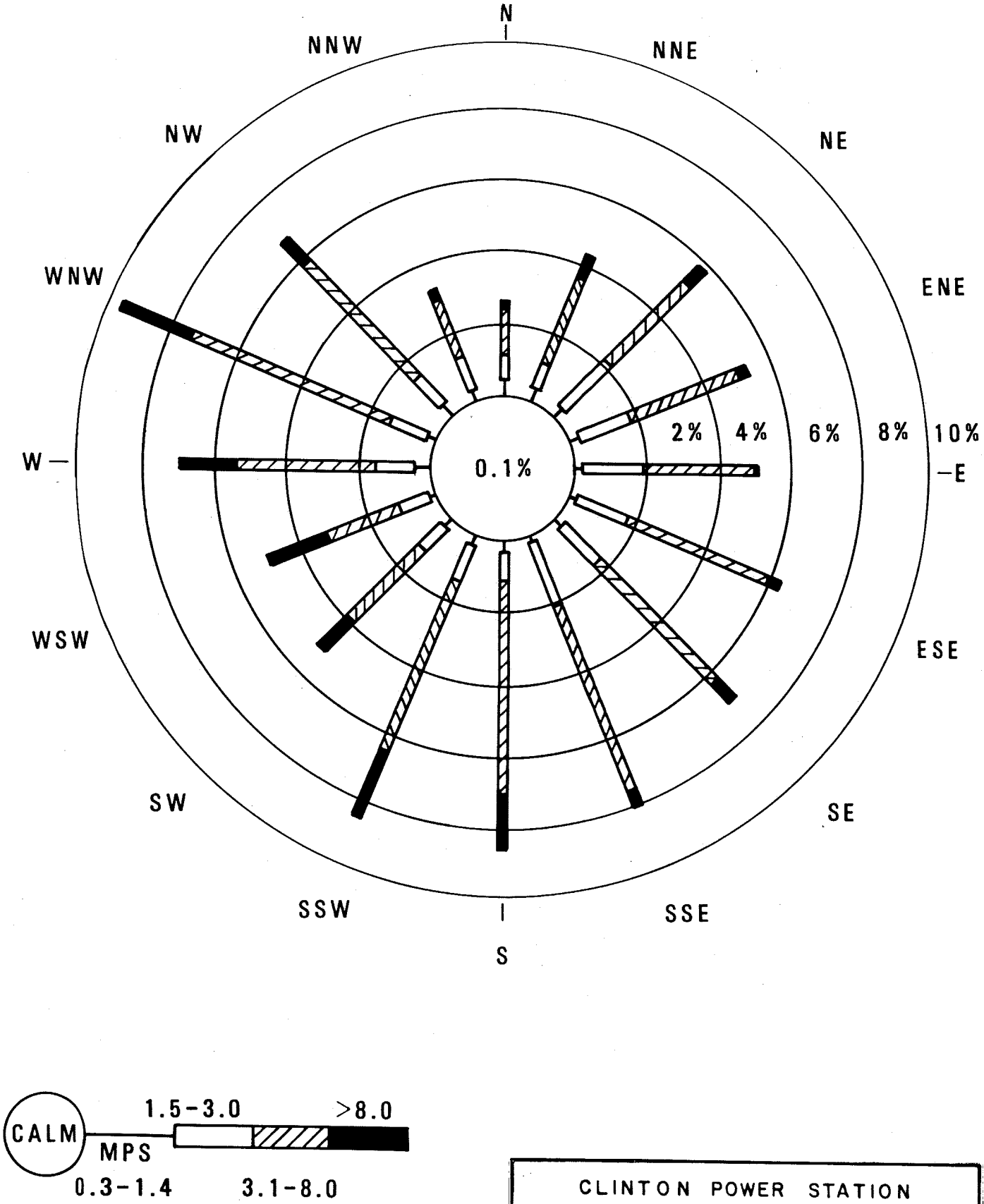




CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-4

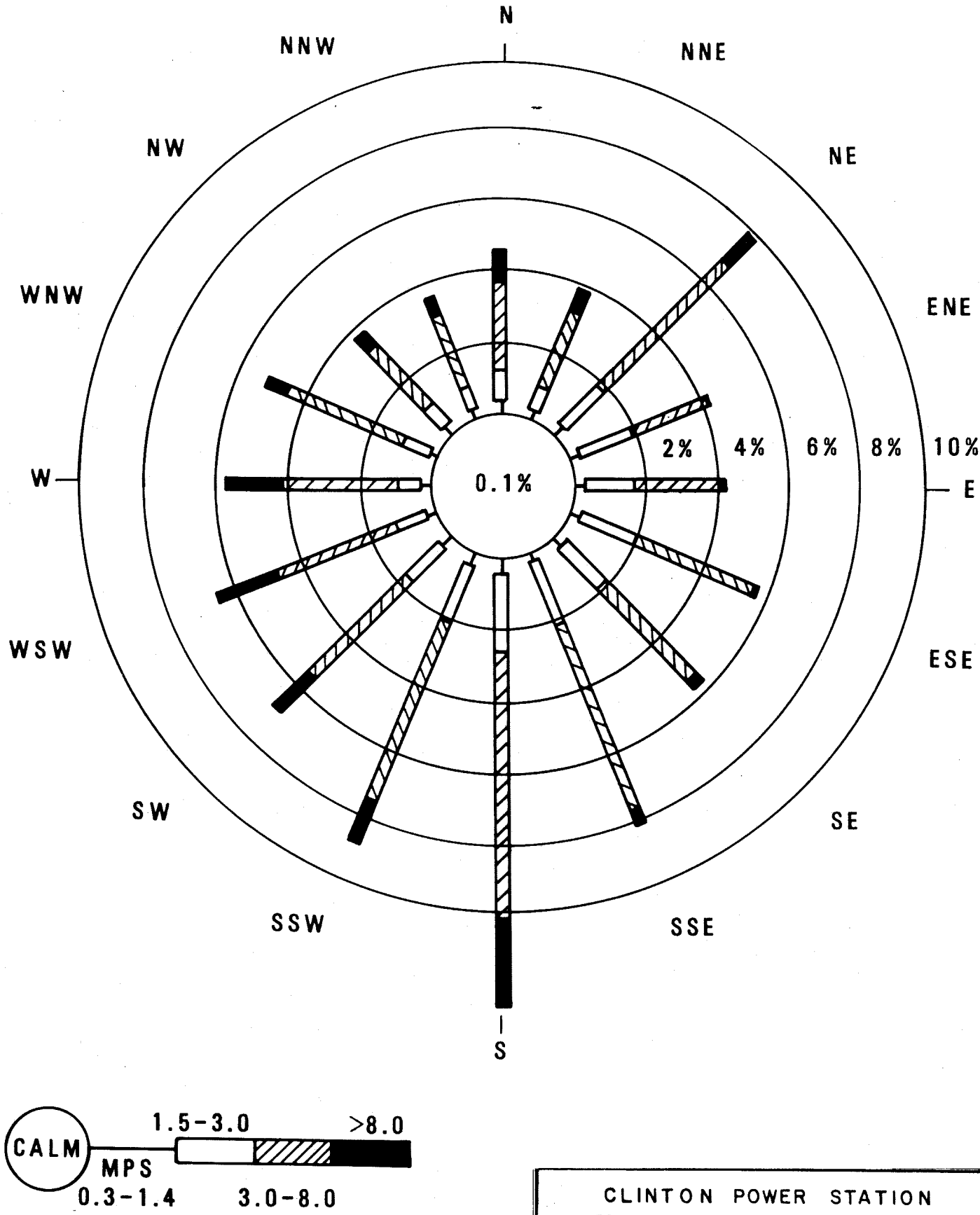
WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE FEBRUARY



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-5

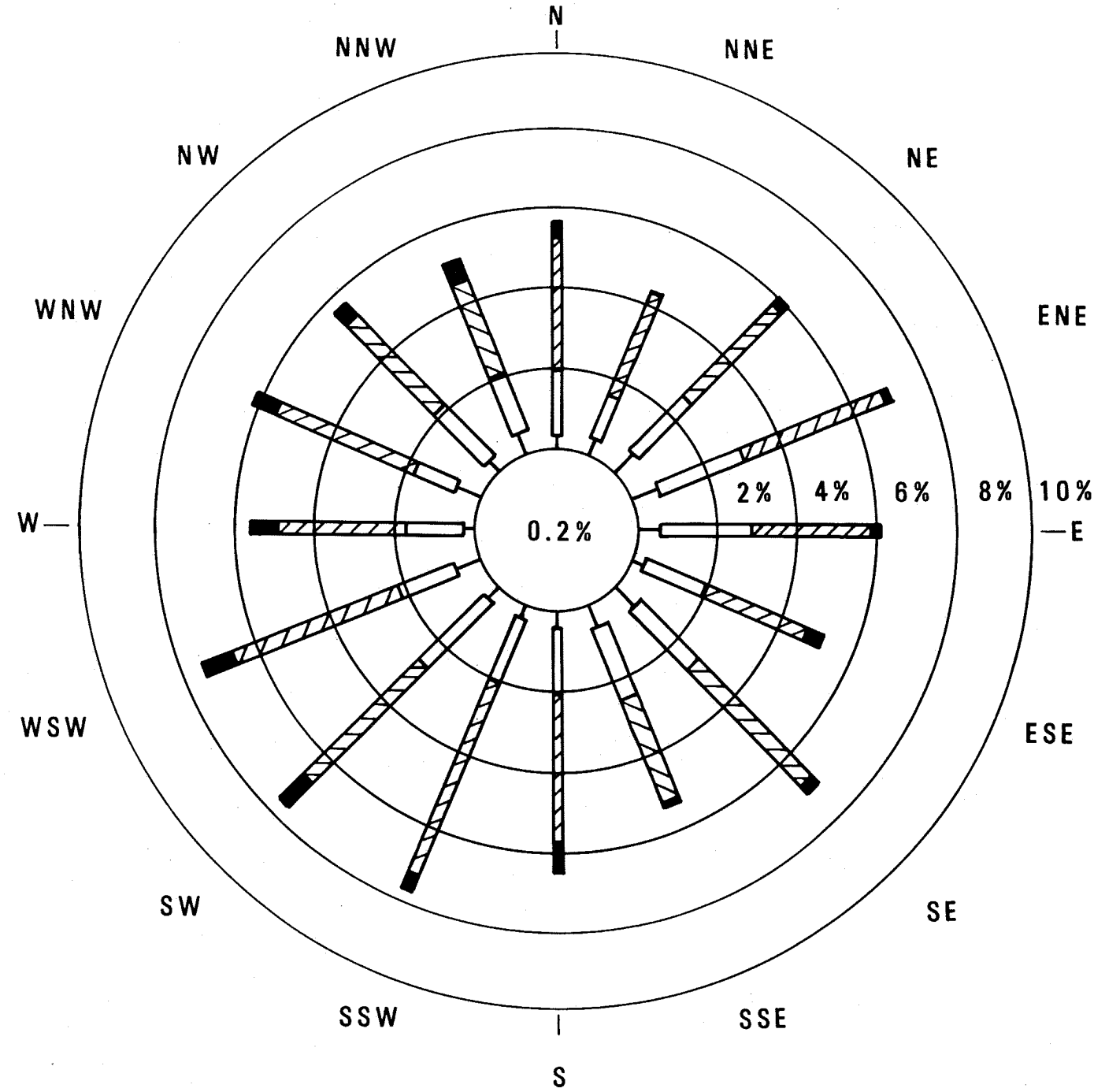
WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE MARCH

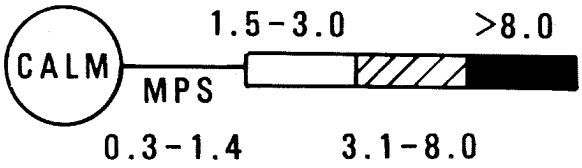


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-6

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE APRIL

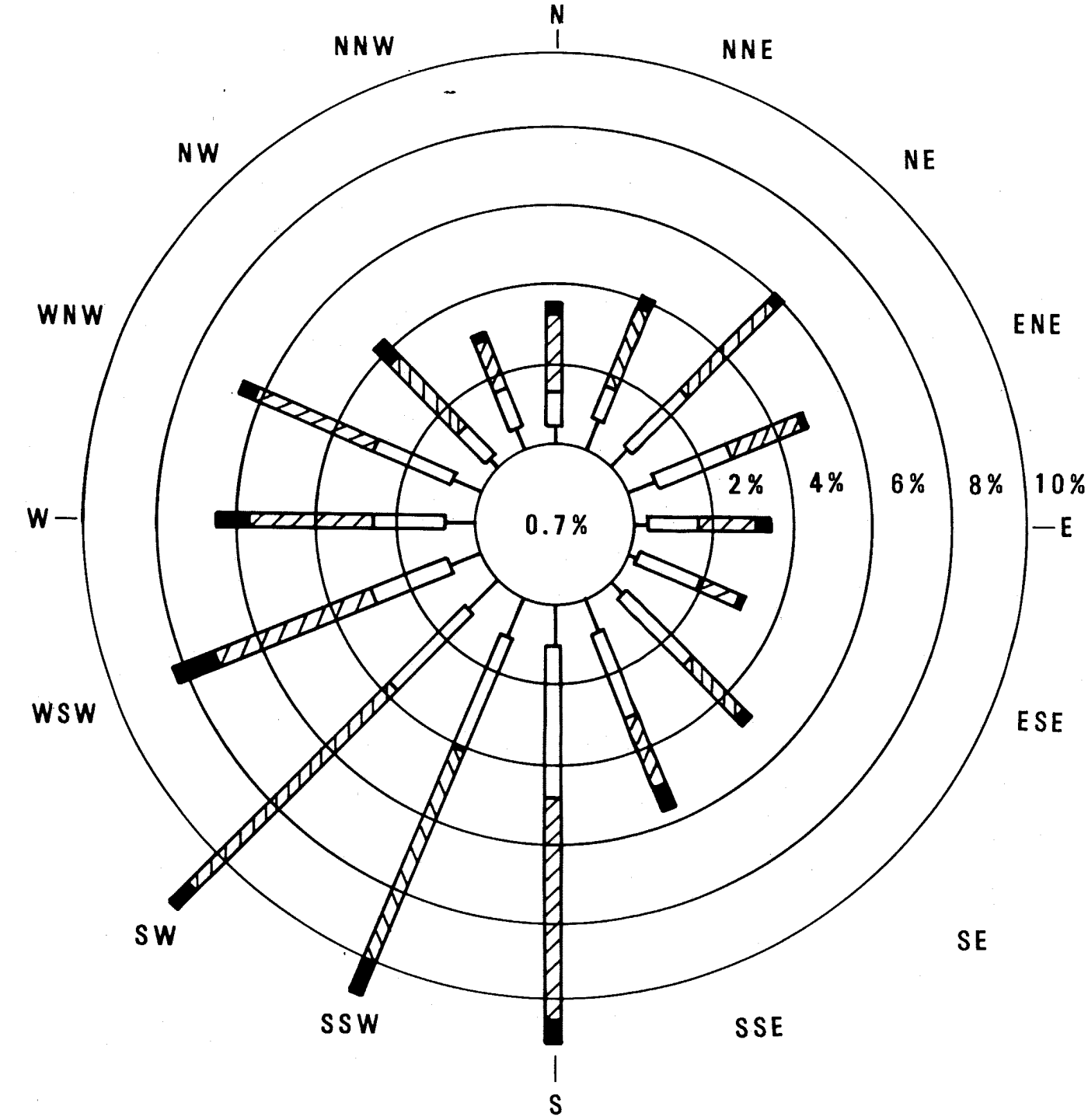


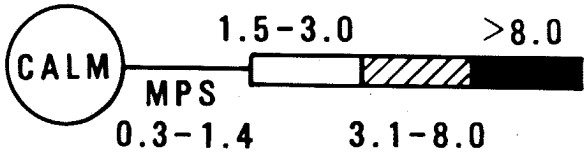


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-7

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE MAY





CLINTON POWER STATION
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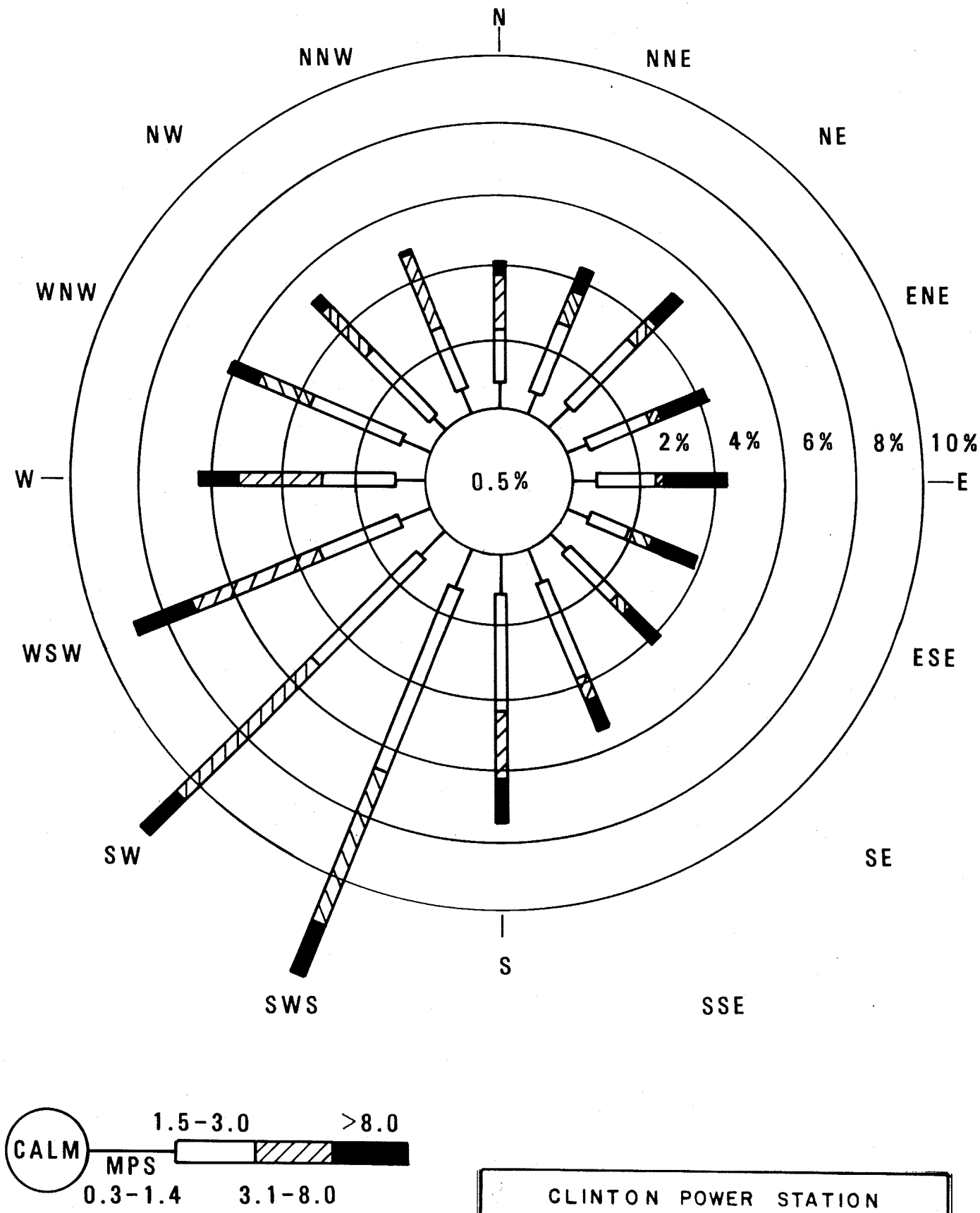
FIGURE 2.3-8

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE JUNE



CLINTON POWER STATION
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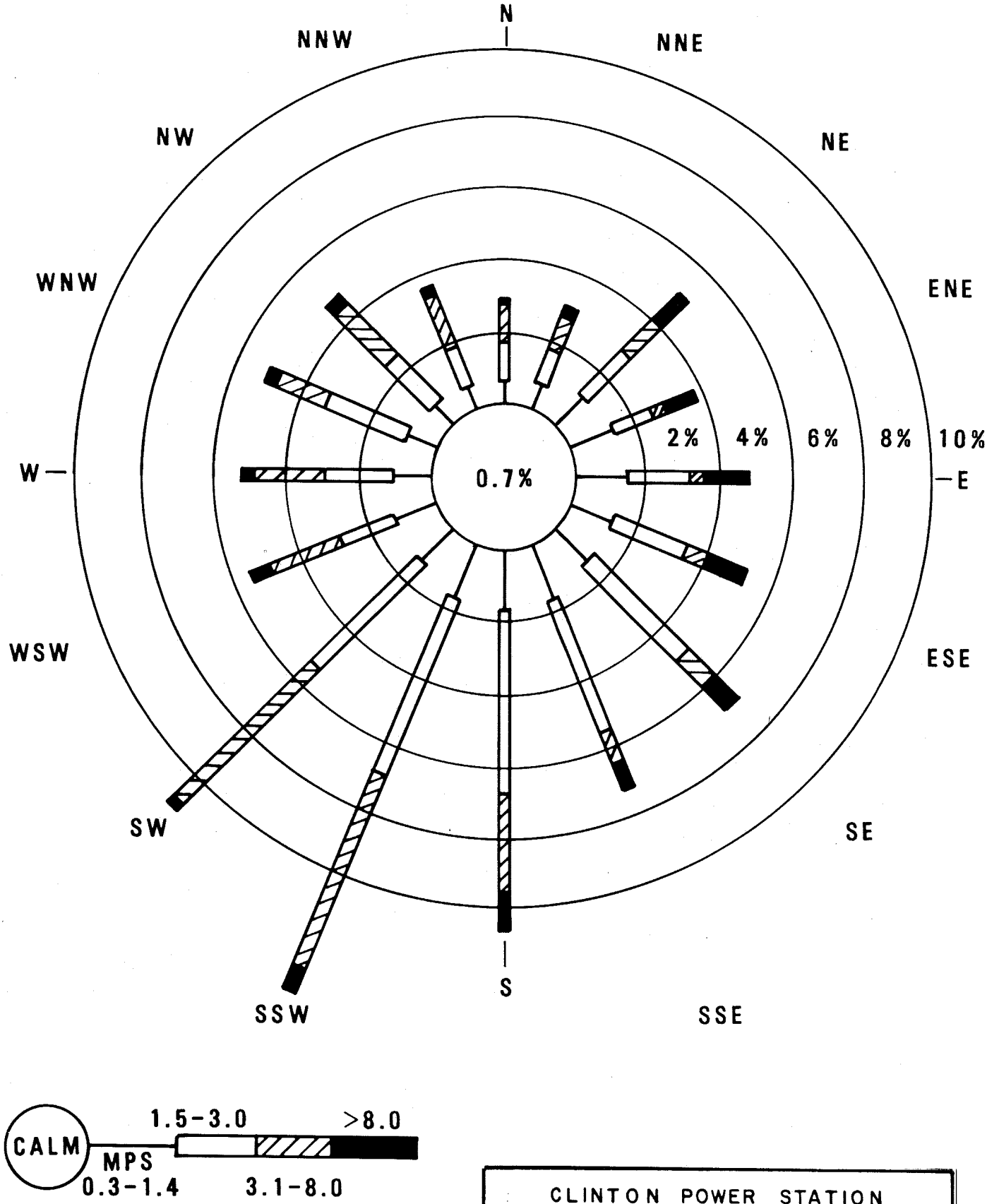
FIGURE 2.3-9

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE JULY



CLINTON POWER STATION
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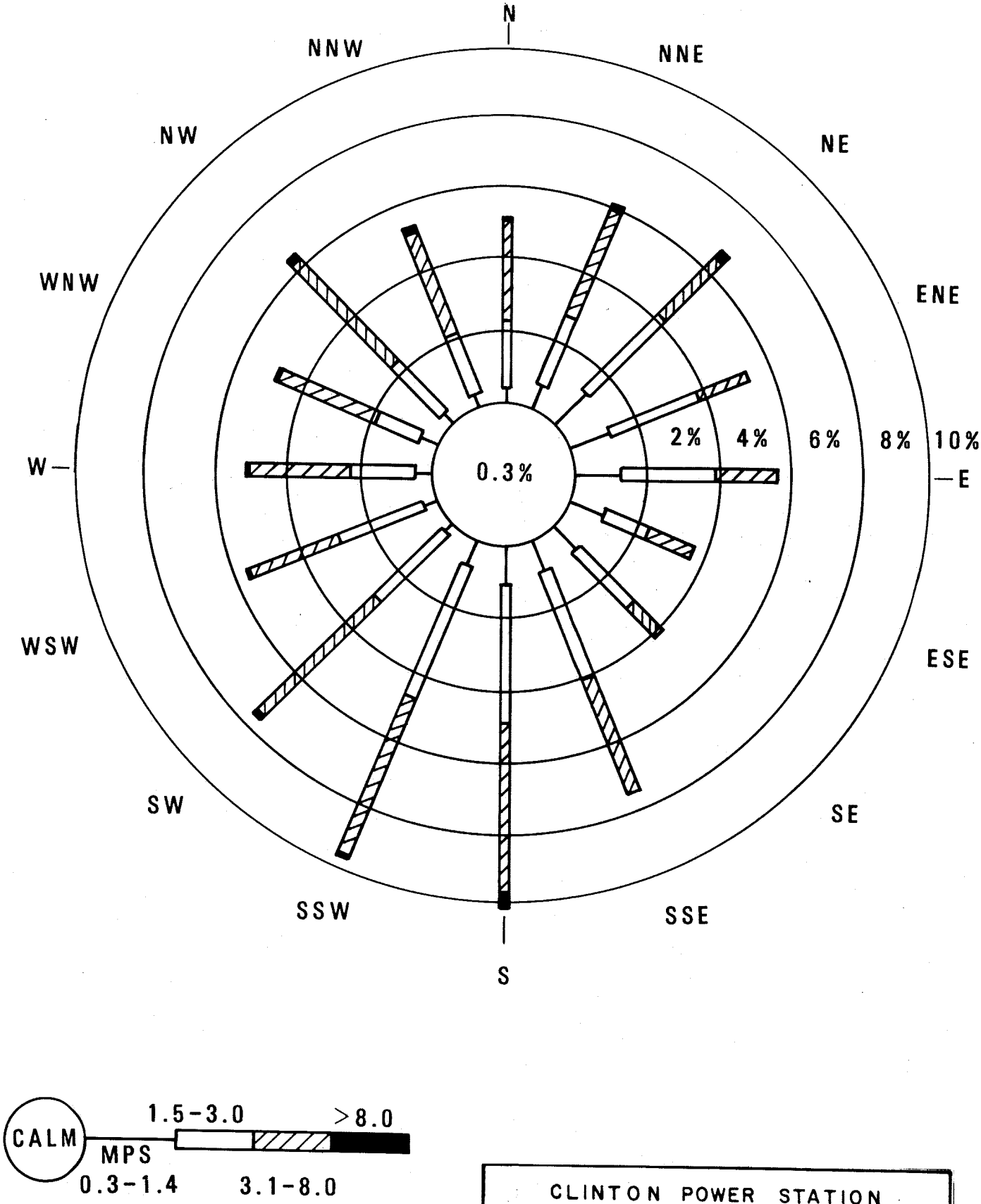
FIGURE 2.3-10

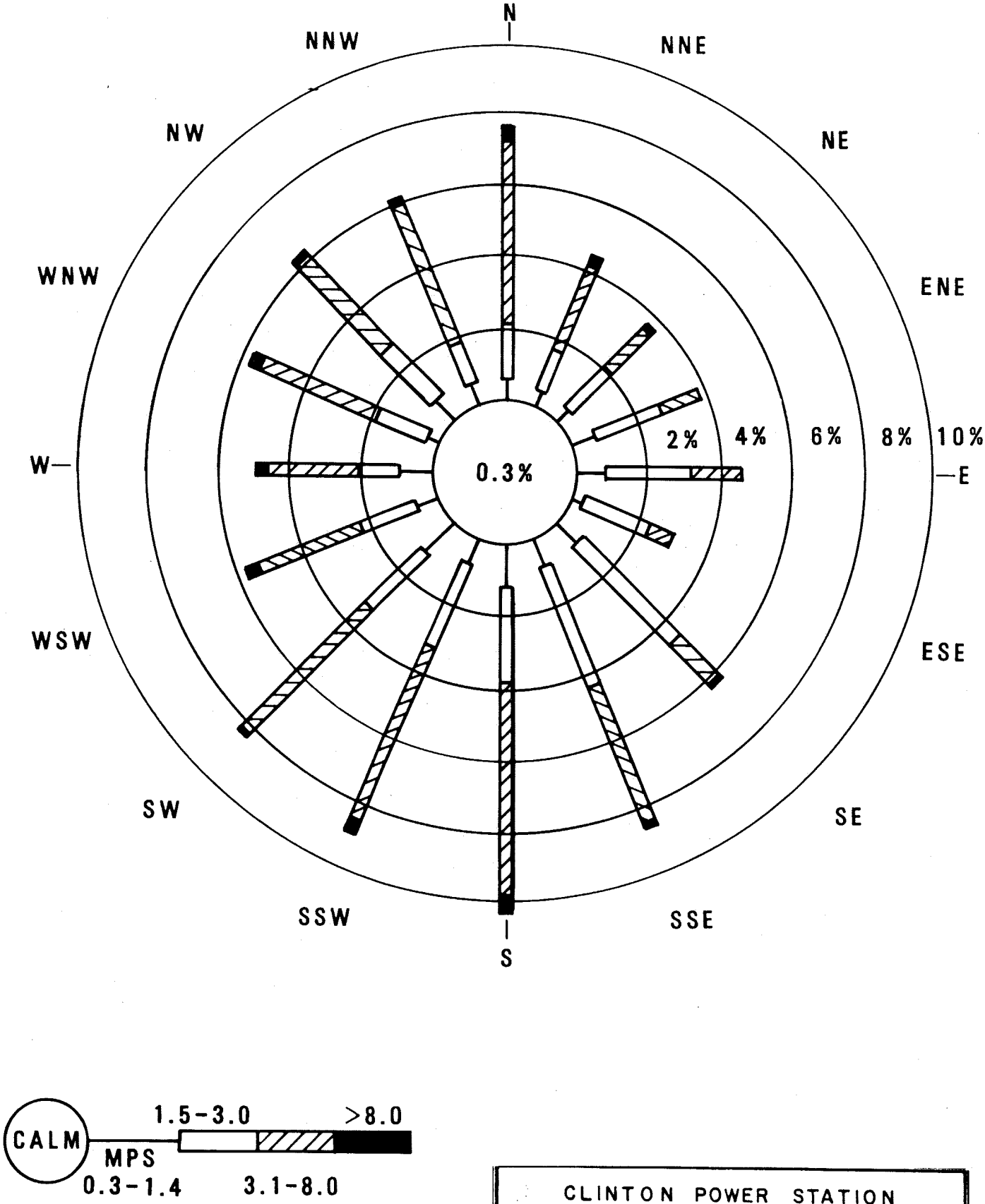
WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE AUGUST



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-11

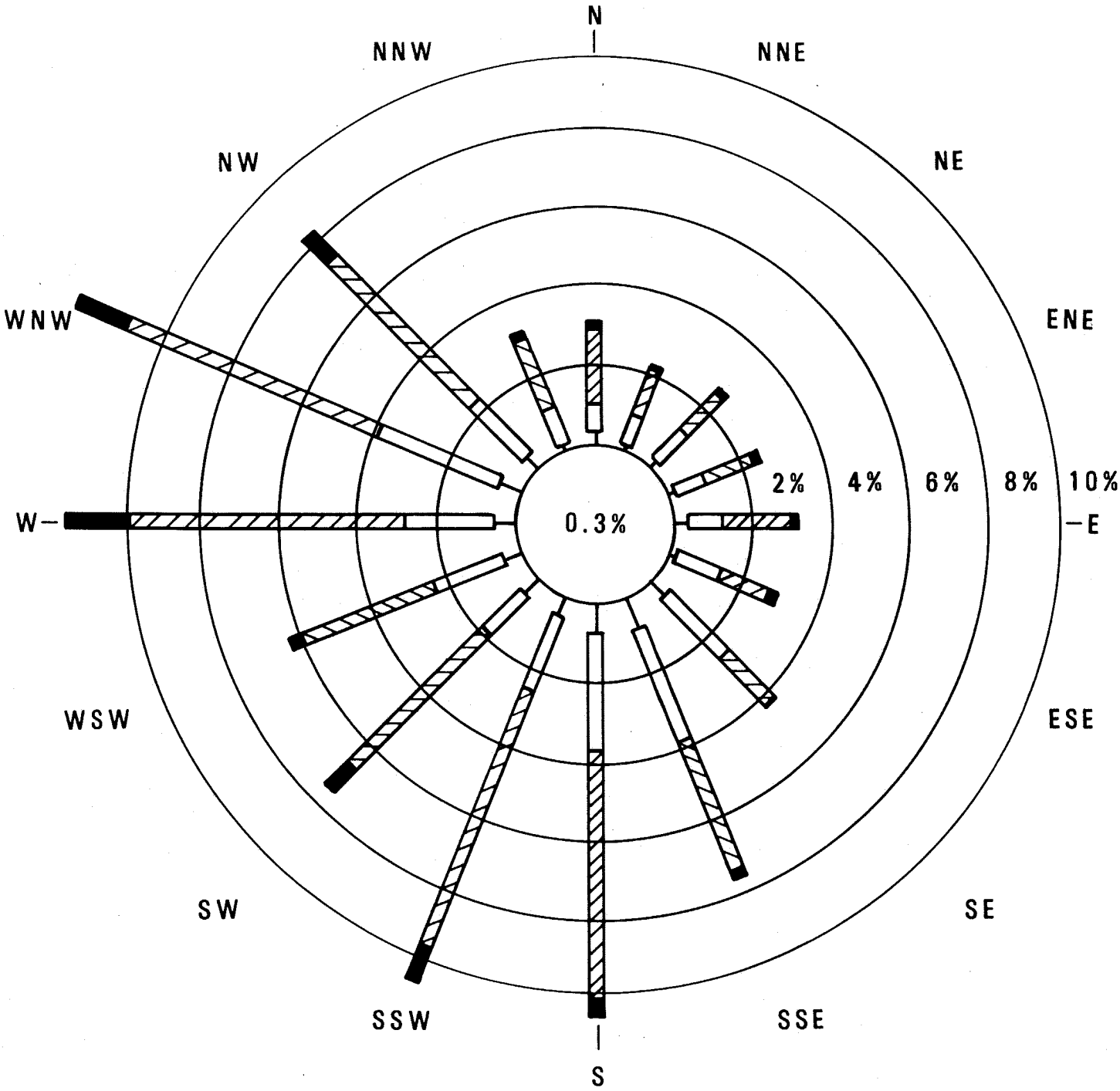
WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE SEPTEMBER

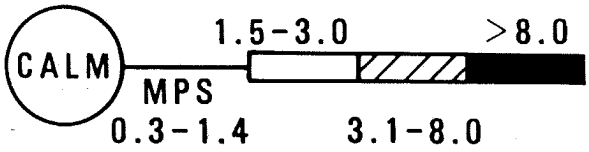


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-12

WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE OCTOBER

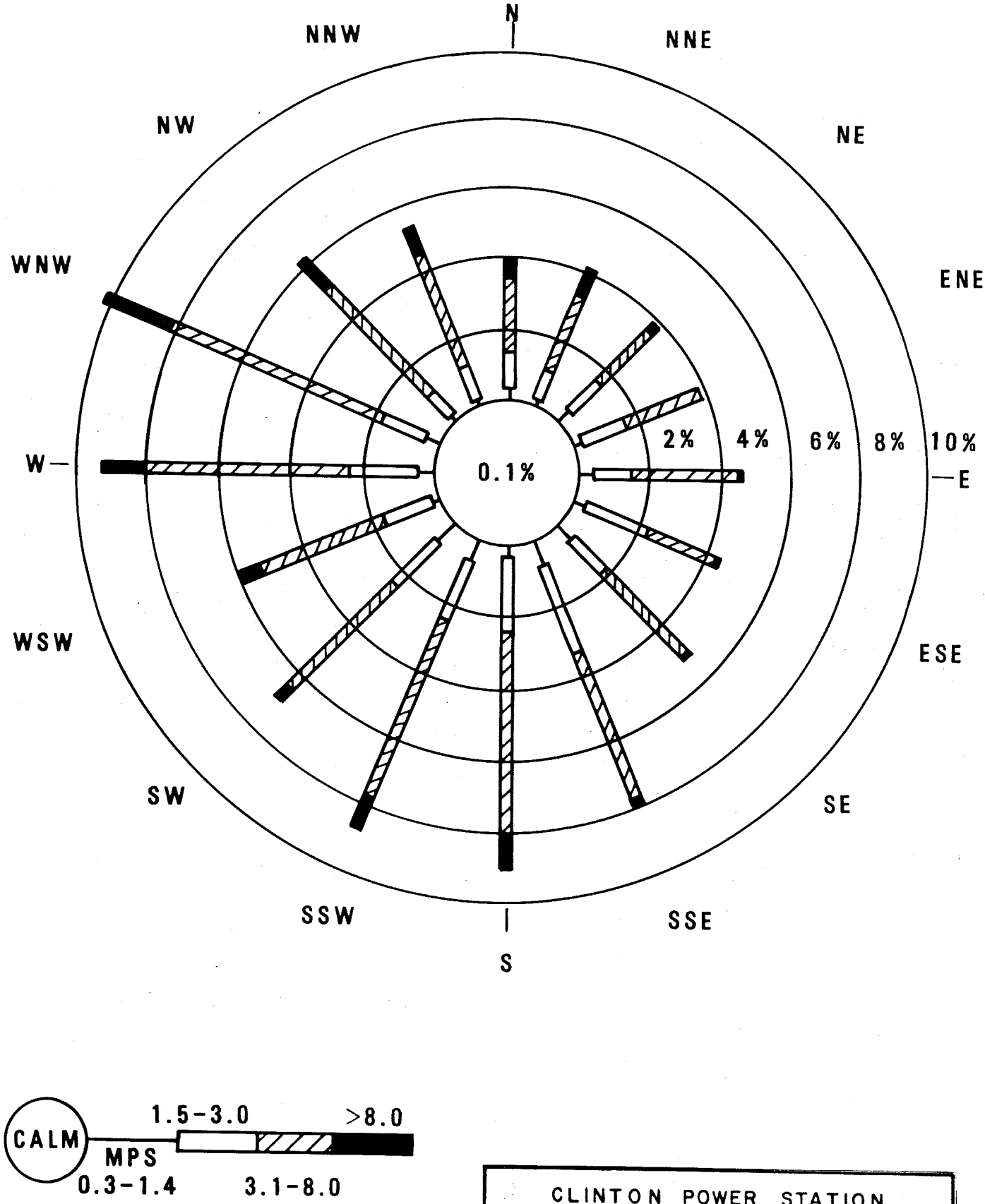




CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-13

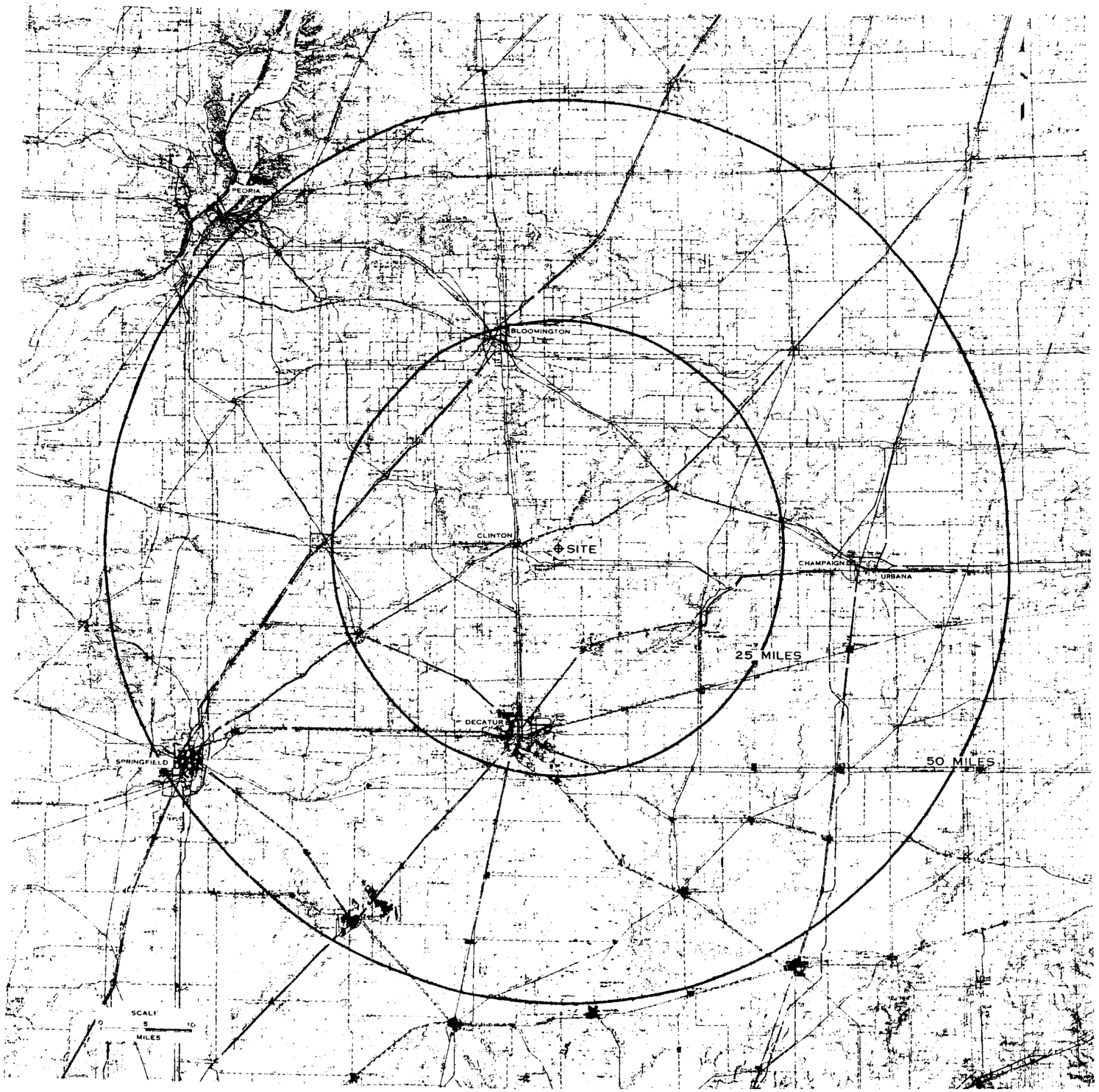
WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE NOVEMBER



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-14

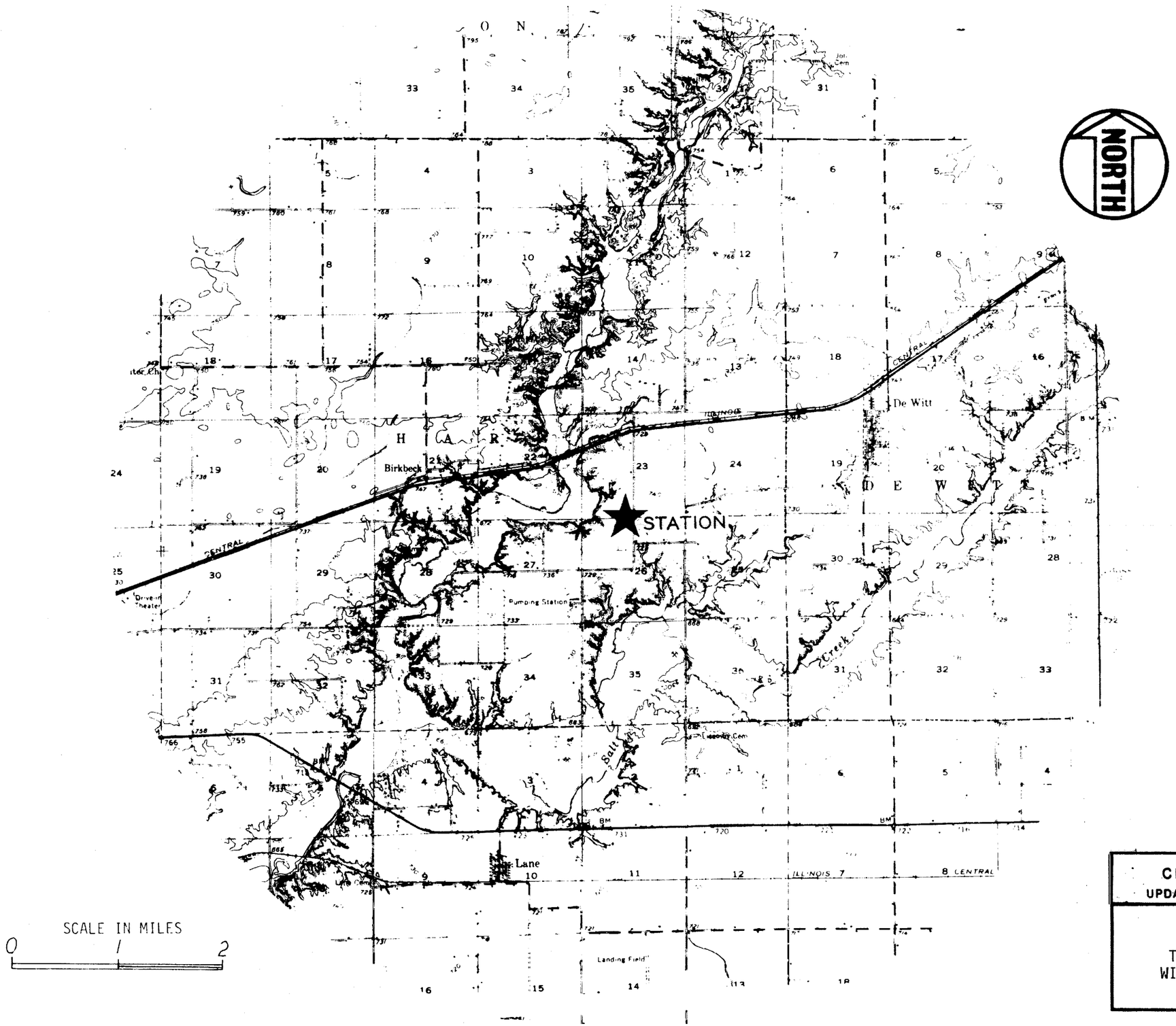
WIND ROSE, 10 METER LEVEL, CLINTON POWER STATION SITE, COMPOSITE DECEMBER



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-15

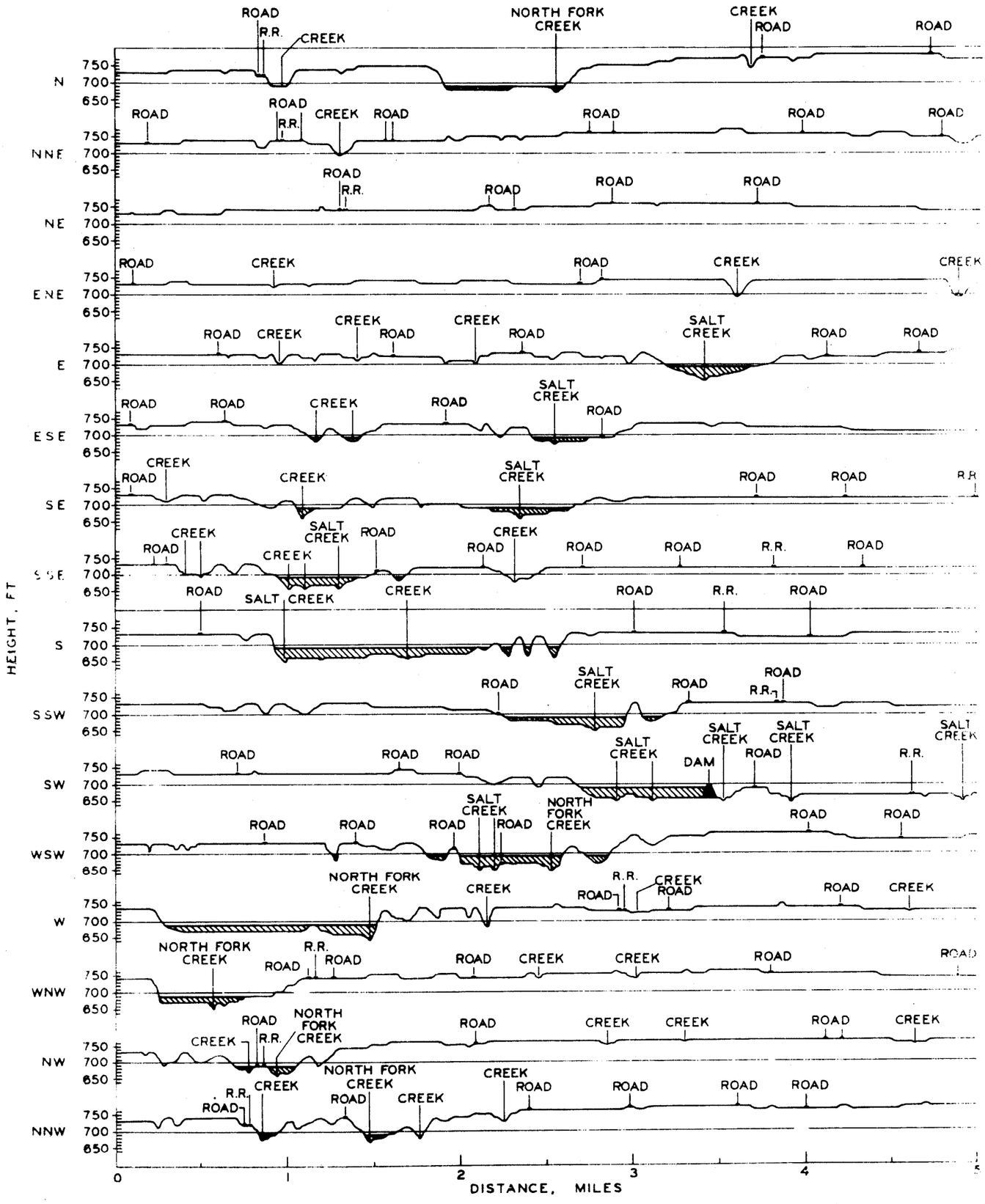
TOPOGRAPHIC MAP OF THE AREA WITHIN 50 MILES OF THE CLINTON POWER STATION SITE



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-16

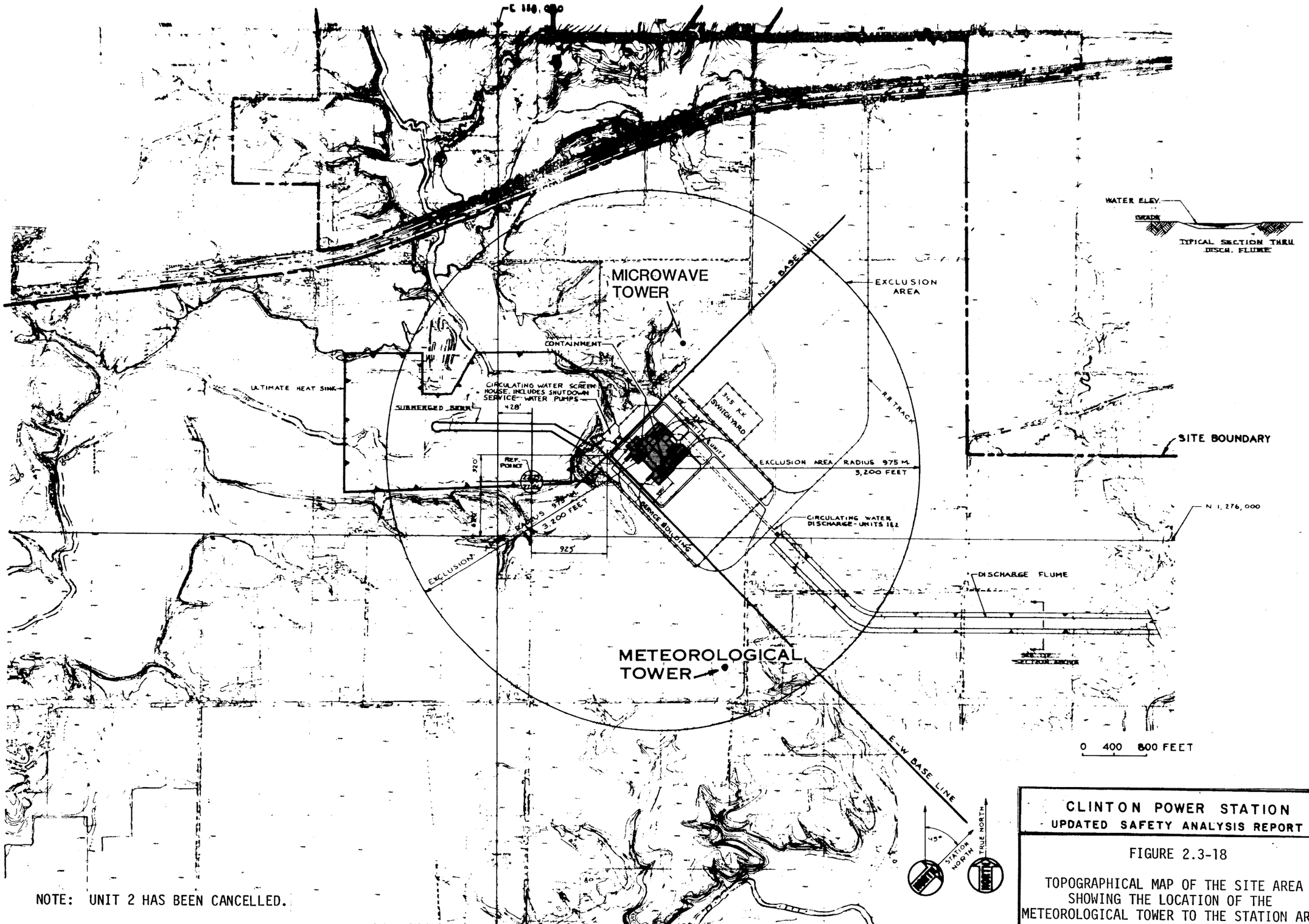
TOPOGRAPHIC MAP OF THE AREA WITHIN 5 MILES OF THE CLINTON POWER STATION SITE



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-17

TOPOGRAPHICAL CROSS SECTION AS A FUNCTION OF THE DISTANCE FROM THE CLINTON POWER STATION

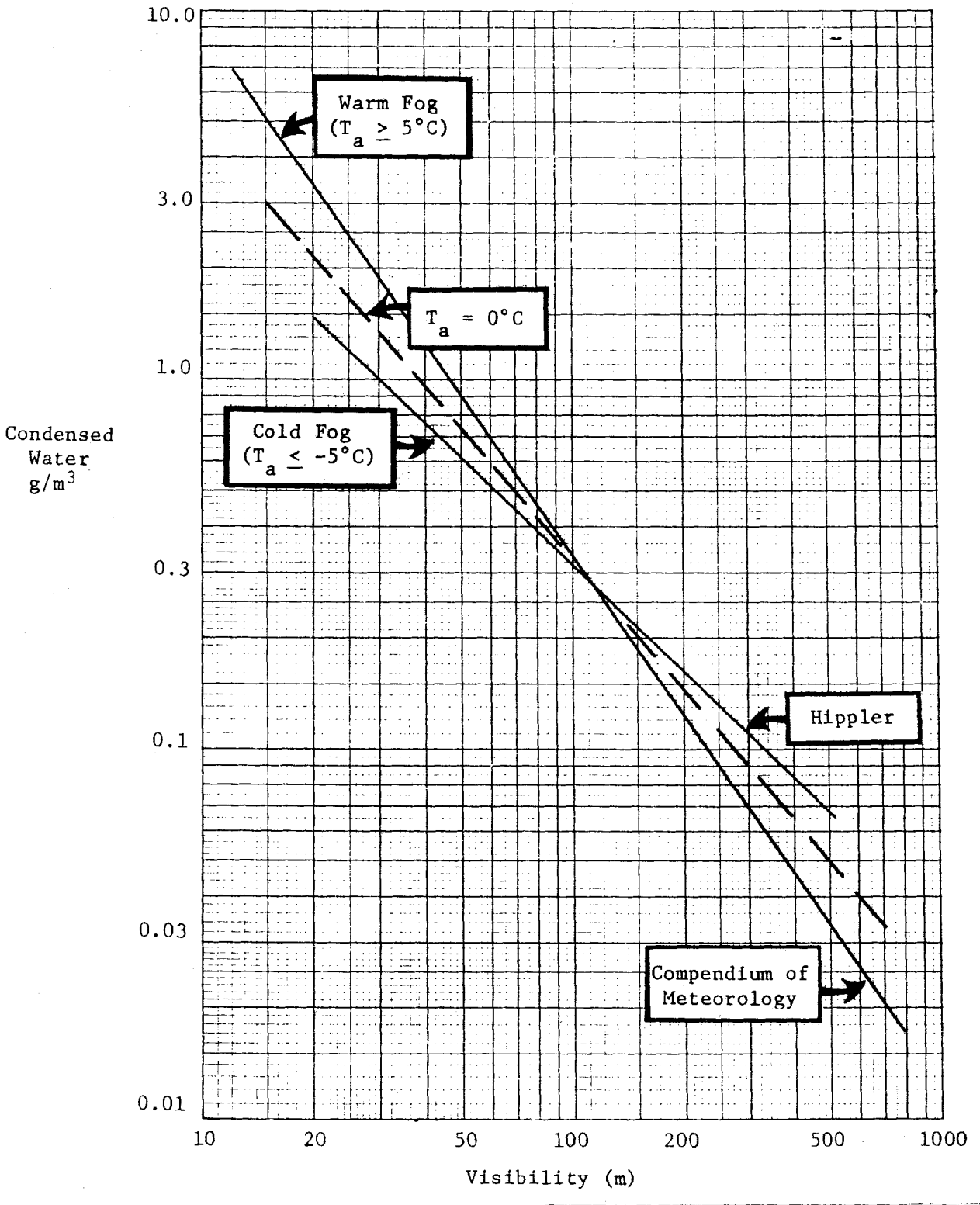


NOTE: UNIT 2 HAS BEEN CANCELLED.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.3-18

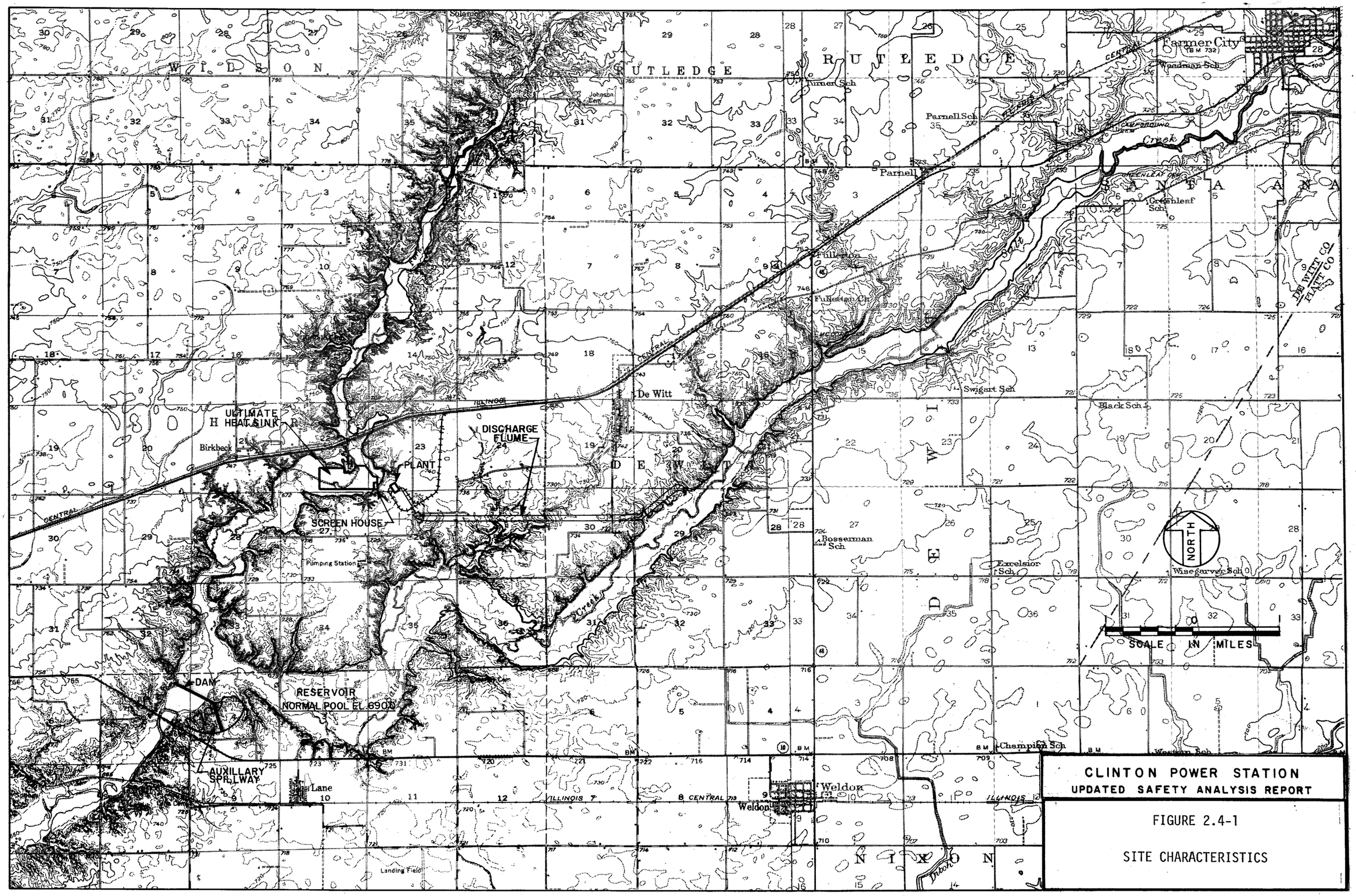
TOPOGRAPHICAL MAP OF THE SITE AREA SHOWING THE LOCATION OF THE METEOROLOGICAL TOWER TO THE STATION AREA



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE A2.3-1

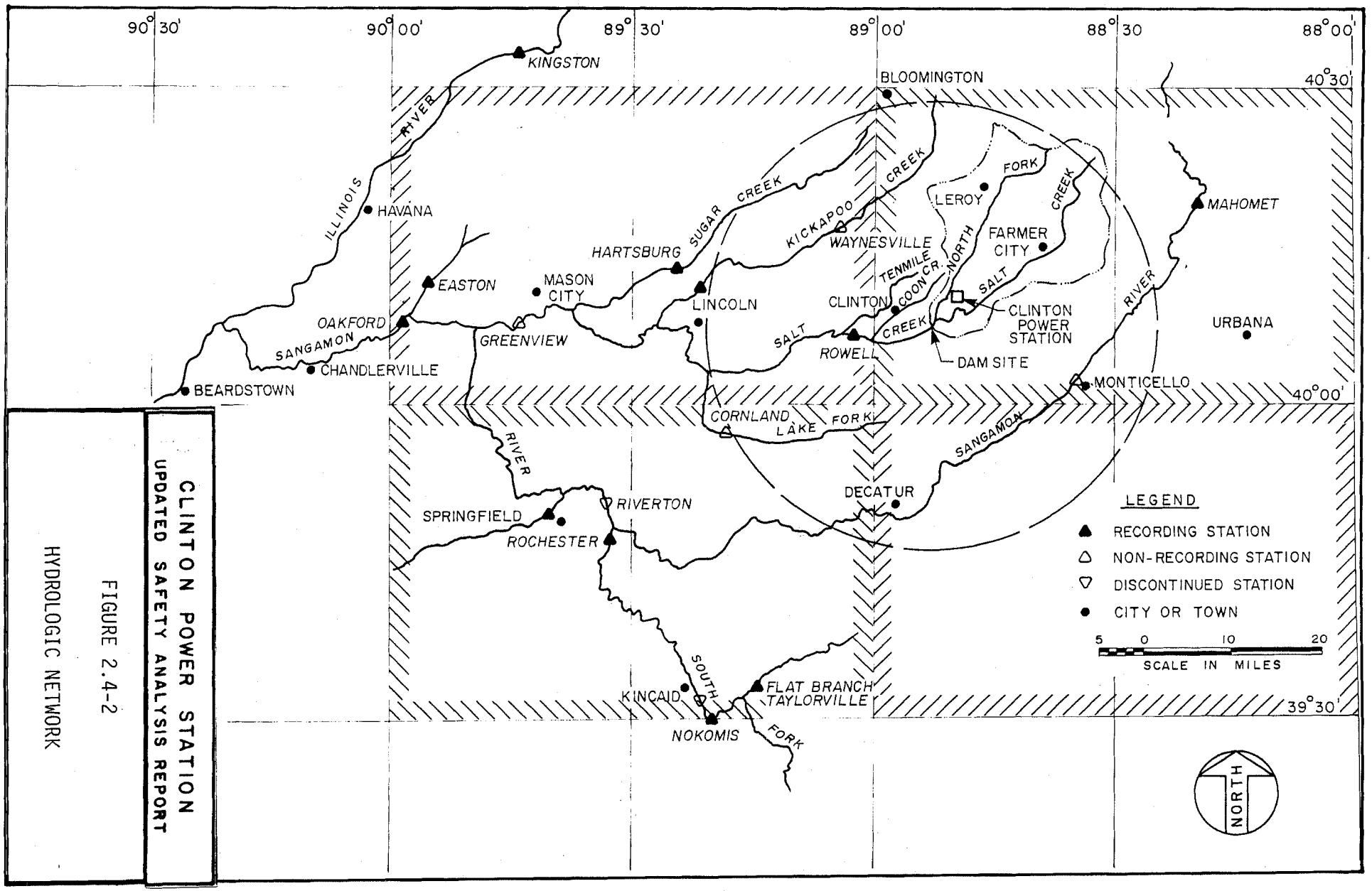
HORIZONTAL VISIBILITY AS A FUNCTION OF CONDENSED WATER VAPOR AND AMBIENT AIR TEMPERATURE



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-1

SITE CHARACTERISTICS



CLINTON POWER STATION
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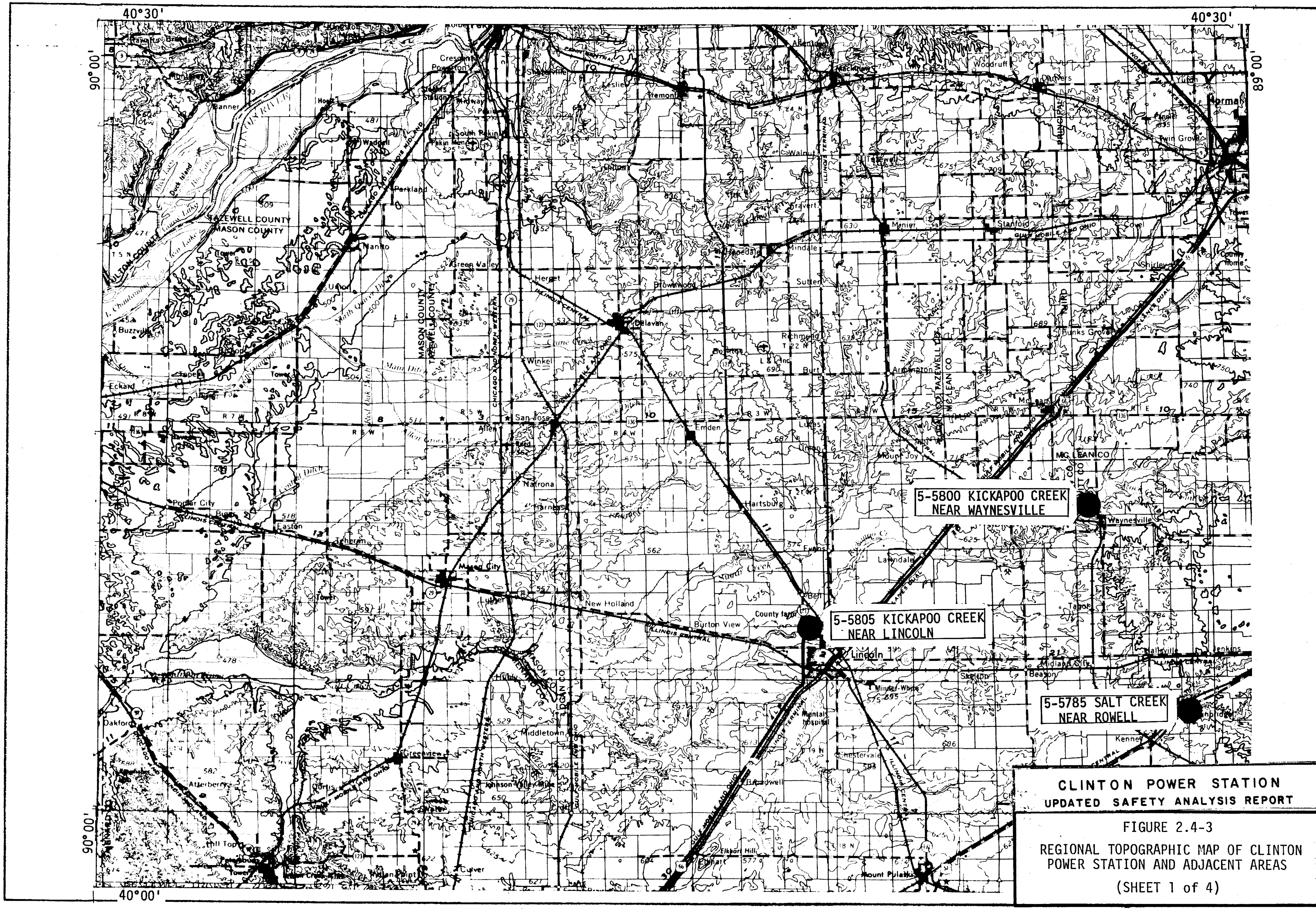
FIGURE 2.4-2

HYDROLOGIC NETWORK

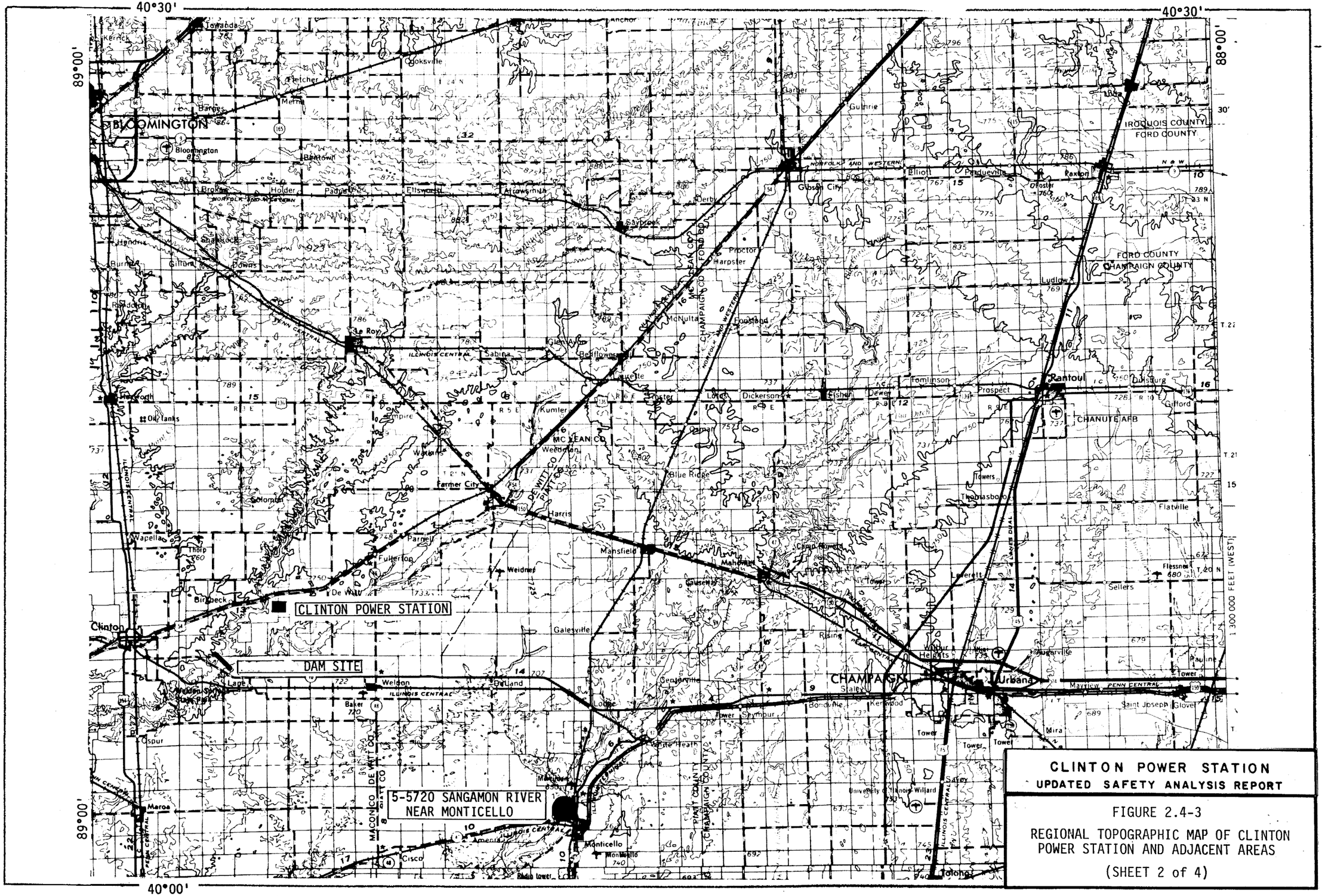


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-3

REGIONAL TOPOGRAPHIC MAP OF CLINTON POWER STATION AND ADJACENT AREAS

(SHEET 1 of 4)

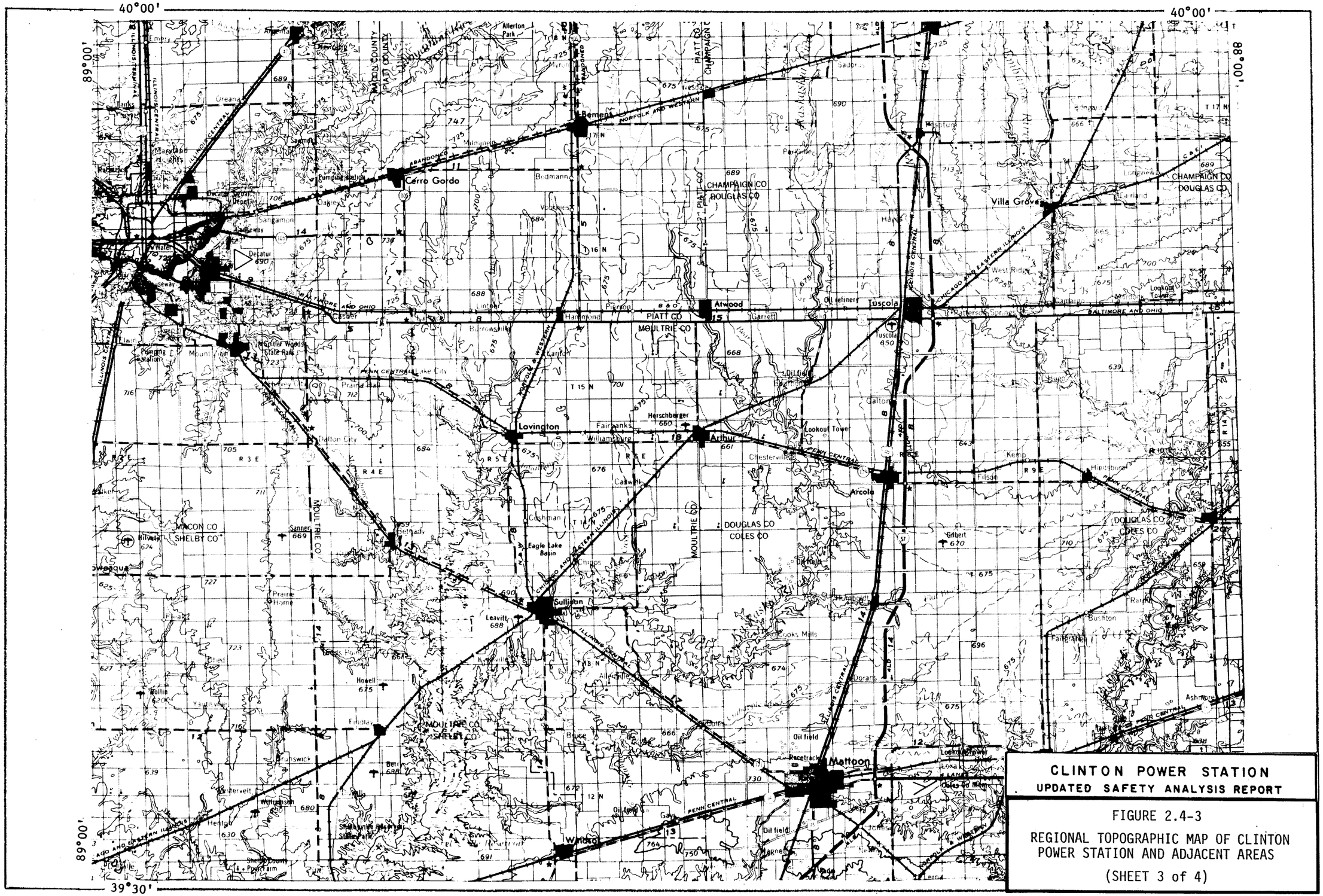


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-3

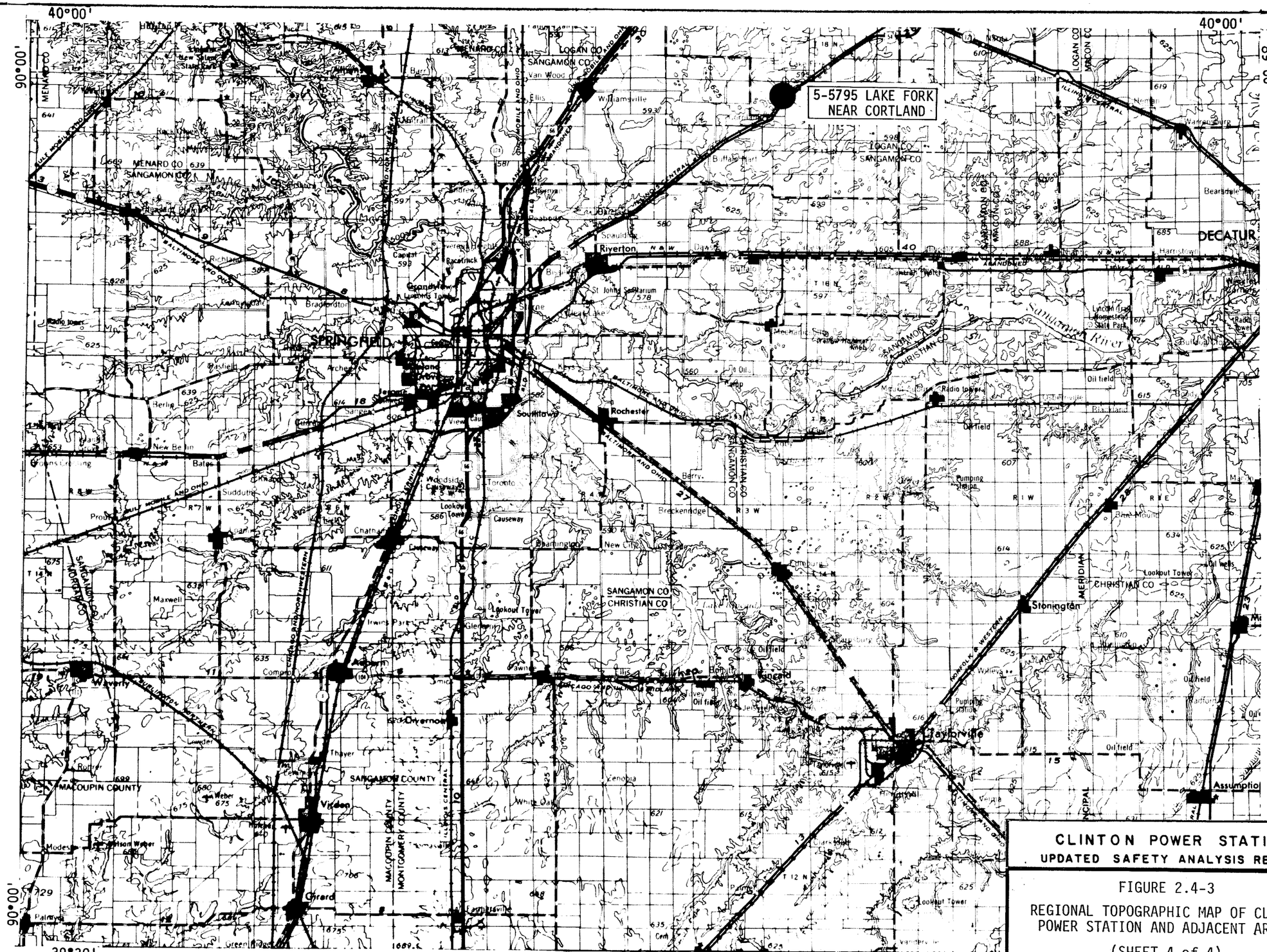
REGIONAL TOPOGRAPHIC MAP OF CLINTON POWER STATION AND ADJACENT AREAS

(SHEET 2 of 4)



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-3
REGIONAL TOPOGRAPHIC MAP OF CLINTON POWER STATION AND ADJACENT AREAS
(SHEET 3 of 4)

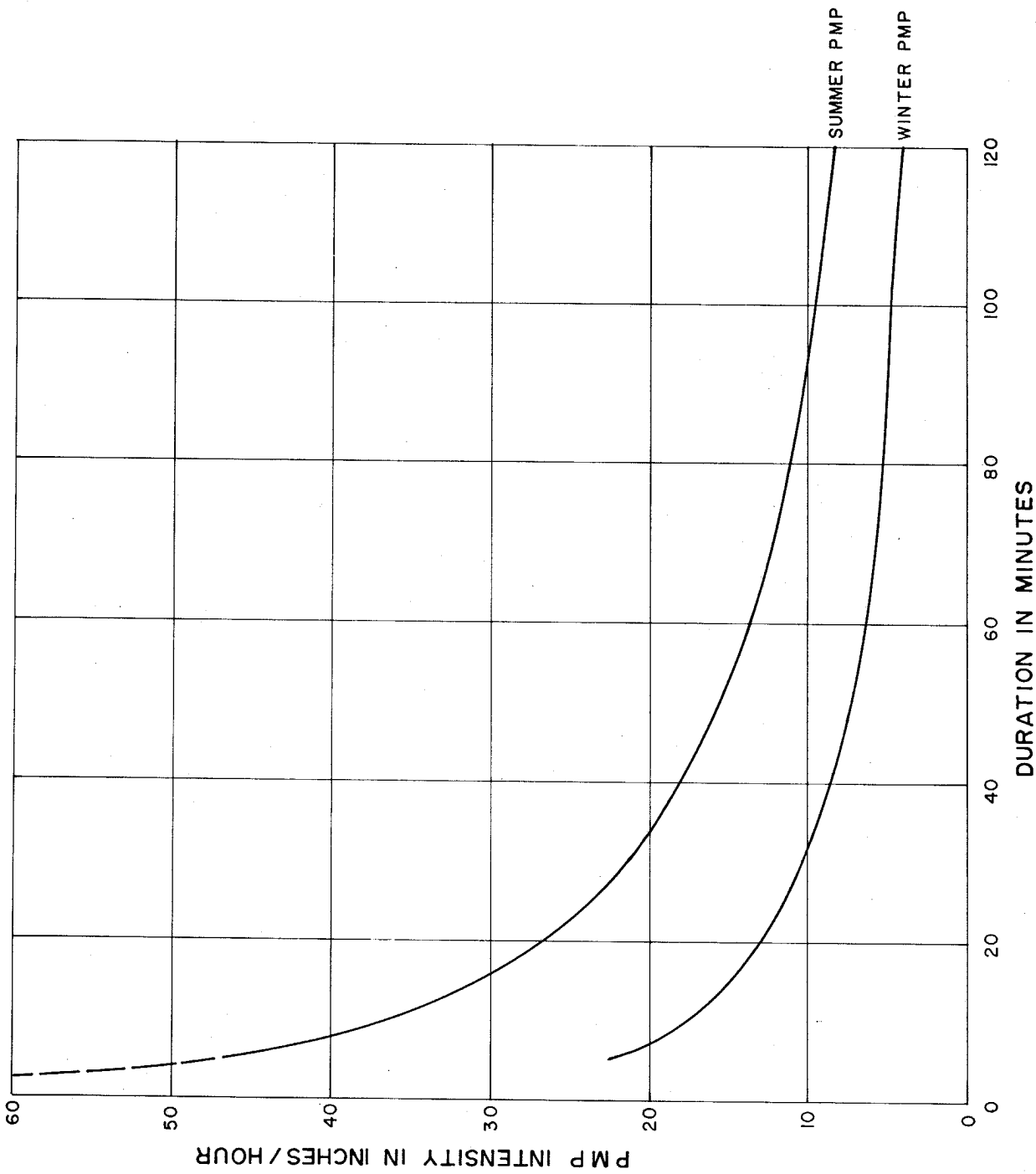


CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-3

REGIONAL TOPOGRAPHIC MAP OF CLINTON POWER STATION AND ADJACENT AREAS

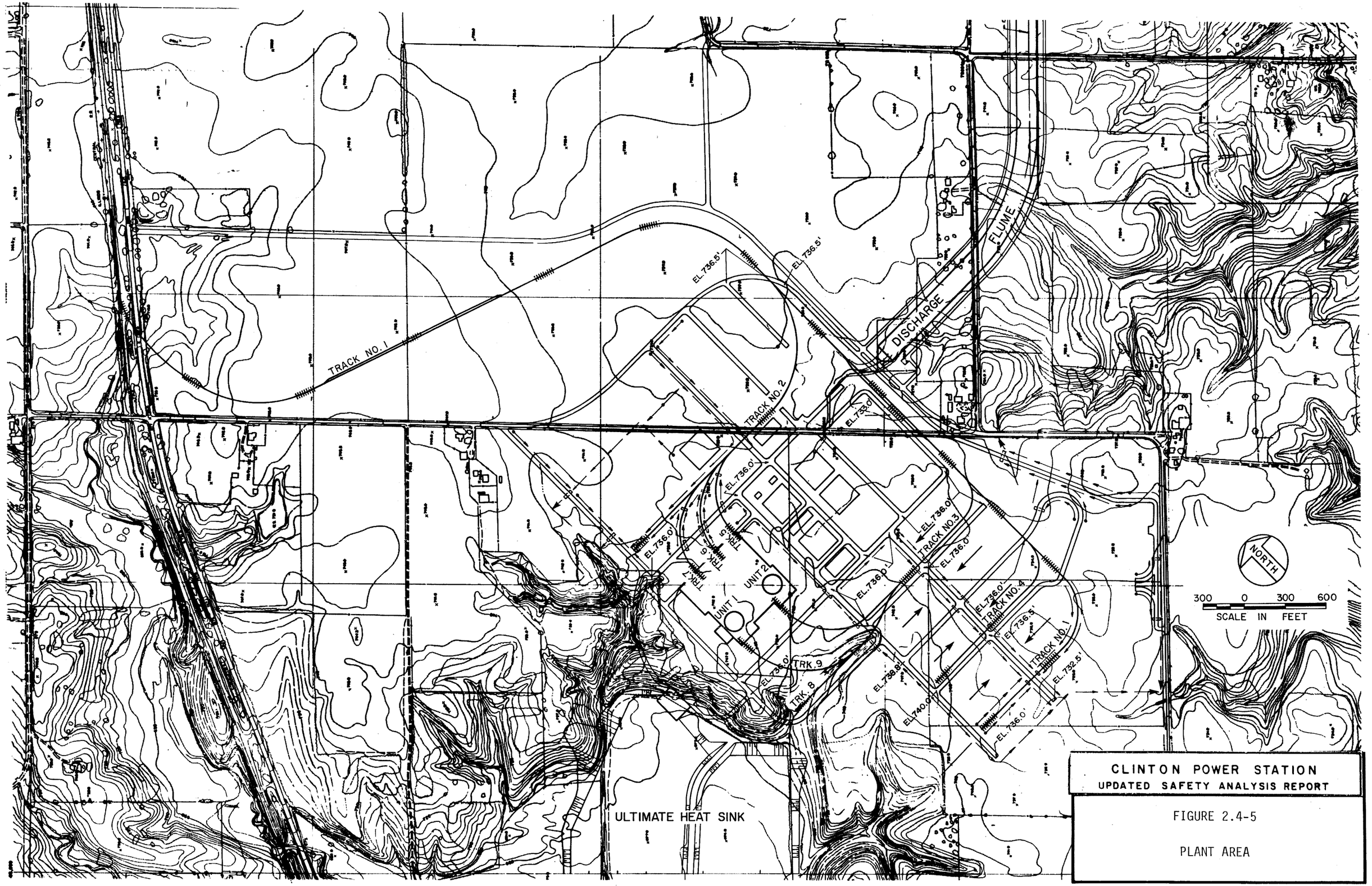
(SHEET 4 of 4)



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-4

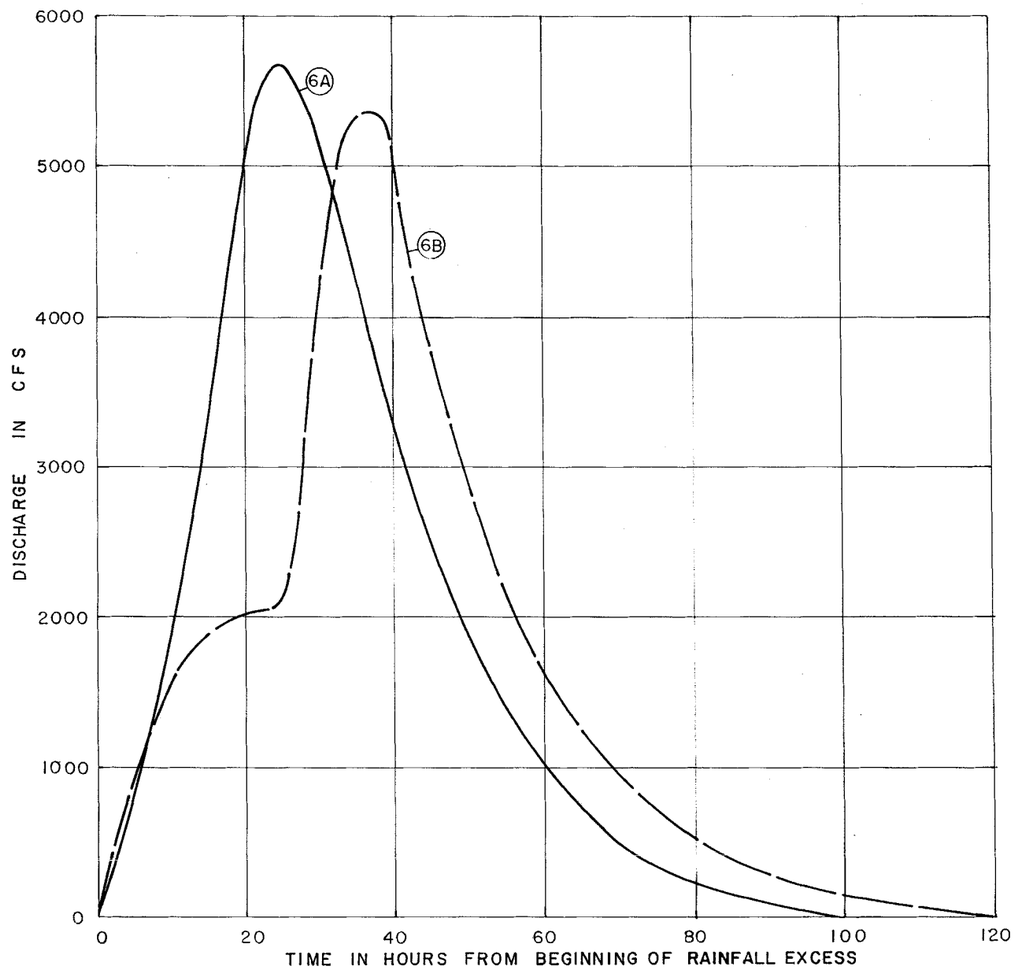
SUMMER AND WINTER PMP INTENSITY DURATION CURVES



CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-5

PLANT AREA



UNIT GRAPH DESIGNATION	UNIT DURATION HOURS	LOCATION	DRAINAGE AREA SQ.MILES	REMARKS
6A	2	DAM SITE	296	DERIVED FROM SYNTHETIC METHOD IN "UNIT HYDROGRAPHS IN ILLINOIS" BY W. D. MITCHELL
6B	2	DAM SITE	296	DERIVED FROM ROWELL STATION UNIT HYDROGRAPH ADJUSTED BY AREA RATIO OF 296/334 (FROM "UNIT HYDROGRAPHS IN ILLINOIS" BY W. D. MITCHELL

CLINTON POWER STATION
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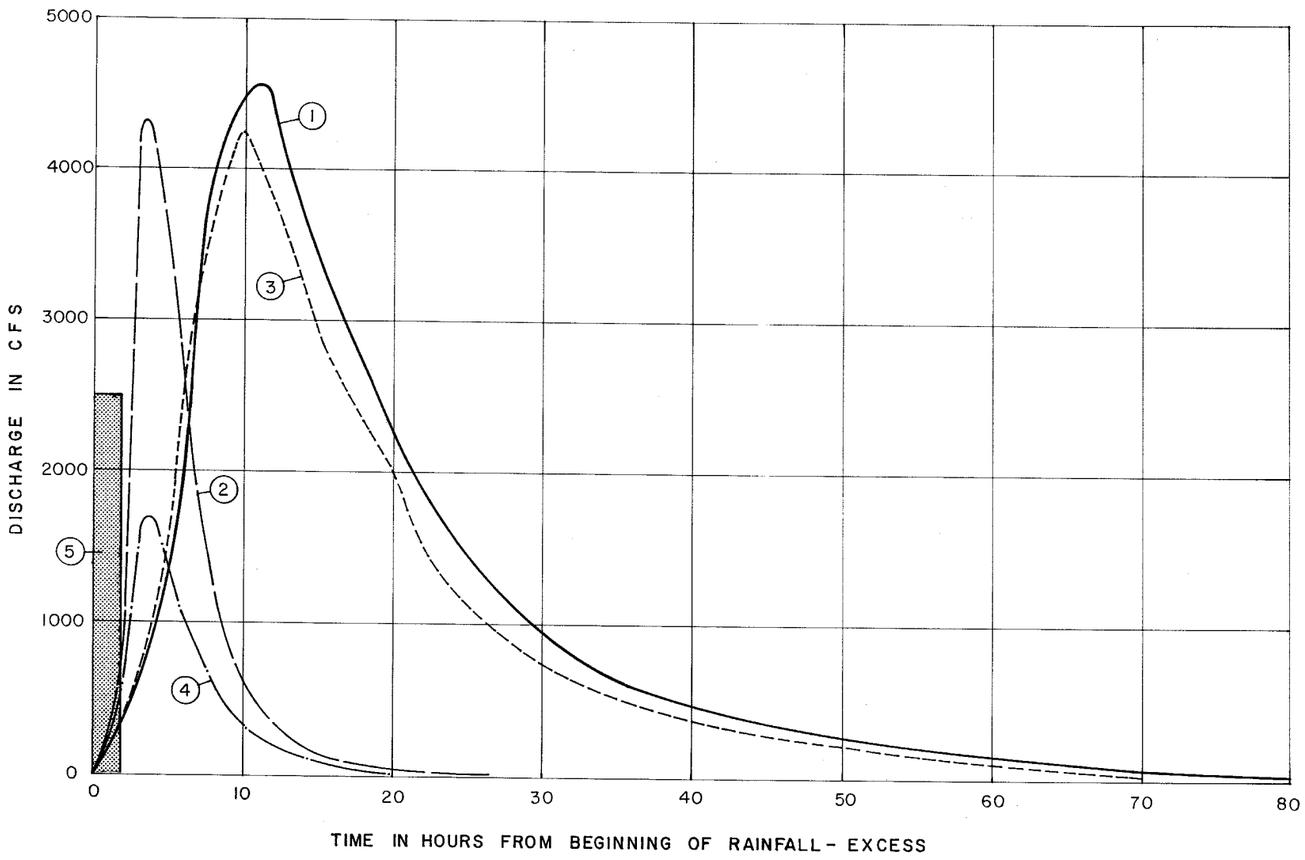
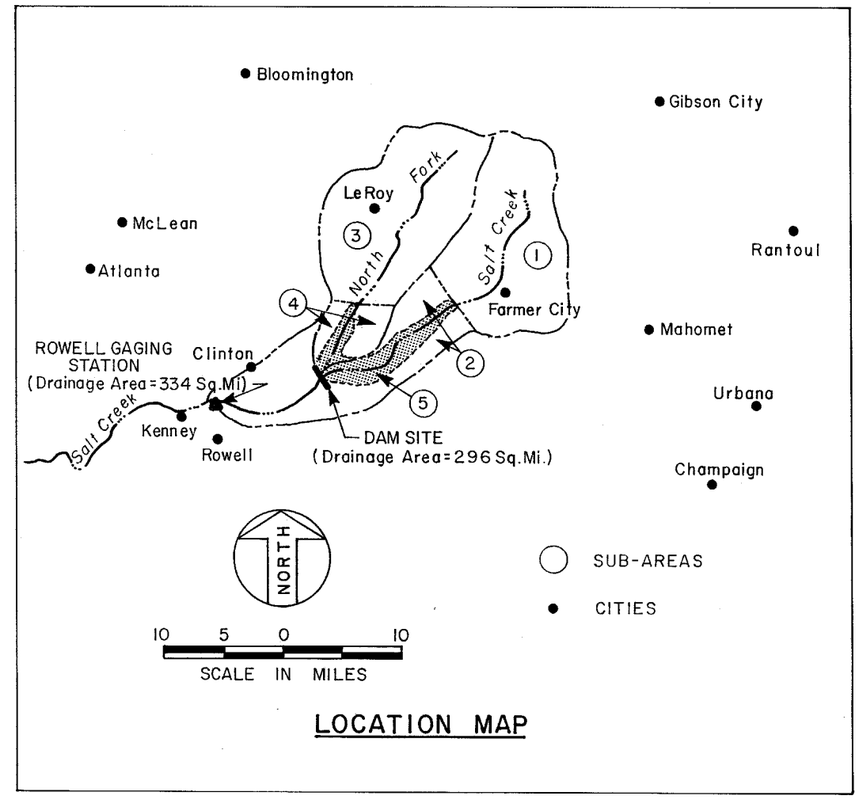
FIGURE 2.4-6

UNIT HYDROGRAPHS FOR SALT CREEK AT DAM SITE UNDER NATURAL RIVER CONDITIONS



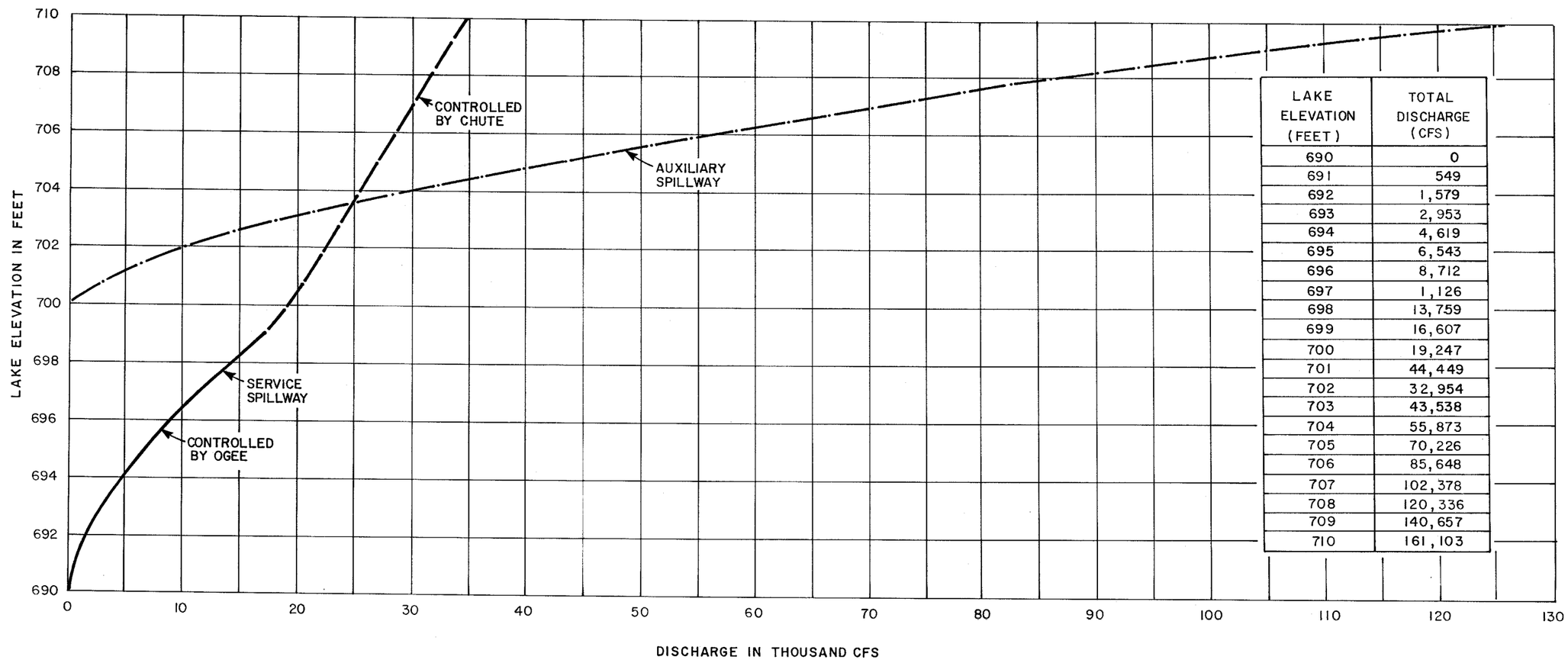


UNIT GRAPH NO.	UNIT DURATION HOURS	AREA REPRESENTED		REMARKS
		IDENTIFICATION	SQ.MI.	
1	2	SUB-AREA 1	126	BASIN ABOVE HEAD OF SALT CREEK FINGER
2	2	SUB-AREA 2	36	LOCAL AREA OF SALT CREEK FINGER
3	2	SUB-AREA 3	111	BASIN ABOVE HEAD OF NORTH FORK FINGER
4	2	SUB-AREA 4	15	LOCAL AREA OF NORTH FORK FINGER
5	2	SUB-AREA 5	8	RESERVOIR SURFACE AREA

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-7

UNIT HYDROGRAPHS FOR SUB-BASIN AREAS



LAKE ELEVATION (FEET)	TOTAL DISCHARGE (CFS)
690	0
691	549
692	1,579
693	2,953
694	4,619
695	6,543
696	8,712
697	1,126
698	13,759
699	16,607
700	19,247
701	44,449
702	32,954
703	43,538
704	55,873
705	70,226
706	85,648
707	102,378
708	120,336
709	140,657
710	161,103

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-8

SPILLWAY RATING CURVES

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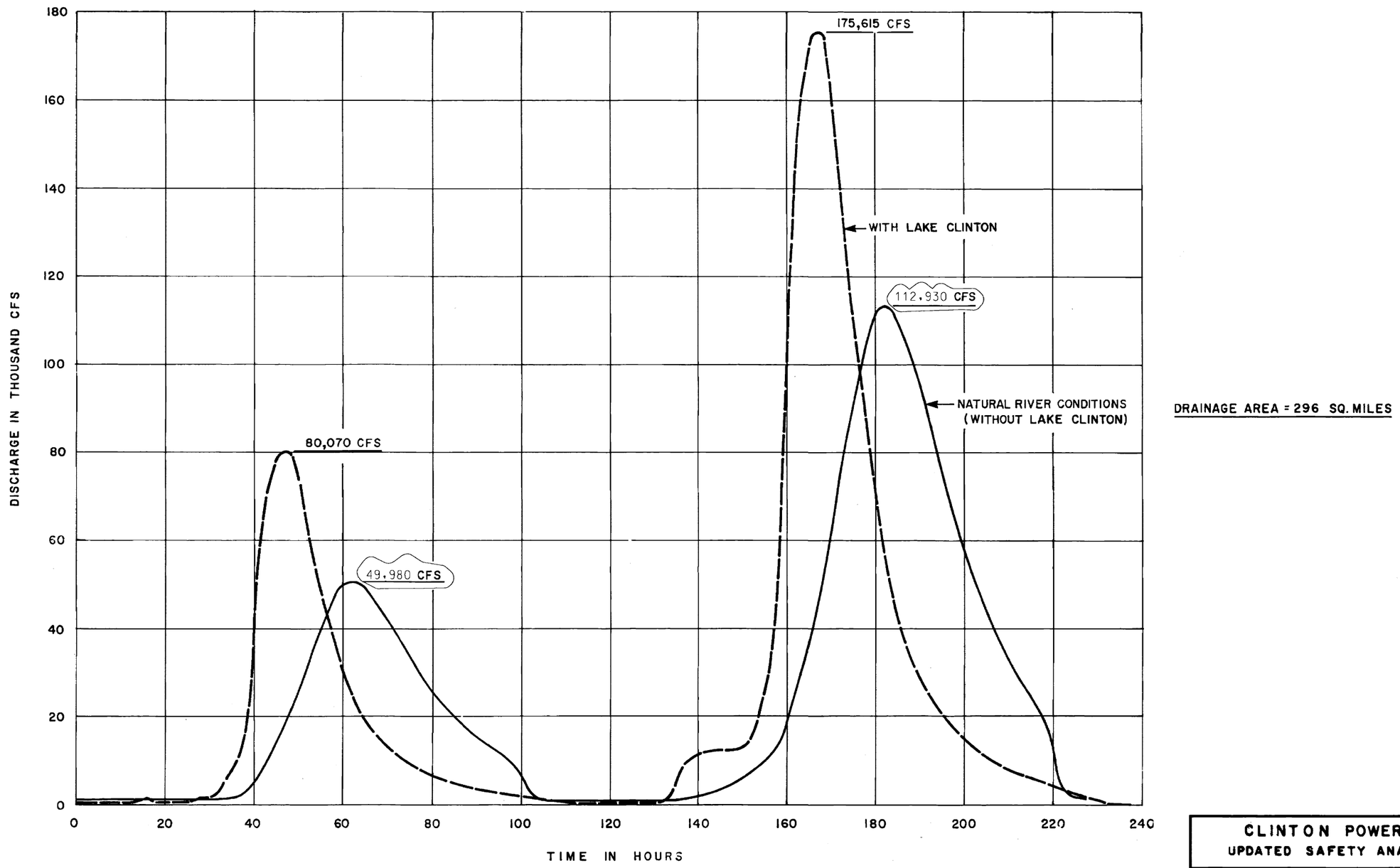

CLINTON POWER STATION
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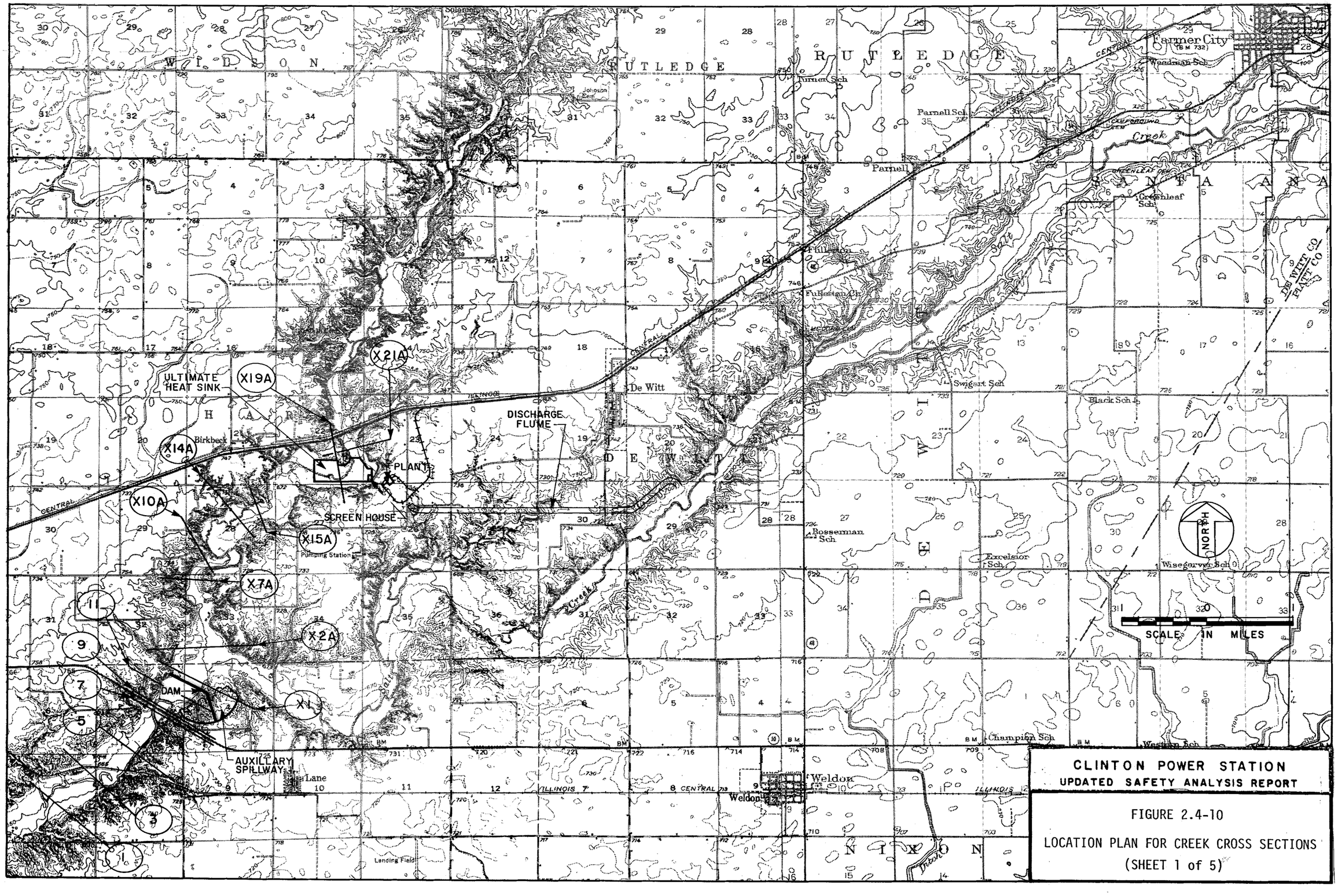
FIGURE 2.4-9

PROBABLE MAXIMUM FLOOD INFLOW HYDROGRAPHS



CLINTON POWER STATION
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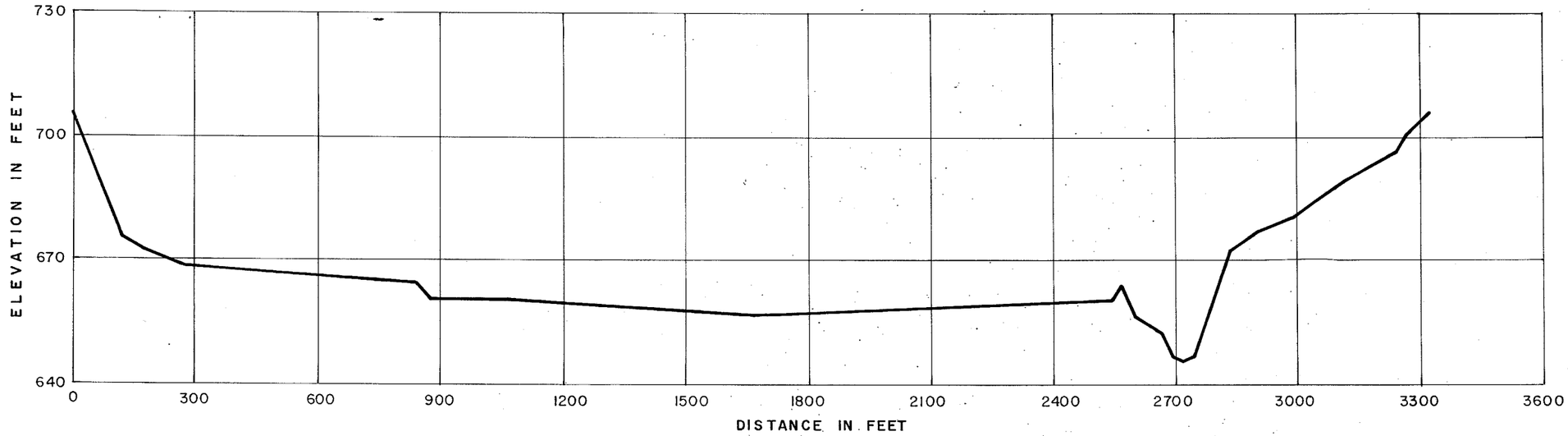
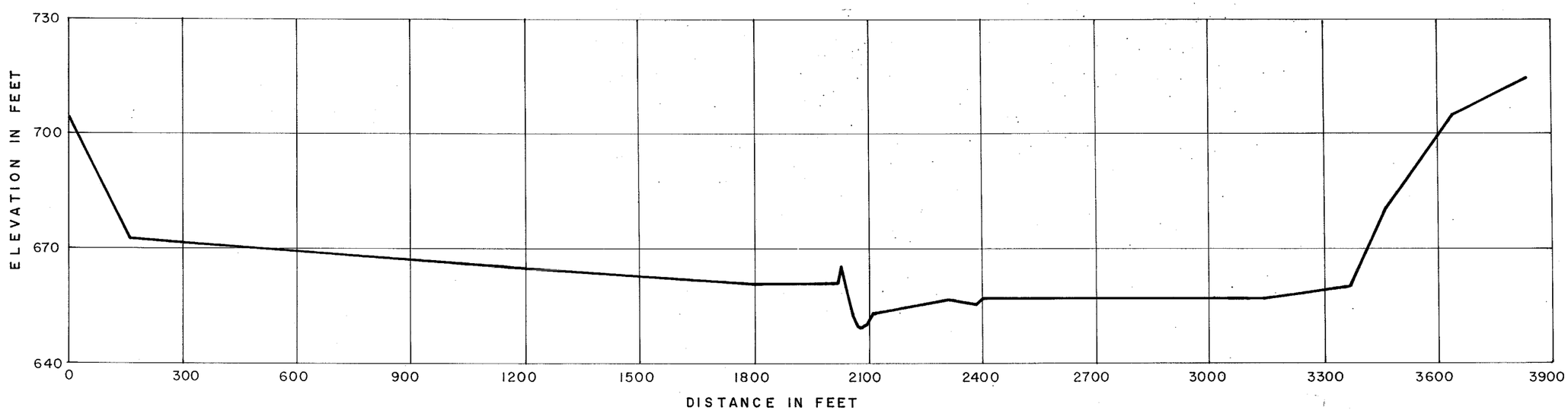
FIGURE 2.4-10

LOCATION PLAN FOR CREEK CROSS SECTIONS
(SHEET 1 of 5)



SECTION XI



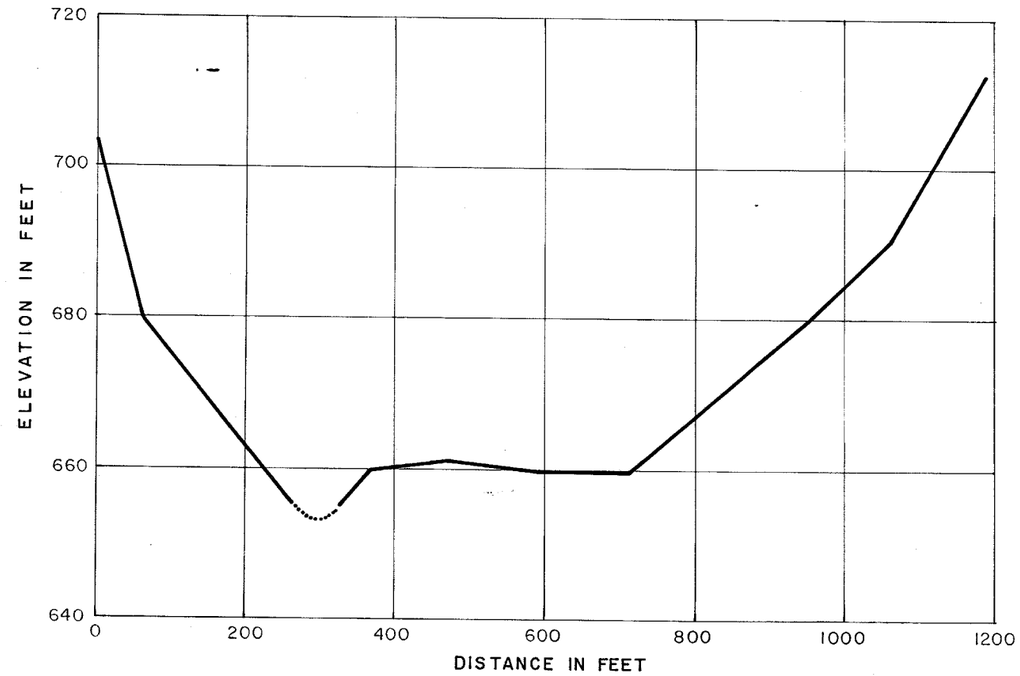
SECTION X2A

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

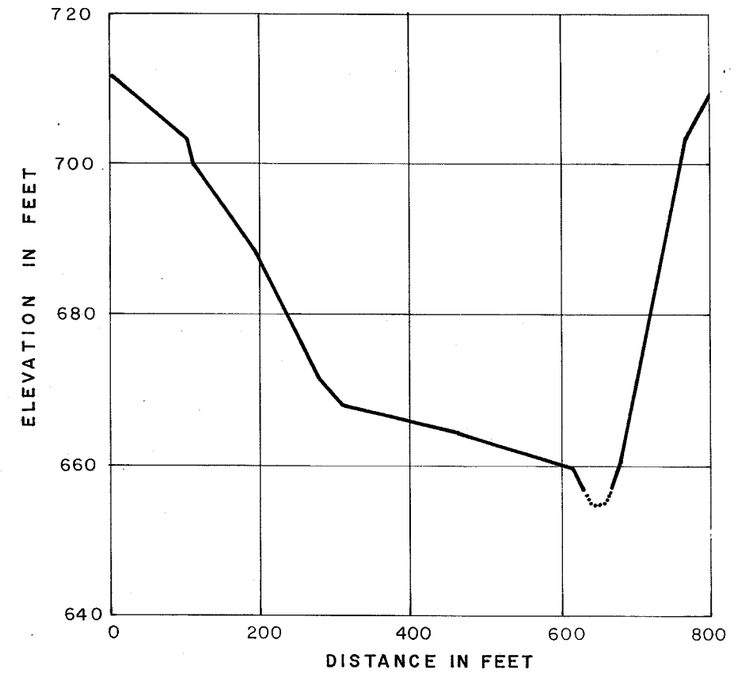
FIGURE 2.4-10

LOCATION PLAN FOR CREEK CROSS SECTIONS

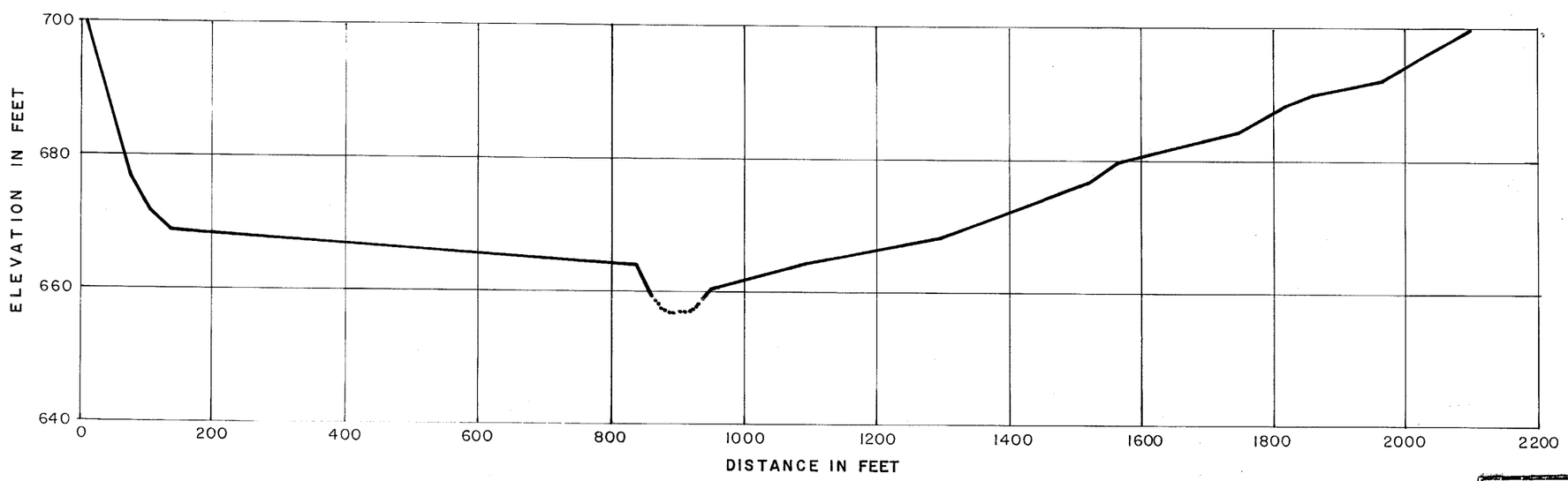
(SHEET 2 of 5)



SECTION X7A



SECTION X10A



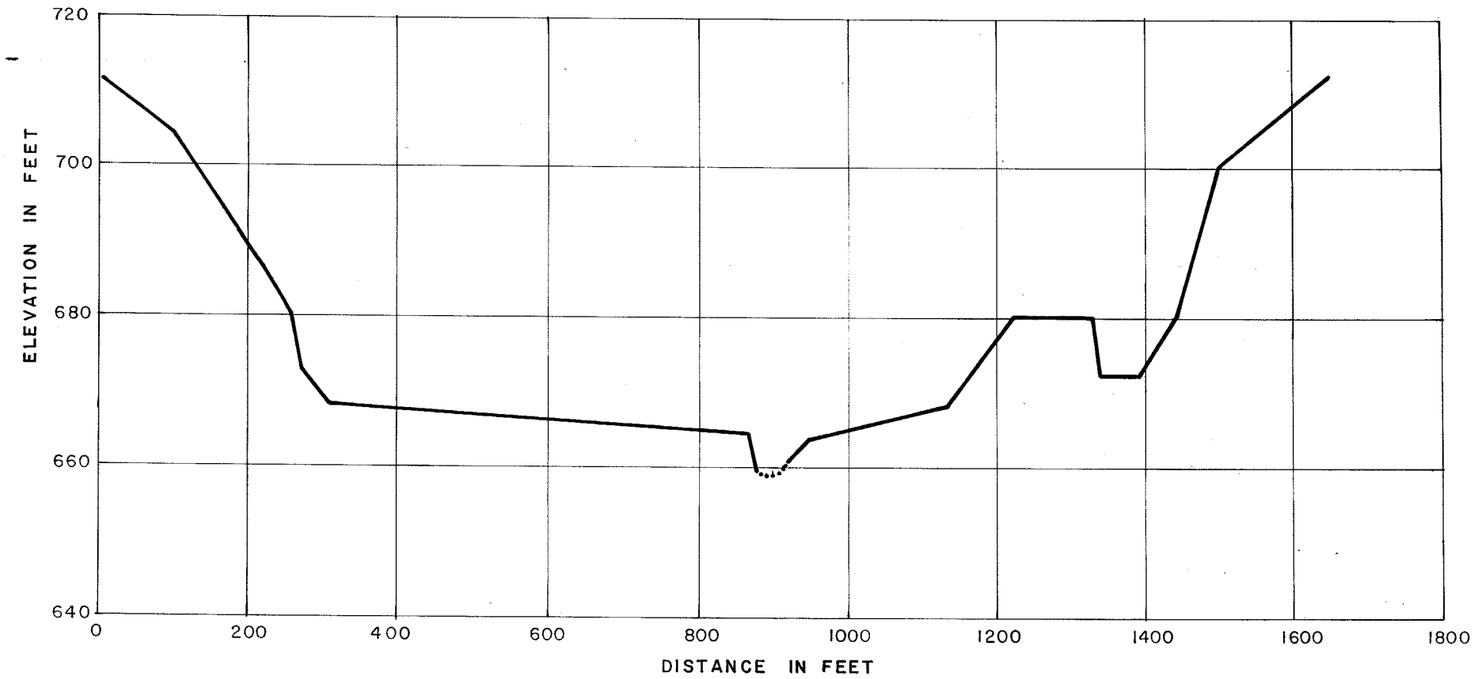
SECTION X14A

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

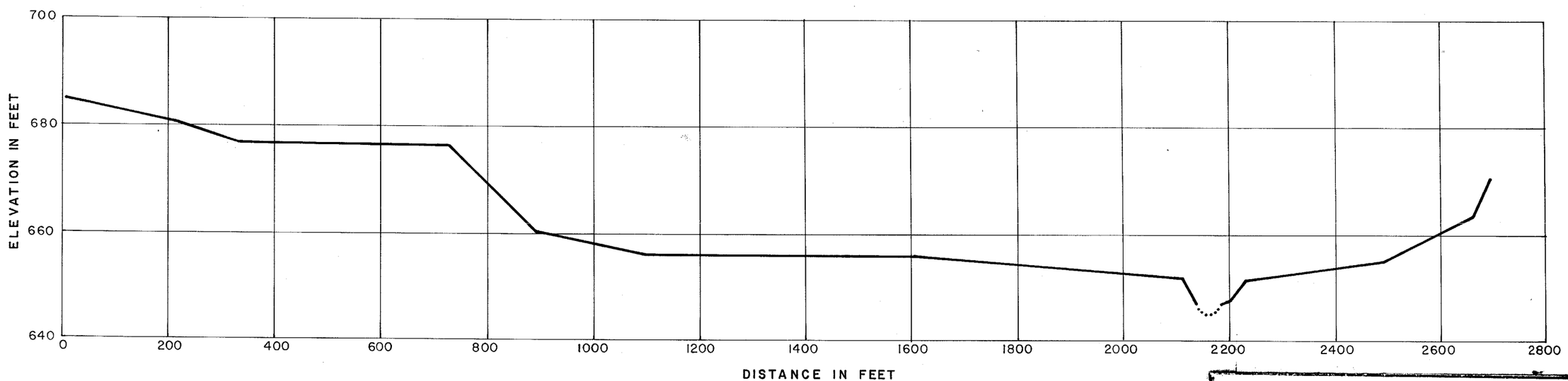
FIGURE 2.4-10

LOCATION PLAN FOR CREEK CROSS SECTIONS

(SHEET 3 of 5)



SECTION X15A



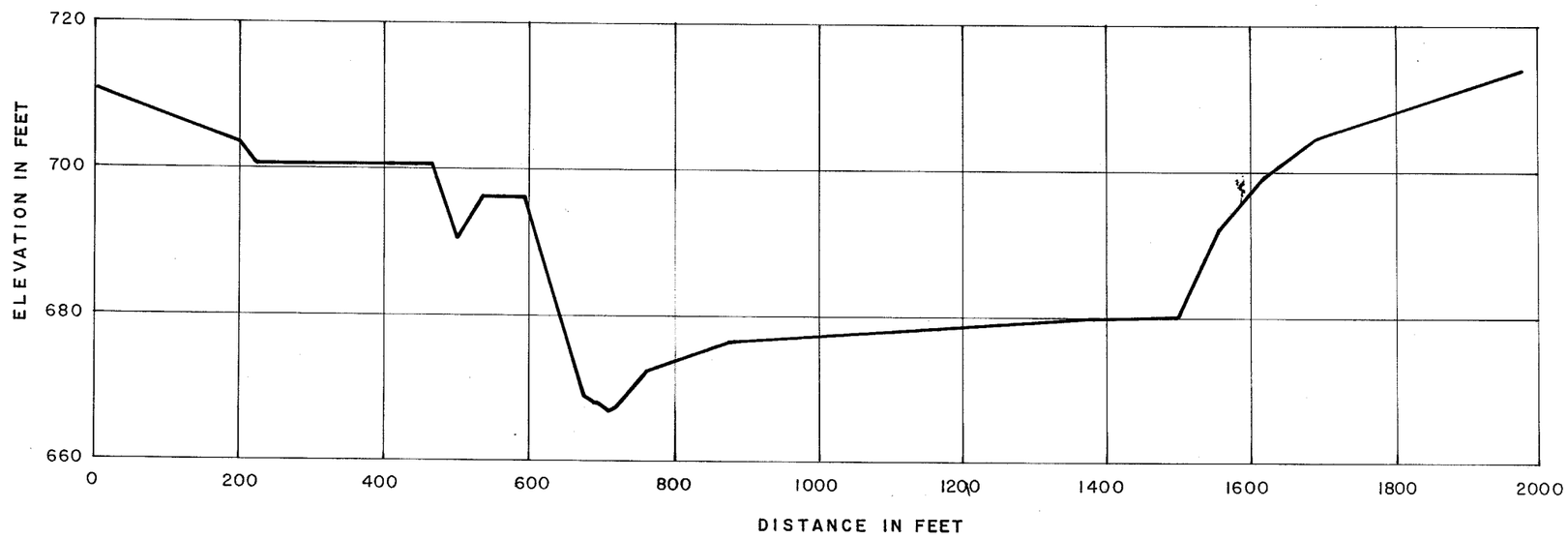
SECTION X19A

CROSS SECTION LOOKING UPSTREAM.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-10

LOCATION PLAN FOR CREEK CROSS SECTIONS
(SHEET 4 of 5)



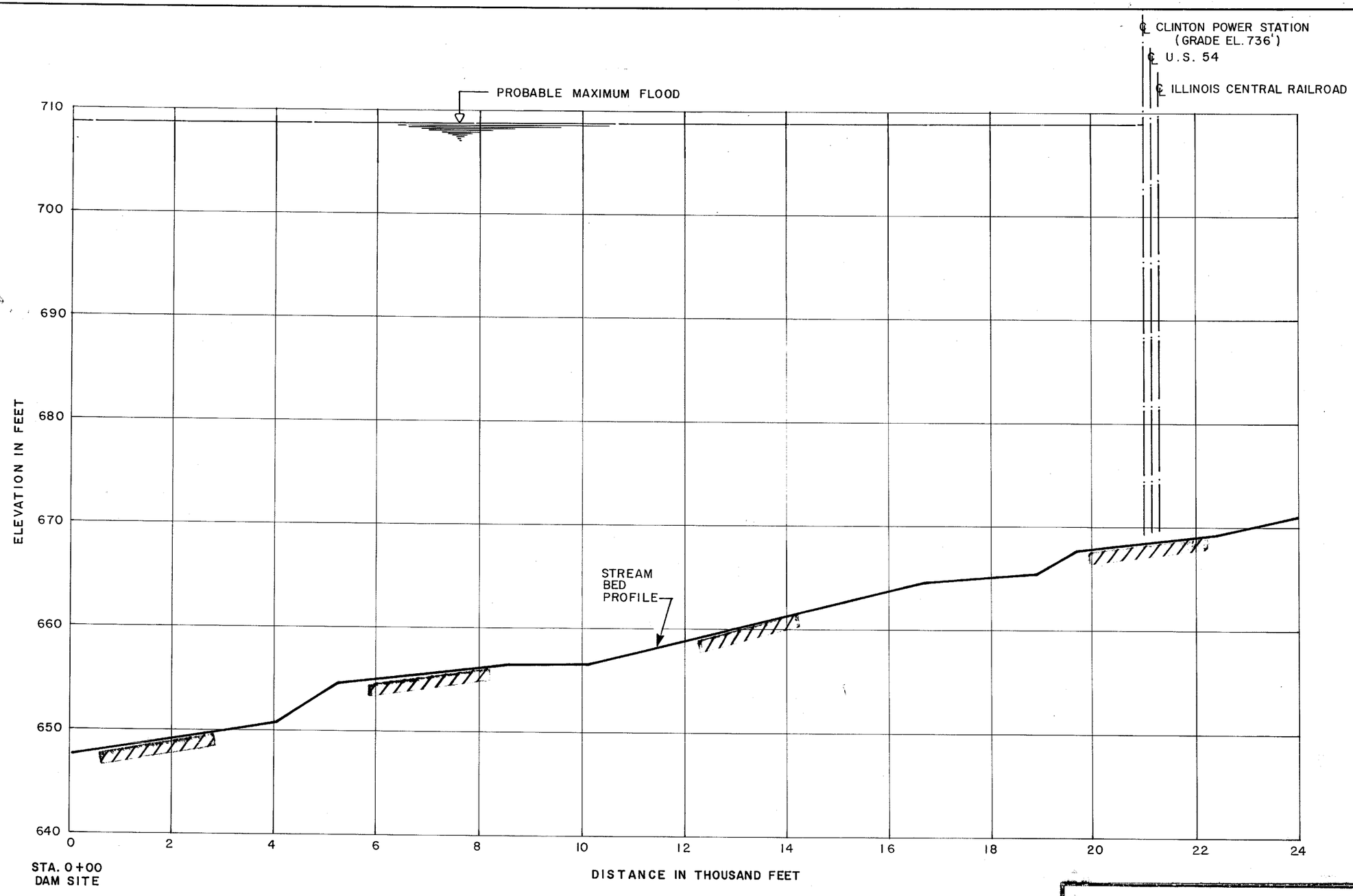
SECTION X21A

CROSS SECTION LOOKING UPSTREAM.

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-10

LOCATION PLAN FOR CREEK CROSS SECTIONS
(SHEET 5 of 5)



CLINTON POWER STATION
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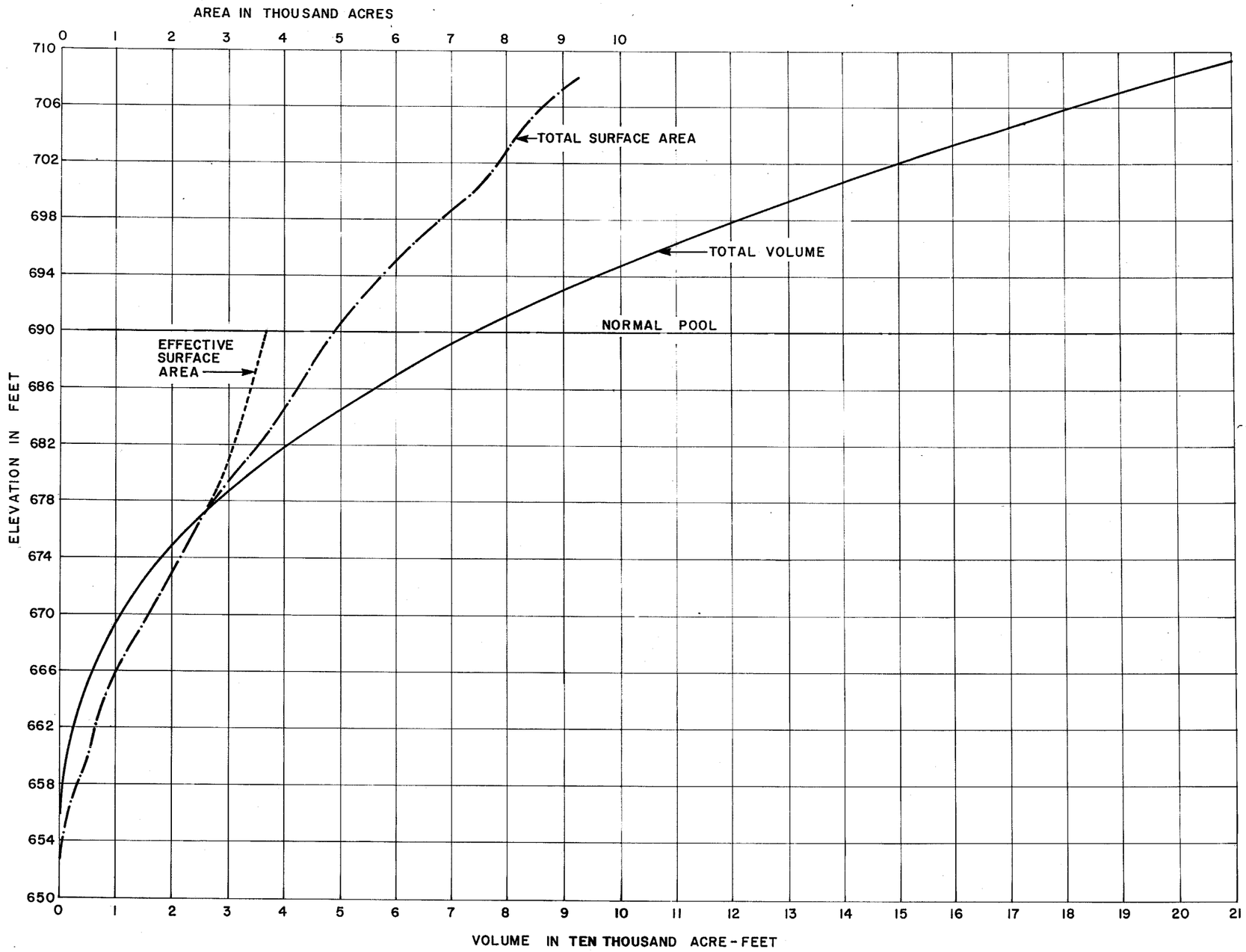
FIGURE 2.4-11

WATER SURFACE PROFILE - NORTH FORK

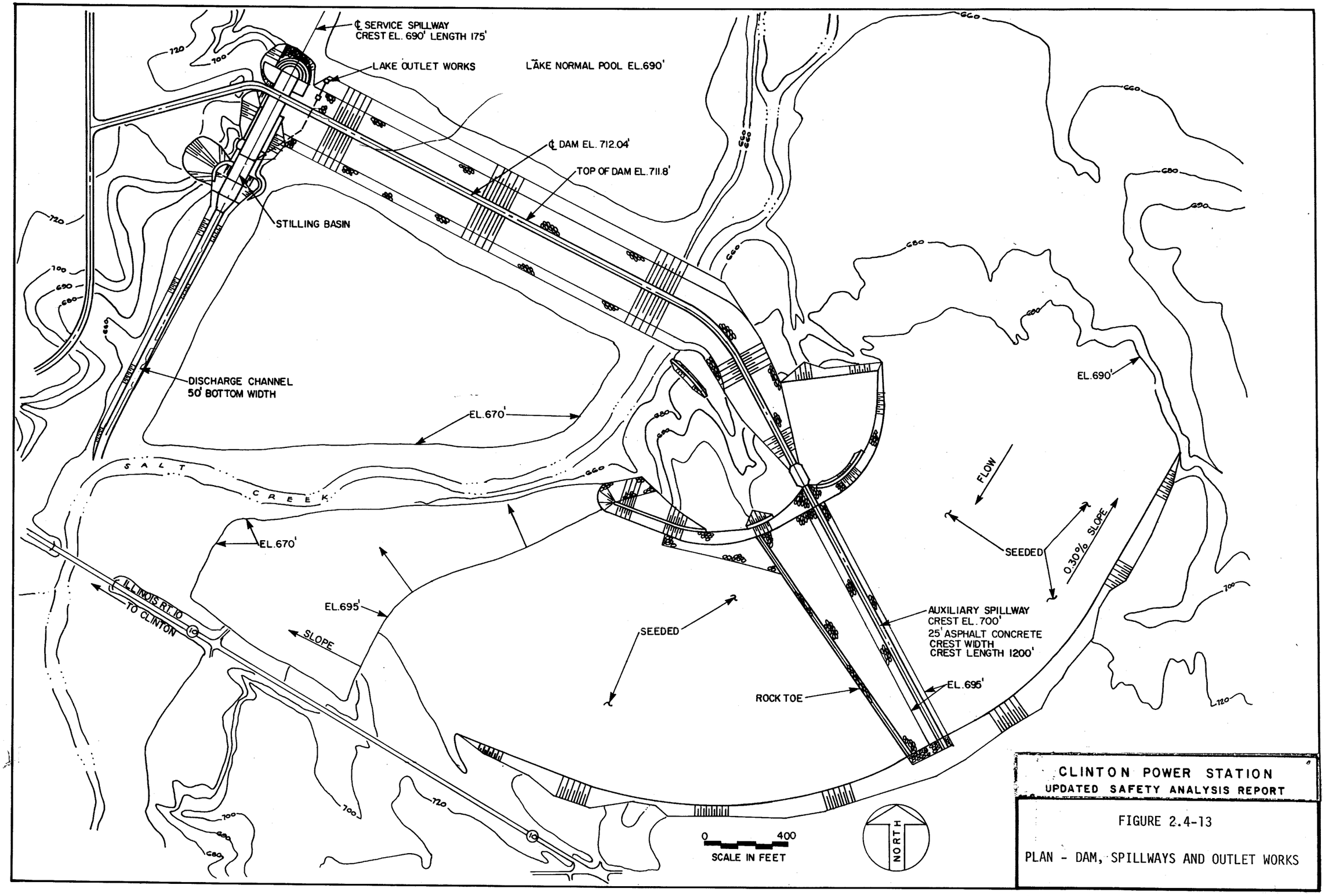


ELEVATION IN FEET	AREA IN ACRES	CAPACITY IN ACRE-FEET
680	3,100	33,900
682	3,550	40,600
684	3,930	48,000
686	4,250	56,000
688	4,520	64,800
690	4,895	74,200
692	5,210	83,600
694	5,700	95,000
696	6,140	106,300
698	6,800	120,000
700	7,380	133,300
702	7,800	149,000
704	8,180	164,300
706	8,600	182,000
708	9,260	199,200

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-12

LAKE AREA - CAPACITY CURVES



CLINTON POWER STATION
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FIGURE 2.4-13

PLAN - DAM, SPILLWAYS AND OUTLET WORKS

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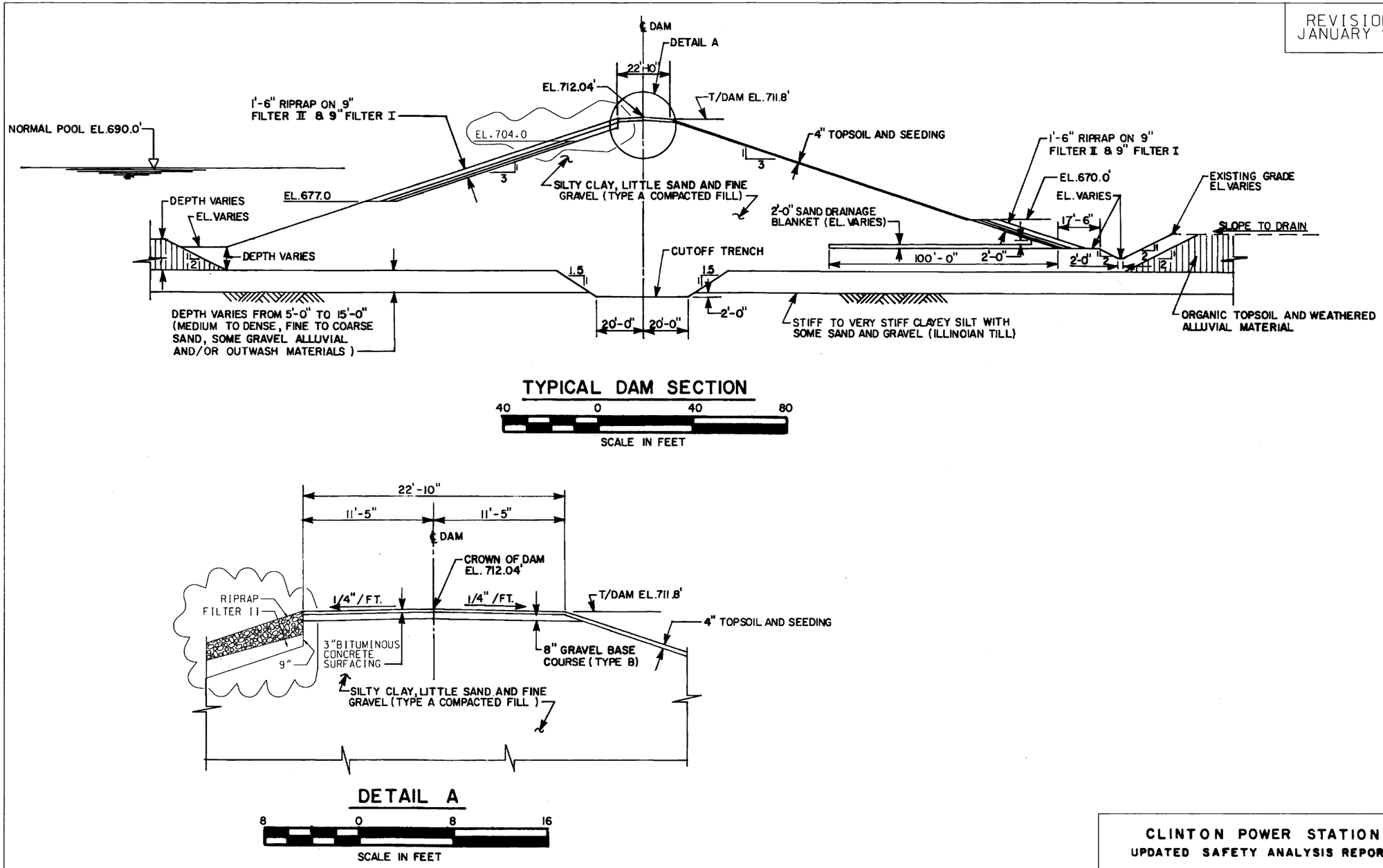


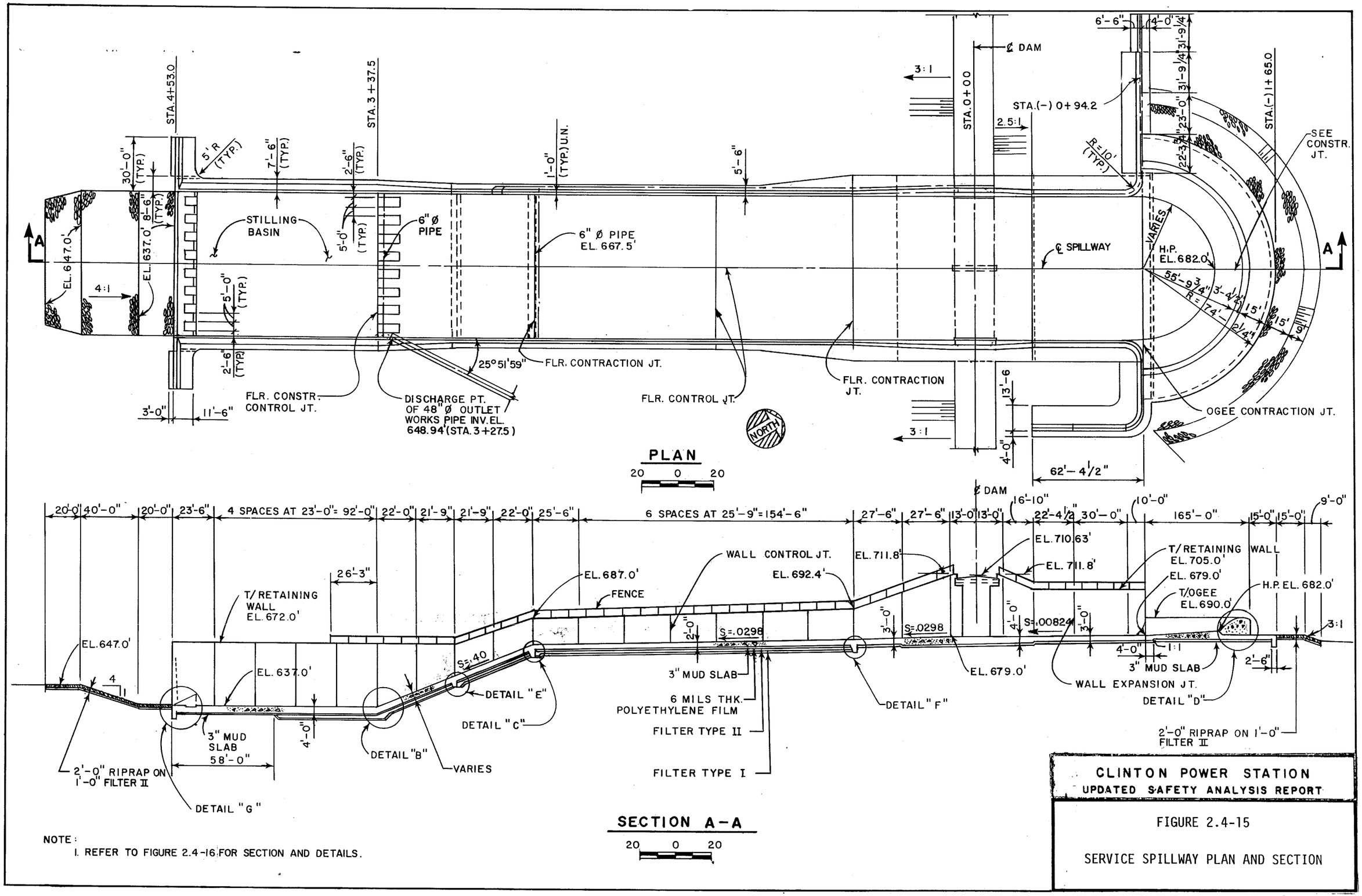
TYPICAL DAM SECTION

DETAIL A

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-14

TYPICAL DAM CROSS SECTION



NOTE:
1. REFER TO FIGURE 2.4-16 FOR SECTION AND DETAILS.

CLINTON POWER STATION
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FIGURE 2.4-15

SERVICE SPILLWAY PLAN AND SECTION

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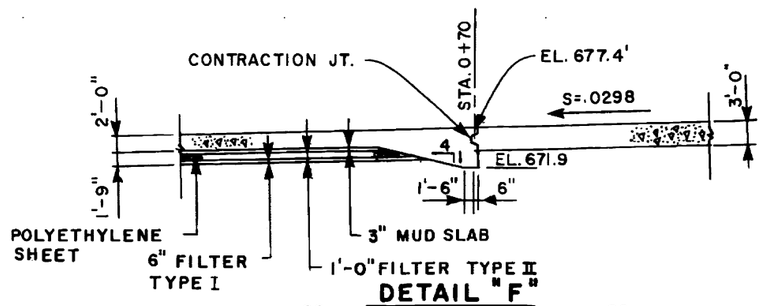
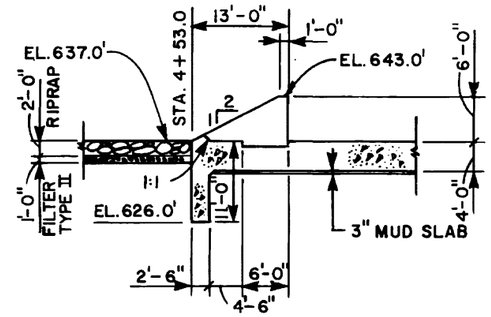


DETAIL "F"

20 0 20



DETAIL "G"

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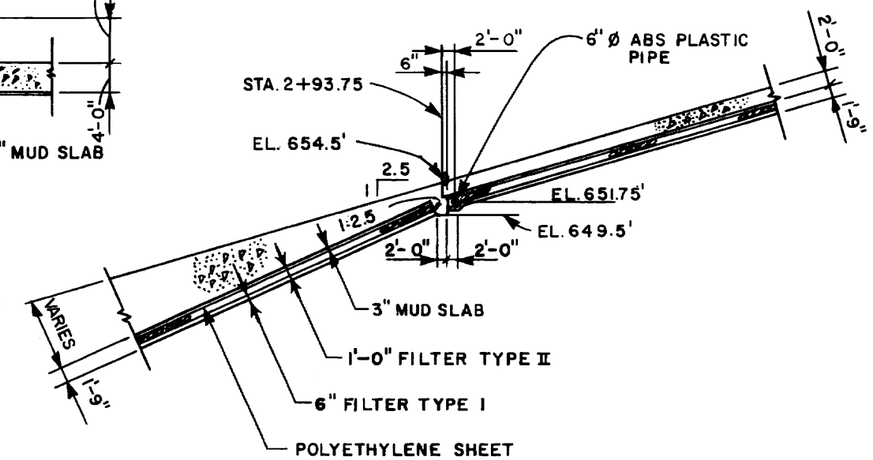
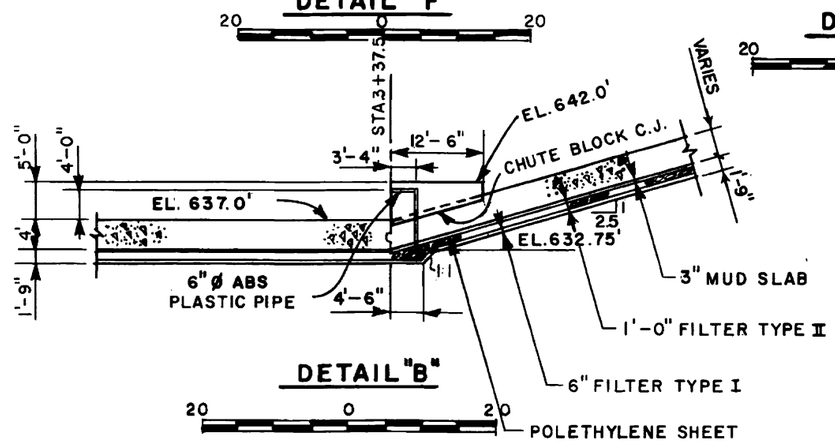


DETAIL "E"

20 0 20



DETAIL "B"

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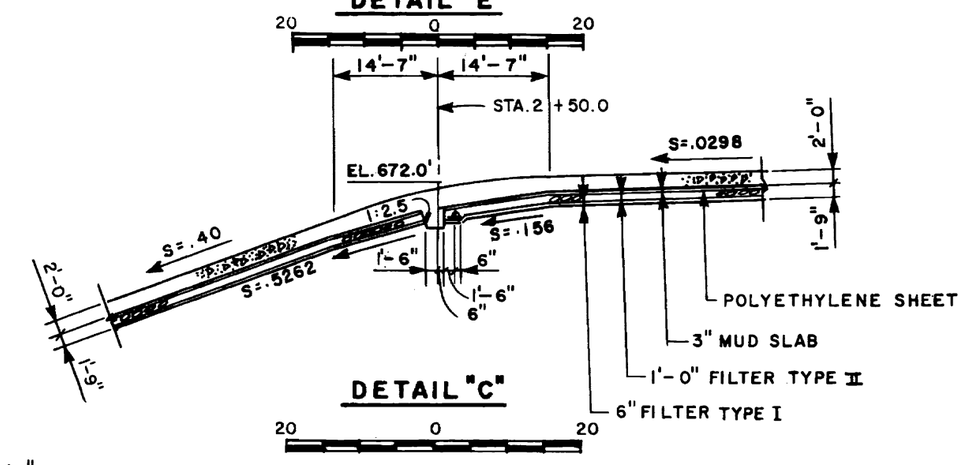
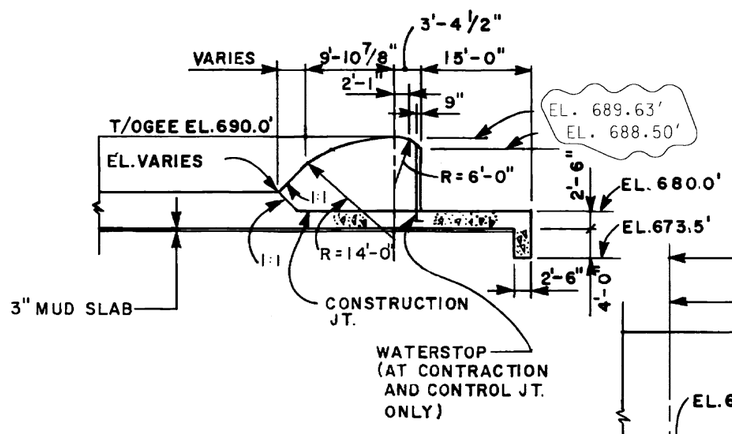


DETAIL "C"

20 0 20



DETAIL "D"

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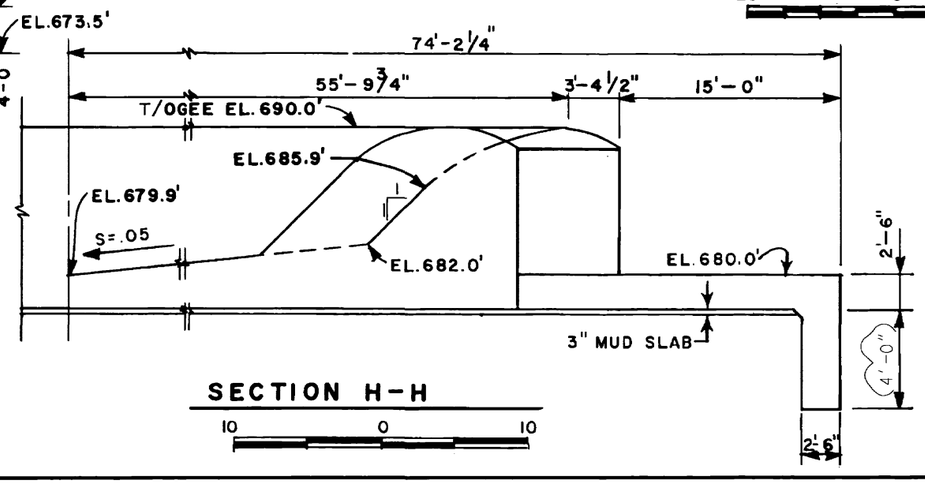


SECTION H-H

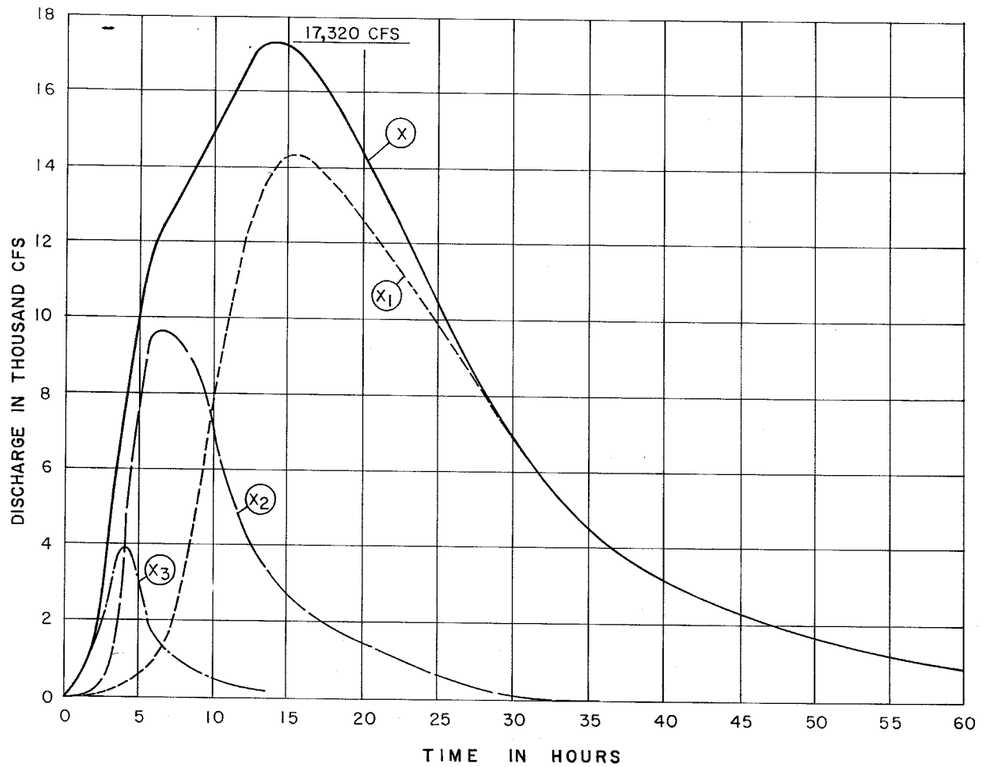
10 0 10

NOTE:
1. REFER TO FIGURE 2.4-15 FOR PLAN.

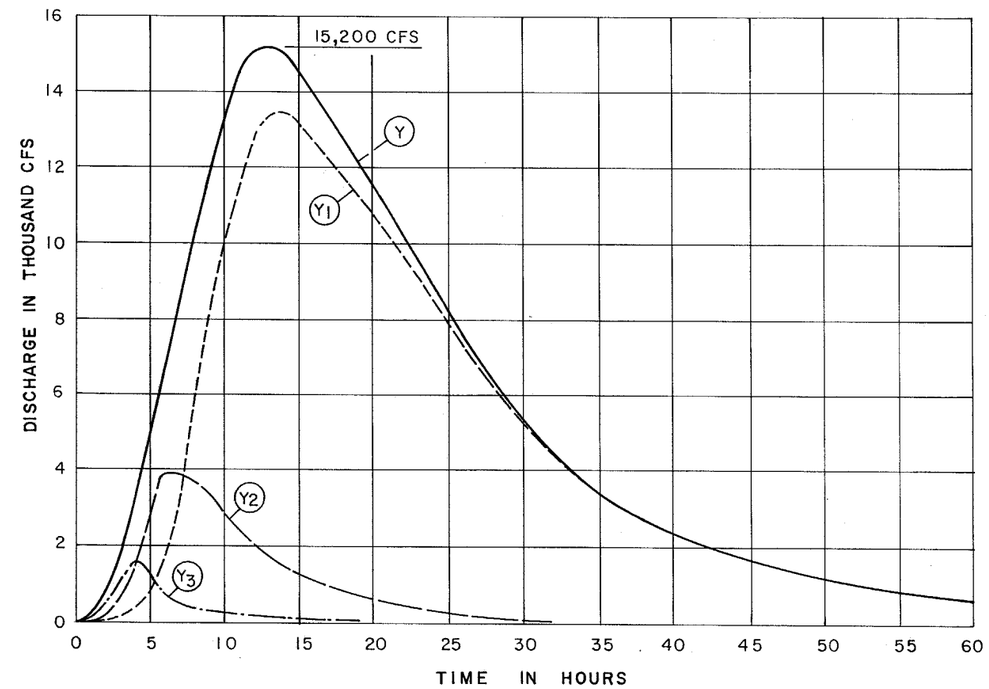
CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-16

SERVICE SPILLWAY SECTION AND DETAILS



100-YEAR FLOOD HYDROGRAPHS OF SALT CREEK COMPONENT AREAS



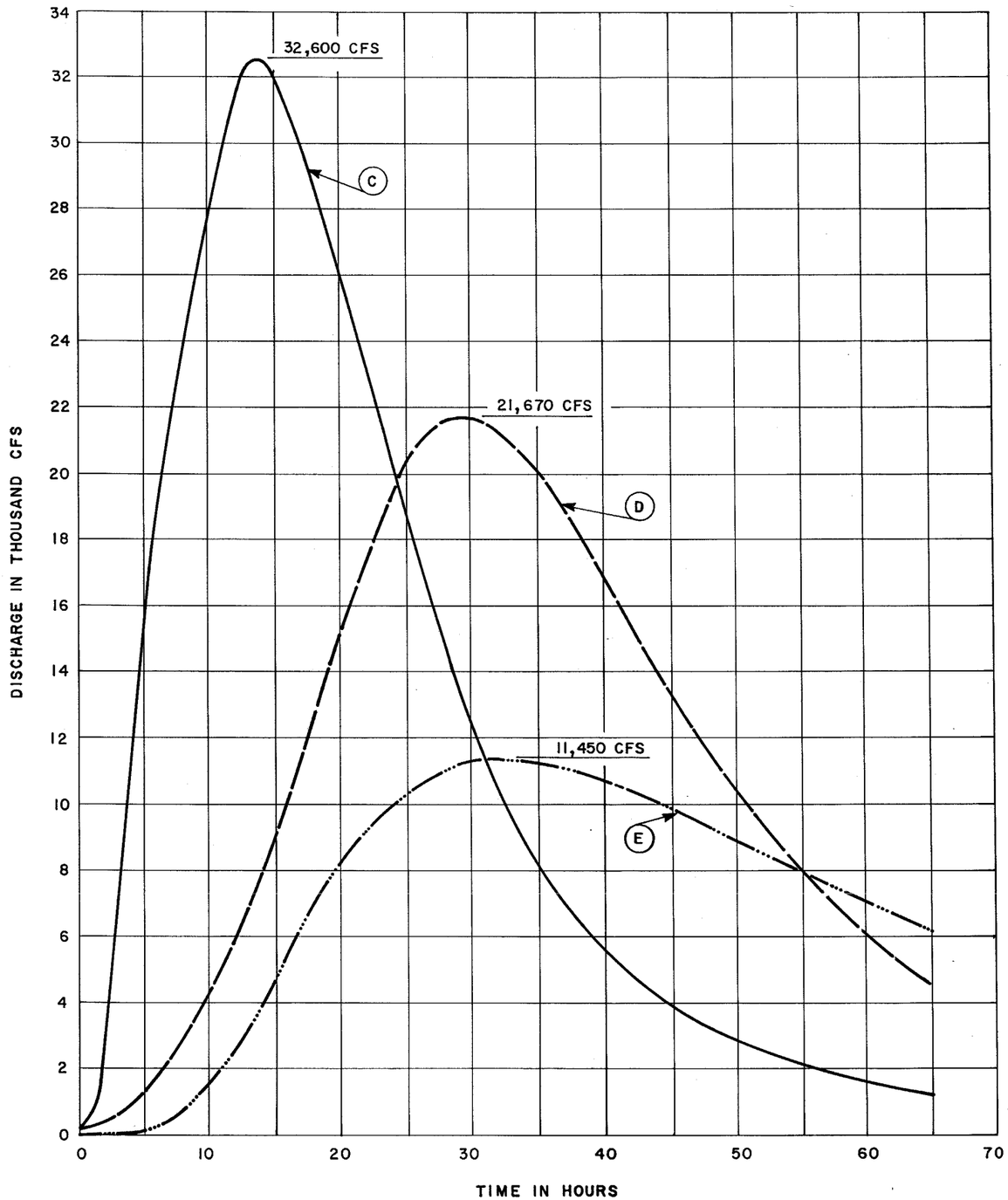
100-YEAR FLOOD HYDROGRAPHS OF NORTH FORK COMPONENT AREAS

HYDROGRAPH DESIGNATION	AREA REPRESENTED		UNIT HYDROGRAPH APPLIED	REMARKS
	SUB-AREA	SQ.MILES		
X	1,2,5(PORTION)	167.5	1,2,5(PORTION)	REPRESENTS TOTAL INFLOW INTO FULL RESERVOIR FROM SALT CREEK COMPONENT AREA
X1	1	126.0	1	REPRESENTS INFLOW AT SALT CREEK HEAD OF RESERVOIR (LAG BY 1-HOUR)
X2	2	36.0	2	REPRESENTS INFLOW INTO RESERVOIR FROM SALT CREEK LOCAL AREA
X3	5 (PORTION)	5.5	5(PORTION)	REPRESENTS INFLOW FROM DIRECT PRECIPITATION ON SALT CREEK PORTION OF RESERVOIR AREA
Y	3,4,5(PORTION)	128.5	3,4,5(PORTION)	REPRESENTS TOTAL INFLOW INTO FULL RESERVOIR FROM NORTH FORK COMPONENT AREA
Y1	3	111.0	3	REPRESENTS INFLOW AT NORTH FORK HEAD OF RESERVOIR
Y2	4	15.0	4	REPRESENTS INFLOW INTO RESERVOIR FROM NORTH FORK LOCAL AREA
Y3	5 (PORTION)	2.5	5(PORTION)	REPRESENTS INFLOW FROM DIRECT PRECIPITATION ON NORTH FORK PORTION OF RESERVOIR AREA

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-17

100-YEAR FLOOD HYDROGRAPHS OF SALT CREEK AND NORTH FORK COMPONENT AREAS



HYDROGRAPH DESIGNATION	AREA IN SQ. MILES	UNIT HYDROGRAPH APPLIED	REMARKS
C	296	1,2,3,4 & 5	REPRESENTS TOTAL 100-YEAR FLOOD INFLOW INTO FULL RESERVOIR
D	296	6 A	REPRESENTS FLOW AT DAM SITE UNDER NATURAL RIVER CONDITIONS
E			OUTFLOW HYDROGRAPH

CLINTON POWER STATION
UPDATED SAFETY ANALYSIS REPORT

FIGURE 2.4-18

100-YEAR FLOOD HYDROGRAPHS OF LAKE CLINTON AND SALT CREEK AT DAM SITE