FORT GORDON, GEORGIA

TERRAIN ANALYSIS

PREPARED BY

MICHAEL BAKER, JR., INC.

JACKSON, MISSISSIPPI

UNDER THE DIRECTION OF

THE TERRAIN ANALYSIS CENTER

US ARMY ENGINEER TOPOGRAPHIC LABORATORIES

FORT BELVOIR, VIRGINIA 22060

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FORT GORDON, GEORGIA

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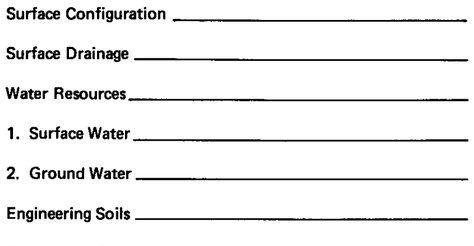

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CONTRACT NUMBER DACA87-79-C-0162

NOVEMBER 1979

I. INTRODUCTION

BACKGROUND

The requirement for this terrain analysis of Fort Gordon was validated by the Assistant Chief of Staff for Intelligence, Department of Army, included in the five-year Terrain Analysis Program, and assigned as part of the program element, "Terrain Analysis of Selected CONUS Army Installations." Responsibility for management and supervision of this program element developed in response to FORSCOM and TRADOC requirements, was assigned to the Terrain Analysis Center (TAC), U.S. Army Engineer Topographic Laboratories. TAC responsibility also includes technical supervision and direction of designated troop units assigned to the program.

Scope and content of the topical coverage included in the terrain analysis of selected CONUS installations were developed jointly between representatives of TAC and FORSCOM, and later concurred in by TRADOC.

This study was prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, (Contract No. DACA 87-79-C-0162) under the direction of TAC.

PURPOSE

The major purpose of the program is to assist military planners in future stationing decisions. To achieve this purpose, planners must obtain an appreciation of the on-post terrain that includes among many other things, knowledge of the suitability for conducting field training exercises involving maneuverability of troops and military vehicles. The degree of maneuverability that can be achieved is a function of several terrain factors including slope, surface configuration, soils, vegetative cover, and surface drainage, all of which are treated in the studies.

Planners concerned with troop stationing also need certain off-post information such as statistics on housing, schools, hospitals, and public utilities in urban areas near installations, as well as pertinent data on airfields and ports in the vicinity. These things are also treated in the studies.

Since the program under which this study was prepared is intended to serve troop stationing requirements, the support provided by the program to environmental requirements is only incidental. While some of the information contained in the studies may be useful as environmental base line data, the studies are by no means complete environmental inventories of the kind required in support of environmental impact assessments.

SCOPE

In scope, the terrain analysis is a compendium of available data on the pertinent natural and man-made features of the reservation and an evaluation of their effects on tactical military operations. The program does not include basic research to fill gaps in these data although some short-term field investigations were performed to obtain ground truth and a general overall appreciation of terrain elements. Therefore, the scope of the analysis is limited primarily to those factors which have been documented by other authorities and to the results of analysis and evaluation of those factors by project technical specialists for topics such as cross-country movement, cover and concealment, and water resources.

The terrain analysis preparation process has necessarily involved analytical judgement in the selection of pertinent source data, resolution of data conflicts, recognition of interrelationships not previously made explicit, and the application of remote sensing to update certain critical, time-variant data such as vegetative cover and man-made features including roads, airfields, and facilities constructed outside of the cantonment areas.

LIMITATIONS

The study naturally reflects limitations in the quality, amount, and currency of the source data on which it is based. Numerous field interviews and selective use of remote sensing were employed in an effort to assure presentation of the latest and best information. Within the relatively complex topical scope of the analysis, however, there are a number of aspects on which source data have not been generated with the focus or recency desired to meet objectives fully. As noted under Scope, the study effort was not designed to include basic research as a means of filling gaps in data.

By design, the presentation is cast at a level of data coverage consistent with stated objectives. Users interested in deeper pursuit of data are referred to the List of Sources included as the last page of the study.

PRESENTATION

Maximum use of graphic presentation has been made throughout the terrain analysis. Supporting text is, as far as practicable, in tabular format keyed to the related graphics which follow. The primary map scale is 1:50,000. For the Urban Area (Cantonment Area) presentation, larger scale maps are used, and for Off-Post Features the map scale is 1:1,000,000.

STUDY AREA

The Fort Gordon military reservation is approximately 16 kilometers (10 miles) southwest of Augusta, Georgia and lies mainly in Richmond County with portions in Jefferson, Columbia and McDuffie Counties. The reservation is generally rectangular in shape, extending from the northeast to the southwest approximately 31 kilometers (19 miles), with an average width of 11 kilometers (7 miles) and covering an area of approximately 222 square kilometers (55,500 acres). The main entrance to Fort Gordon is reached from U.S. Highway 78 which bounds the reservation to the north. The reservation is bounded in the east and south by U.S. Highway 1 and on its western edge by Georgia State Route 47.

Fort Gordon lies within the Atlantic Coastal Plain physiographic province. It is on a gently to moderately rolling plain, dissected by small streams. Drainage is southeastward to the Savannah River. The highest elevation is 165 meters (542 feet) on a ridge in the northwest sector of the small arms impact area. The lowest elevation, 73 meters (240 feet), is at Gordon Lakes close to the southeastern boundary, south of the cantonment area.

The climate of the area consists mainly of warm, humid summers and short, mild winters. Temperatures range from an average high of 33° C (91° F) in July to an average low of 4° C (39° F) in December and January. A mean annual precipitation in excess of 1118 mm (44 in) peaks in July, but is fairly well distributed throughout the year; October and November are usually the driest months.

Vegetation varies from managed forests on higher slopes and uplands throughout the reservation, to swamps on seasonally wet lands, chiefly in the Brier Creek area in the southwest.

II. DESCRIPTION AND MILITARY ASPECTS OF TERRAIN

A. SURFACE CONFIGURATION

Fort Gordon is located within the Atlantic Coastal Plain physiographic province in portions of Columbia, Richmond, McDuffie and Jefferson Counties in northeastern Georgia. The reservation is on a gently to moderately rolling plain, dissected by small streams. Drainage is southeastward to the Savannah River. Surface slopes generally range from 0 to 15 percent; elevations range from a low of 73 meters (240 feet) to a high of 165 meters (542 feet); and interstream areas range from 15 to 60 meters (50 to 200 feet) above adjacent stream bottoms.

LANDFORM TYPE	LANDFORM DESCRIPTION AND DISTRIBUTION	ELEVATION
LOW PLAINS	Predominantly level to gently rolling plains, dissected by numerous small streams and gullies, are in all sections of the reservation. Stream valleys are generally flat-bottomed, with numerous swampy areas. The largest area of low plains extends from the northeast portion of the reservation southwestward to the steeper terrain of the Brier Creek drainage area. It includes most of the higher elevations on the post. Local relief is largely 36.6 to 48.8 m (120 to 160 ft); lowest relief is 24.4 m (80 ft) in the northern portion of the artillery impact area; highest relief, 48.8 m (160 ft), is common throughout this unit. Slopes are generally 0 to 3 percent on the upper portion of these plains; slopes generally range to 15 percent in the stream valleys.	Mostly between 91 and 152 m (300 and 500 ft) above mean sea level. Lowest elevation 80 m (262 ft) at Brier Creek (grid reference 792825); highest elevation 158 m (519 ft) in small arms impact area (grid reference 908943).
HIGH PLAINS	Predominately gently to moderately rolling plains. The largest areas of high plains are located in the Brier Creek area and southwest of the cantonment area, and are dissected by small streams and gullies. Local relief is largely 54.9 to 61 m (180 to 200 ft); lowest relief is 45.7 m (150 ft) adjacent to Brier Creek near U.S. Route 1; highest relief is 70.1 m (230 ft) adjacent to Headstall Creek in the western portion of the reservation. Slopes are generally 3 to 15 percent; slopes to 35 percent occur in the South Prong Creek Valley. Several clay-faced escarpments with slopes to 50 percent occur in this unit.	Mostly between 76 and 152 m (250 and 500 ft) above mean sea level. Lowest elevation 73 m (240 ft) at Gordon Lake (grid reference 940931); highest elevation 165 m (542 ft) at Range 12 (grid reference 865949).

B. SURFACE DRAINAGE

Fort Gordon lies entirely within the Savannah River drainage basin. Principal sub-basins which drain the reservation, to the southeast, are the Butler Creek, Spirit Creek and Brier Creek watersheds, together with their chief tributaries, South Prong Creek, Sandy Run Creek and Boggy Gut Creek.

Butler Creek and Spirit Creek originate outside the northern and western post boundaries respectively, and discharge directly into the Savannah River less than 24 kilometers (15 miles) southeast of the post's eastern boundary. Brier Creek originates in the Piedmont physiographic province to the northwest of the post and flows southeastward through the post's southern area, eventually reaching the Savannah River over 112 kilometers (70 miles) from the reservation.

All streams on Fort Gordon are perennial with the exception of small intermittent tributaries at higher elevations. With the exception of Brier Creek, the larger streams average 3 to 5 meters (10 to 15 feet) in width and more than 1 meter (3 feet) in depth at normal flow. Brier Creek varies in width from 6 to 18 meters (20 to 60 feet) during its passage through the post and varies in depth from 1.2 to 1.5 meters (4 to 5 feet) at normal flow.

Stream flow is fairly consistent throughout the year. There is some high water from December through March with some minor infrequent flooding, which usually lasts only a few hours.

Swamps with over 50 percent trees are found in some stream bottoms, principally Brier Creek and the lower reaches of Sandy Run Creek. There are no stream fords on the post; crossing areas are limited to culverts and bridges.

Little specific published data are available on the streams on Fort Gordon. Information for this topic was obtained from personnel familiar with the post, aerial photography, U.S. Geological Survey quadrangle maps and field reconnaissance.

DRAINAGE CHARACTERISTICS

DRAINAGE CATEGORIES	GENERAL	REGIME	WIDTH	DEPTH	VELOCITY & DISCHARGE	BANKS	BOTTOM
WATERCOURSES							
Butler Creek and Spirit Creek	Perennial streams flowing southeastward through generally narrow valleys with moderately sloping to steep valley walls. Both creeks drain the northern section of the post and have watersheds of approximately 15.5 km² (6 mi²) and 38.8 km² (15 mi²) respectively. Butler Creek is the source of Butler Reservoir and Spirit Creek the main source of Maxwell Lake and Gordon Lake.	High water December through March, receding gradually to September through October, the low water period. Water flow is maintained by springs at low flow. Minor, infrequent flooding occurs from December through April, lasting usually only a few hours.	Varies from approximately 2.7 to 4.6 m (9 to 15 ft) in normal water.	Varies from 0.5 to 1.2 m (1.5 to 4 ft) at normal water; maximum at about 1.5 m (5 ft) during highest water periods.	Average velocity estimated at about 0.2 m/sec (0.8 ft/sec) and mean annual discharge at about 0.2 m³/sec (7 ft³/sec) for Butler Creek and 0.5 m³/sec (16 ft³/sec) for Spirit Creek.	Mostly sand or clayey sand. Generally 1.5 to 1.8 m (5 to 6 ft) high with 60° to 80° slopes.	Mostly clayey sand with small amounts of gravel. Some organic material. Gradients generally about 0.5%.
South Prong Creek	Perennial stream flowing southeastward through generally narrow valleys with moderately sloping to steep valley walls, and draining the center portion of the post with a watershed of approximately 38.8 km² (15 mi²).	High water December through March, receding gradually to September through October, the low water period. Water flow is maintained by springs at low flow. Infrequent flooding occurs from December through April, lasting usually only a few hours.	Varies from about 4.6 to 5.5 m (15 to 18 ft) in normal water.	Approximately 0.5 m (1.5 ft) at normal water; maximum at about 0.6 m (2 ft) during highest water periods.	Average velocity estimated at about 0.1 m/sec (0.5 ft/sec) and mean annual discharge at about 0.4 m³/sec (15 ft³/sec).	Mostly sand or clayey sand. Generally about 0.6 m (2 ft) high with 30° to 50° slopes.	Mostly clayey sand. Some organic material. Gradient generally less than 0.5%.
Sandy Run Creek and Boggy Gut Creek	Perennial streams flowing southward through generally narrow valleys with gentle to moderately sloping and occasionally steep valley walls. Both creeks drain the south central section of the post and have watersheds of approximately 53.1 km² (20.5 mi²) and 46.6 km² (18 mi²) respectively. Sandy Run Creek is the main source of Whittimore Ponds, Beaver Dam Ponds, Howard Lake, Leitner Ponds, Union Mill Pond and Rachel Lakes. Bands of swamps and wetlands are adjacent to Sandy Run Creek stream channel, south of Leitner Pond.	High water December through March, receding gradually to September through October, the low water period. Water flow is maintained by springs at low flow. Minor, infrequent flooding occurs from December through April, lasting usually only a few hours.	Varies from approximately 3.7 to 6.1 m (12 to 20 ft) in normal water. Boggy Gut Creek 7.6 m (25 ft) at lower reaches.	Varies from 0.6 to 0.9 (2 to 3 ft) at normal water; maximum at approximately 1.2 to 1.8 m (4 to 6 ft) during highest water periods.	Average velocity estimated at about 0.5 m/sec (1.5 ft/sec) and mean annual discharge at about 0.6 m³/sec (20 ft³/sec) for Sandy Run Creek. Boggy Gut Creek average velocity estimated at 0.2 m/sec (0.6 ft/sec) and mean annual discharge 0.5 m³/sec (18 ft³/sec).	Sand or clayey sand. Generally 1.2 to 1.5 m (4 to 5 ft) high. Occasionally 3.0 m (10 ft) at upper reaches of Sandy Run Creek. Slopes average 50° to 70°. Banks reduced to < 0.6 m (2 ft), adjacent to swamps with slopes of about 25°.	Sand and clayey sand with small amounts of gravel. Some organic material. Gradient generally less than 0.5%.
Brier Creek	Perennial stream flowing southeastward through generally narrow valleys with gentle to moderately sloping valley walls and draining the southern portion of the post with a watershed of approximately 51.8 km² (20 mi²). Bands of swamps and wetlands are adjacent to stream channel.	High water December through March, receding gradually to September through October, the low water period. Water flow is maintained by springs at low flow. Minor infrequent flooding occurs from December through April, lasting usually only a few hours.	Varies from about 5.5 to 6.1 m (18 to 20 ft) at its entry into the reservation, to approximately 18.3 m (60 ft) at its lower reaches, in normal water.	Approximately 1.2 to 1.5 m (4 to 5 ft) at normal water; maximum 1.8 m (6 ft) during highest water periods.	Average velocity estimated at about 0.4 m/sec (1.2 ft/sec) and mean annual discharge at about 2.8 m³/sec (100 ft³/sec).	Mainly clayey sand; sand at lower reaches. Generally 0.9 to 1.8 m (3 to 6 ft) high with 50° to 70° slopes, but reduced at places to < 25° in swamps.	Sand or silty clay. Some organic material. Gradient generally less than 0.5%.

B. SURFACE DRAINAGE (Continued)

DRAINAGE CHARACTERISTICS (Continued)

DRAINAGE CATEGORIES	GENERAL	REGIME	WIDTH	DEPTH	VELOCITY & DISCHARGE	BANKS	BOTTOM
Blackstone Branch, Marcum Branch, McCoys Creek, Leitners Branch, Headstall Creek, Big Branch, Hughes Branch.	Mostly perennial streams forming the chief tributaries of the major drainages of the post. They generally flow through narrow valleys with gently to moderately sloping valley walls.	High water December through March, receding gradually to September through October, the low water period. Water flow is maintained in most streams by springs at low flow.	Generally narrow channels, approximately 0.8 to 1.5 m (2.5 to 5 ft) in normal water.	Most streams approximately 0.2 to 0.5 m (0.5 to 1.5 ft) at normal water; some reach maximum of 0.6 m (2 ft) at highest water periods.	Average velocity estimated at 0.1 to 0.5 m/sec (0.5 to 1.5 ft/sec) and mean annual discharge at < 0.1 m^3/sec (4 ft^3/sec).	Mostly sand or clayey sand. Generally < 0.6 m (2 ft) high with 50° to 70° slopes.	Mostly sand or clayey sand. Gradients generally less than 1%; occasionally reaching 2% near headwaters.
STANDING BODIES OF WATER							
(See Reservoirs and Ponds table below.)							
WET AREAS							
Swamps	Mostly perennial swamps containing more than 50% trees and shrubs located in the bottoms of certain streams, mostly along Brier Creek and Sandy Run Creek.	Subject to flooding during high water period, December through March; flooding receding to low water period, September through October.	Areas vary from a few square meters to several square kilometers; dimensions will vary during the high/low-water periods.	Generally < 0.3 m (1 ft) but depth varies considerably with high/low-water periods of adjacent streams.	Water movement is generally imperceptible and discharge is seldom measurable.	Wet areas usually merge gradually into higher terrain.	Layers of organic material on top of mostly sand or clay.

RESERVOIRS AND PONDS

MAP NUMBER	NAME	GRID REFERENCE	RESERVOIRS AND PONDS: AVERAGE DEPTH m (ft)	AREA ha (acre)	ESTIMATED VOLUME ha m (acre ft)	PURPOSE[3]	DAMS[1]: OVERALL LENGTH m (ft)	HYDRAULIC LENGTH m (ft)	HYDRAULIC HEIGHT m (ft)	HEIGHT ABOVE WATER m (ft)	HAZARD[4] POTENTIAL CLASSIFICATION Life	Property	REMARKS
W1	Rainbow Lake	838877	1.4 (4.7)	1.7 (4.1)	2.4 (19.3)	E	97.5 (320)	71.6 (235)	3.2 (10.5)	no data	L	L	
W2	Union Mill Pond	843878	1.1 (3.5)	8.0 (19.8)	8.6 (69.3)	R	189.0 (620)	176.8 (580)	2.4 (8.0)	1.8 (6.0)	L	L	Concrete overflow 1.5 m (5 ft) x 1.5 m (5 ft).
W3	Rachel Lake I	848869	1.2 (4.0)	5.4 (13.3)	6.6 (53.2)	E	no data	310.9 (1020)	2.7 (9.0)	no data	L	L	Metal pipe inlet 0.9 m (3 ft) diameter.
W4	Rachel Lake II	851871	1.5 (4.8)	3.0 (7.4)	4.4 (35.5)	E	no data	172.2 (565)	3.4 (11.0)	no data	L	L	
W5	Rachel Lake III	852875	1.9 (6.2)	3.5 (8.6)	6.6 (53.3)	E	no data	97.5 (320)	4.3 (14.0)	no data	L	L	
W6	Rachel Lake IV	854880	2.0 (6.6)	1.3 (3.2)	2.6 (21.1)	E	no data	83.8 (275)	4.6 (15.0)	no data	L	L	
W7	Lower Leitner Pond	843902	1.1 (3.5)	10.2 (25.3)	10.9 (88.6)	R	217.0 (712)	211.8 (695)	2.4 (8.0)	1.4 (4.5)	L	L	Concrete spillway.
W8	Leitner Pond	833928	1.2 (4.0)	11.5 (28.5)	14.1 (114.0)	R	99.1 (325)	91.4 (300)	2.7 (9.0)	1.5 (5.0)	L	L	Road is dam. Concrete spillway.
W9	Upper Leitner Pond	834934	1.6 (5.3)	9.8 (24.3)	15.9 (128.8)	R	137.5 (451)	131.1 (430)	3.7 (12.0)	0.9 (3.0)	L	L	Drop inlet 1.5 m (5 ft) x 1.5 m (5 ft).
W10	Clay Pit Lake I	839932	2.1 (7.0)	5.0 (12.4)	10.7 (86.8)	E	no data	73.2 (240)	4.9 (16.0)	no data	L	L	
W11	Clay Pit Lake II	841934	2.0 (6.6)	1.6 (4.0)	3.2 (26.4)	E	no data	94.5 (310)	4.6 (15.0)	no data	L	L	
W12	Clay Pit Lake III	843934	1.6 (5.1)	1.2 (3.0)	1.9 (15.3)	E	no data	73.2 (240)	3.4 (11.0)	no data	L	L	
W13	Howard Lake	839943	0.9 (2.9)	3.5 (8.7)	3.1 (25.2)	R	no data	79.2 (260)	2.0 (6.5)	no data	L	L	
W14	Little Smoak Lake	835945	1.0 (3.3)	4.9 (12.2)	5.0 (40.3)	R	no data	73.2 (240)	2.3 (7.5)	no data	L	L	
W15	Big Smoak Lake	838946	1.2 (4.0)	5.7 (14.2)	7.0 (56.8)	R	no data	67.1 (220)	2.7 (9.0)	no data	L	L	
W16	Fettig Lake	841947	1.1 (3.5)	3.4 (8.3)	3.6 (29.1)	R	no data	82.3 (270)	2.4 (8.0)	no data	L	L	
W17	Little Beaver Dam Pond	844948	1.1 (3.5)	2.1 (5.3)	2.3 (18.6)	R	no data	147.8 (485)	2.4 (8.0)	no data	L	L	
W18	Beaver Dam Pond	848952	1.6 (5.3)	8.4 (20.7)	13.6 (109.7)	R	no data	117.3 (385)	3.7 (12.0)	no data	L	L	
W19	Whittimore Pond	852955	1.2 (4.0)	3.3 (8.1)	4.0 (32.4)	R	no data	70.1 (230)	2.7 (9.0)	no data	L	L	
W20	Upper Whittimore Pond	855958	1.1 (3.7)	5.4 (13.3)	6.1 (49.2)	R	no data	86.9 (285)	2.6 (8.5)	no data	L	L	
W21	Thomas Lake	893954	1.6 (5.3)	7.8 (19.3)	12.6 (102.3)	R	no data	94.5 (310)	3.7 (12.0)	no data	L	L	
W22	Maxwell Lake	898967	0.9 (3.1)	4.2 (10.3)	3.9 (31.9)	R	no data	53.3 (175)	2.1 (7.0)	no data	L	L	
W23	Gordon Lake[2]	939937	1.0 (3.2)	15.1 (37.3)	14.7 (119.4)	R	183.8 (603)	157.0 (515)	2.7 (9.0)	1.5 (5.0)	S	S	Concrete box inlet 1.5 m (5 ft) x 4.3 m (14 ft).
W24	Mirror Lake	939952	0.7 (2.2)	5.0 (12.4)	3.3 (27.3)	R	no data	140.2 (460)	1.5 (5.0)	no data	L	L	
W25	Scout Lake	921964	1.1 (3.5)	2.3 (5.6)	2.4 (19.6)	R	no data	86.9 (285)	2.4 (8.0)	no data	L	L	
W26	Wilkerson Lake	917978	1.6 (5.3)	1.6 (3.9)	2.6 (20.7)	R	no data	36.6 (120)	3.7 (12.0)	no data	L	L	
W27	Soil Erosion Lake[2]	957984	3.1 (10.1)	4.9 (12.0)	15.0 (121.2)	F	91.4 (300)	82.3 (270)	7.0 (23.0)	1.2 (4.0)	S	L	Concrete box inlet 1.5 m (5 ft) x 2.4 m (8 ft).
W28	Experimental Lake	964986	2.6 (8.4)	0.6 (1.4)	1.5 (11.8)	R	no data	76.2 (250)	5.9 (19.5)	no data	L	L	
W29	Boardmans Pond	971983	1.6 (5.1)	2.8 (6.9)	4.3 (35.2)	R	no data	64.0 (210)	3.5 (11.5)	no data	L	L	
W30	Butler Reservoir[2]	974994	3.8 (12.3)	33.1 (81.9)	124.3 (1007.4)	W	243.8 (800)	231.0 (758)	8.5 (28.0)	3.7 (12.3)	H	H	Concrete platform and pipe inlet to pumping station.

1 Earth type dams of clayey sand; some with clay cores.

2 Dams on inventory of National Dam Safety Program.

3 E - Fish and Wildlife Experimental Lake
F - Fishing
R - Recreation
W - Water Supply

4 Hazard Potential Classification (Department of the Army directive of 9 January 1978)
L - Low
S - Significant
H - High

B. SURFACE DRAINAGE (Continued)

ESTIMATED FLOOD DISCHARGES

MAP NUMBER	STREAM NAME	DRAINAGE AREA km^2 (mi^2)		DISCHARGE AT 2 YEAR FLOOD m^3/sec (ft^3/sec)		DISCHARGE AT 100 YEAR FLOOD m^3/sec (ft^3/sec)	
1	Butler Creek	15.5	(6.0)	4.8	(170)	20.4	(720)
2	Spirit Creek	38.8	(15.0)	7.6	(270)	29.7	(1050)
3	South Prong Creek	38.8	(15.0)	7.6	(270)	29.7	(1050)
4	Sandy Run Creek	53.1	(20.5)	9.3	(330)	37.3	(1320)
5	Boggy Gut Creek	46.6	(18.0)	9.0	(320)	36.2	(1280)

Flood discharges estimated by Golden and Price Method (Georgia Department of Transportation Research Project No. 6303, Flood Frequency Analysis for Small Natural Streams in Georgia, dated July 1976).

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

SURFACE CONFIGURATION

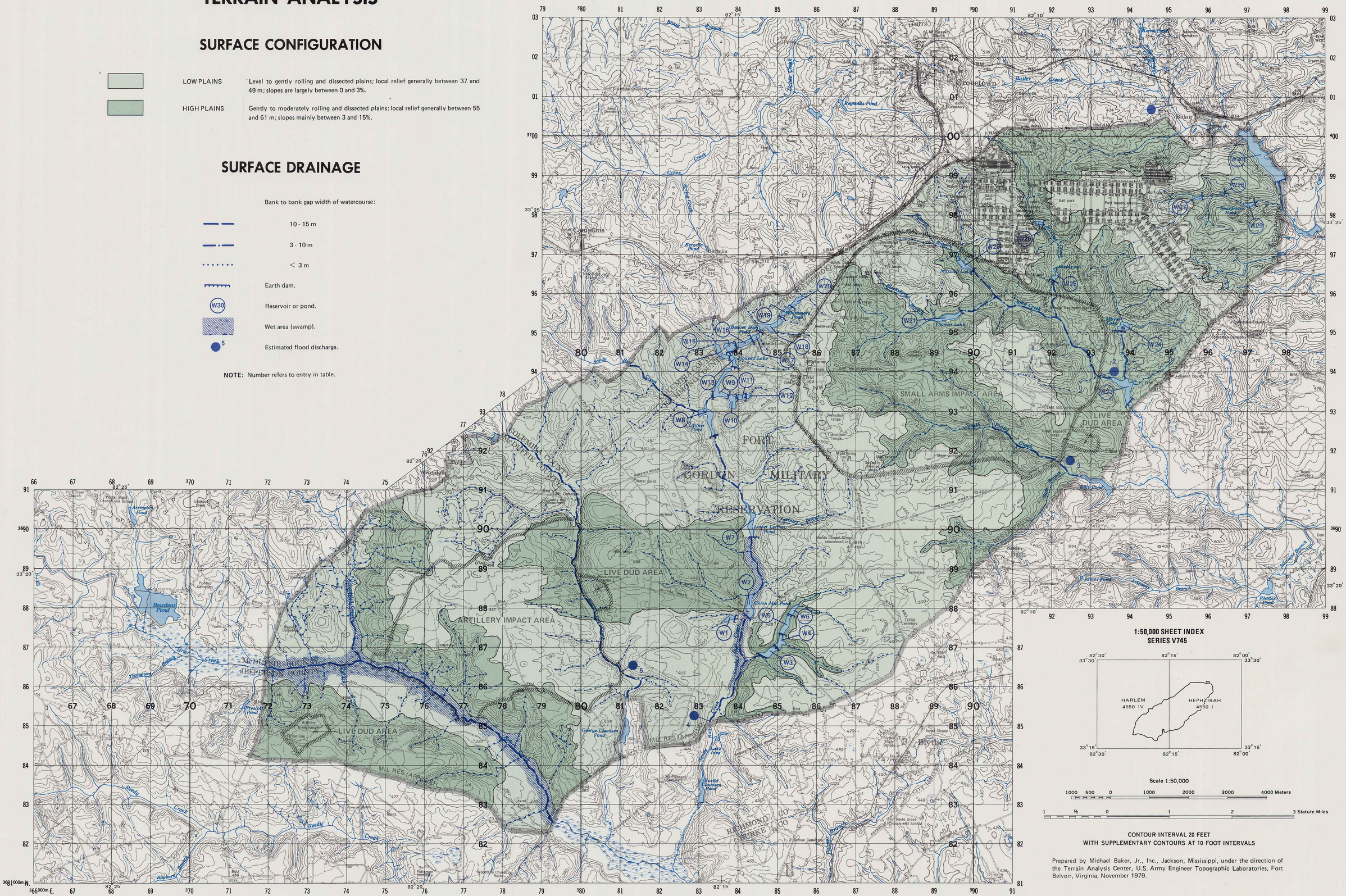
LOW PLAINS	Level to gently rolling and dissected plains; local relief generally between 37 and 49 m; slopes are largely between 0 and 3%.
HIGH PLAINS	Gently to moderately rolling and dissected plains; local relief generally between 55 and 61 m; slopes mainly between 3 and 15%.

SURFACE DRAINAGE

Bank to bank gap width of watercourse:

- 10 - 15 m
- 3 - 10 m
- < 3 m
- Earth dam.
- W30 — Reservoir or pond.
- Wet area (swamp).
- 5 — Estimated flood discharge.

NOTE: Number refers to entry in table.



1:50,000 SHEET INDEX
SERIES V745

Scale 1:50,000

1000 500 0 1000 2000 3000 4000 Meters

1 ½ 0 1 2 3 Statute Miles

CONTOUR INTERVAL 20 FEET
WITH SUPPLEMENTARY CONTOURS AT 10 FOOT INTERVALS

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

C. WATER RESOURCES

1. SURFACE WATER

All of the stream flow from Fort Gordon drains into the Savannah River. Flooding is a minor problem and of short duration, usually after a short rainfall of high intensity. Stream flow is fairly constant throughout the year, with some high water from December through March.

The streams are most remarkable for their well sustained dry season flows, which can be attributed to the geologic character of their drainage basins. Because of the sandy soil, these areas readily absorb most of the rainfall in all seasons and return this water to the surface through numerous springs.

Information on surface water resources is summarized below. There are no stream flow gaging stations or water quality testing stations on the post and adequate data for a full evaluation of the volume of water available from the various streams listed were not available. Some spot checks of water velocity and discharge were taken at various points on the post during limited field investigations and these are depicted on the accompanying map. The data obtained are included in Section B, SURFACE DRAINAGE, where they have been interpreted in the Velocity and Discharge column of the Drainage Characteristics table.

MAP UNIT	SOURCE	QUANTITY	QUALITY	DEVELOPMENT OF SOURCES
1	The middle and lower reaches of Boggy Gut Creek and Sandy Run Creek, and the entire portion of Brier Creek, which occupy the western part of the post and flow southward toward the Savannah River. Sandy Run Creek is the main source of Leitner Pond, Lower Leitner Pond and Union Mill Pond. The streams are perennial and generally flow on fairly narrow floodplains. The entire post area is within 19.3 km (12 mi) of one of these sources.	**Enormous*** quantities of **fresh** water are available from these sources and average yields are greater than 40,000 Lpm (15,000,000 gpd). Quantities will increase during periods of high-water or floods.	There are no data available for individual streams. Based on regional considerations it is estimated that natural stream waters are soft, low in dissolved solids and slightly acidic. Industrial and municipal pollution are generally absent, with the exception of Brier Creek. Organic and bacterial contamination may be present, and suspended sediment load is normally low but increases during periods of high-water or floods.	Access to streams is limited by trees, undergrowth and, in many places, wet areas. Banks are sand or clayey sand, steep with 50° to 70° slopes, and generally 1.2 to 1.8 m (5 to 6 ft) high. Average velocity is estimated at 0.4 m/sec (1.2 ft/sec) but may be greater during high-water periods. Standard field treatment procedures should be taken before using as a potable water supply.
2	The upper reaches of Boggy Gut Creek and Sandy Run Creek located in the northwest portion of the post, the lower reach of South Prong Creek located in the central portion of the post, and Spirit Creek and Butler Creek located in the eastern portion of the post. Butler Creek is the main source of Butler Reservoir which is the main water supply for the cantonment area. These streams are perennial, generally flow on fairly narrow floodplains and discharge into the Savannah River. Most areas on the post lie within 4.8 km (3 mi) of one of these sources.	**Very Large** quantities of **fresh** water are available from these sources. Average yields range from 4000 to 40,000 Lpm (1,500,000 to 15,000,000 gpd). During high-water periods or floods, quantities of water would be greater.	Butler Creek is the only stream on the post on which quality data were available. Based on these data and regional considerations, it is estimated that natural stream waters are soft, fairly low in dissolved solids and slightly acidic. Industrial and municipal pollution are generally absent, with the exception of Spirit Creek below the sewage treatment plant. Organic and bacterial contamination are present, and suspended sediment load may be undesirably high during high-water periods.	Access to streams is limited by trees, undergrowth and in many places, wet areas. Banks are sand or clayey sand, steep with 60° to 80° slopes, and generally 1.2 to 1.8 m (4 to 6 ft) high. Average velocity is estimated at 0.1 m/sec (0.5 ft/sec) but may be greater during high-water periods. Butler Creek is the main water source for the cantonment area with an approximate 13,300 Lpm (5,000,000 gpd) demand. Discharge of the sewage treatment plant is released into the lower reach of Spirit Creek. Standard field treatment procedures should be taken before using these sources as a potable water supply.
3	Big Branch, Headstall Creek and Hughes Branch in the western portion of the post, Leitners Branch in the central portion of the post, and Bath Branch, Blackstone Branch, Marcum Branch and McCoys Creek in the eastern portion of the post, all of which flow southward and discharge into the Savannah River. These streams are the sources of numerous small ponds and lakes and most areas of the post are within 2.4 km (1.5 mi) of one of them.	**Large** quantities of **fresh** water are available from these sources. Average yields range from 400 to 4000 Lpm (150,000 to 1,500,000 gpd). During high-water or floods, quantities of water would be greater.	There are no data available for individual streams. It is estimated that natural stream waters are soft, low in dissolved solids and slightly acidic. Suspended sediment load is generally low but will increase during high-water or flood periods.	Access to streams is restricted by trees, undergrowth and in many places, wet areas. Banks are lower 0.6 to 1.2 m (2 to 4 ft) but generally retain 50° to 70° slopes. Average velocity is estimated at 0.3 m/sec (1.0 ft/sec) but may be greater during high-water periods. Standard field treatment procedures should be taken before using these sources as a potable water supply.
4	The upper reaches of most perennial streams which originate within the post boundaries; most areas of the post are within 1.6 km (1 mi) of one of them. Streams have moderate to narrow floodplains, and occasionally narrow valleys, particularly in the higher elevations of the post.	**Moderate** quantities of **fresh** water are available from these sources. Average yields range from 40 to 400 Lpm (15,000 to 150,000 gpd) throughout the year. Quantities will increase during high water periods.	There are no data available for individual streams. It is estimated that natural stream waters are soft, low in dissolved solids and slightly acidic. Suspended sediment load is generally low but will increase during high-water or flood periods.	Access to these streams is limited by trees and undergrowth. Banks are lower 0.3 to1.0 m (1 to 3 ft) but generally retain 50° to 70° slopes. Gradients are gentle.

* Definitions of terms in **bold** type are as follows:

Quantity	Liters per Minute (Lpm)	Gallons per Day (gpd)
Enormous	> 40,000	> 15,000,000
Very Large	4000 - 40,000	1,500,000 - 15,000,000
Large	400 - 4000	150,000 - 1,500,000
Moderate	40 - 400	15,000 - 150,000

Quality

Fresh water
(1) Maximum chlorides: 600 mg/L
(2) Maximum sulfates : 400 mg/L
(3) Maximum total dissolved solids : 1500 mg/L

USER NOTE: For permissible concentrations of impurities in military water supplies, see Department of the Army Technical Manual TM 5-700, Field Water Supply, July 1967, paragraph 19, or other applicable manuals or regulations.

RESERVOIRS AND PONDS

MAP NUMBER	NAME	GRID REFERENCE	APPROXIMATE HECTARES (ACRES)	QUALITY
W1	Rainbow Lake	838877	1.7 (4.1)	Good, soft, some bacterial contamination may be present. Sediment level low, except after periods of heavy rainfall.
W2	Union Mill Pond	843878	8.0 (19.8)	
W3	Rachel Lake I	848869	5.4 (13.3)	
W4	Rachel Lake II	851871	3.0 (7.4)	
W5	Rachel Lake III	852875	3.5 (8.6)	
W6	Rachel Lake IV	854880	1.3 (3.2)	
W7	Lower Leitner Pond	843902	10.2 (25.3)	
W8	Leitner Pond	833928	11.5 (28.5)	
W9	Upper Leitner Pond	834934	9.8 (24.3)	
W10	Clay Pit Lake I	839932	5.0 (12.4)	
W11	Clay Pit Lake II	841934	1.6 (4.0)	
W12	Clay Pit Lake III	843934	1.2 (3.0)	
W13	Howard Lake	839943	3.5 (8.7)	
W14	Little Smoak Lake	835945	4.9 (12.2)	
W15	Big Smoak Lake	838946	5.7 (14.2)	
W16	Fettig Lake	841947	3.4 (8.3)	
W17	Little Beaver Dam Pond	844948	2.1 (5.3)	
W18	Beaver Dam Pond	858952	8.4 (20.7)	
W19	Whitmore Pond	852955	3.3 (8.1)	
W20	Upper Whitmore Pond	855958	5.4 (13.3)	
W21	Thomas Lake	893954	7.8 (19.3)	
W22	Maxwell Lake	898967	4.2 (10.3)	
W23	Gordon Lake	939937	15.1 (37.3)	
W24	Mirror Lake	939952	5.0 (12.4)	
W25	Scout Lake	921964	2.3 (5.6)	
W26	Wilkerson Lake	917978	1.6 (3.9)	
W27	Soil Erosion Lake	957984	4.9 (12.0)	
W28	Experimental Lake	964986	0.6 (1.4)	
W29	Boardmans Pond	971983	2.8 (6.9)	
W30	Butler Reservoir	974994	33.1 (81.9)	

ANALYSIS OF SURFACE WATER, BUTLER RESERVOIR *

CONSTITUENT	UNITS	QUANTITY OBSERVED
Alkalinity	mg/L	0.0
Ph	Units	5.2
Total Hardness	mg/L	1.72
Specific Conductance	umhos	9.0
Calcium	mg/L	1.0
Potassium	mg/L	0.5
Silica	mg/L	7.17
Total Dissolved Solids	mg/L	30.0
Color	Units	5.0
Copper	mg/L	0.025
Iron	mg/L	0.1
Magnesium	mg/L	0.5
Manganese	mg/L	0.03
Zinc	mg/L	0.015
Chlorides	mg/L	1.35
Sulfates	mg/L	2.7
Arsenic	mg/L	0.005
Barium	mg/L	0.3
Cadmium	mg/L	0.005
Chromium	mg/L	0.025
Fluorides	mg/L	0.1
Lead	mg/L	0.005
Mercury	mg/L	0.0002
Nitrates	mg/L	0.22
Selenium	mg/L	0.005
Silver	mg/L	0.025
Sodium	mg/L	1.0

* Analyses provided by Facilities Engineer, Fort Gordon.

C. WATER RESOURCES (Continued)

2. GROUND WATER

Fort Gordon relies on moderate supplies of fresh ground water from over a dozen wells as the source of potable water supply in the range, training and recreation areas. These areas are not supplied by the cantonment water system. Water is drawn from the unconsolidated kaolinitic, sand and gravel aquifers of the Tuscaloosa Formation of Upper Cretaceous age. The Tuscaloosa Formation, exposed by erosion in the major stream bottoms, is capable of supplying moderate quantities of fresh ground water from shallow to moderately deep wells across the entire reservation. The overlying Barnwell Formation of Eocene age is found too high on the stream divides here, to be considered as a potential aquifer. There are no known wells in the immediate area which produce from the fractured, granitic basement rocks.

The Tuscaloosa Formation is the basal sedimentary formation in this locale whose outcrop area is about 24 kilometers (15 miles) wide and extends directly across the state from Augusta to Columbus. The formation dips gradually to the southeast, increasing in thickness and depth from the recharge area, on and slightly west of the reservation to the Atlantic coast. Water from direct precipitation and influent stream seepage enters the formation along its outcrop and percolates down-dip beneath the younger overlying Barnwell Formation and is stored under hydrostatic artesian head.

The Fort Gordon reservation, however, lies within this recharge area and consequently, has very little aquifer storage up-dip and only slight artesian head, even on the down-dip, southeast side. Ground water occurs in sand and gravel zones, overlain by impermeable kaolin beds which act as aquicludes to produce locally variable artesian conditions.

Maximum yields of 76 to 189 liters per minute (28,800 to 72,000 gallons per day) are obtained by penetrating the saturated zones of the Tuscaloosa Formation which are generally found at elevations of 70 to 88 meters (230 to 290 feet) NGVD (National Geodetic Vertical Datum) on Fort Gordon, based on existing well logs. Actual yield cannot be determined until well development is completed. Proper well construction is critical to obtain maximum yields and prevent sand infiltration. Ground water levels are not highly susceptible to seasonal variation but are influenced by long-term meteorological trends.

Analyses of ground water in this locale indicate that water of the Tuscaloosa formation is generally soft to very soft and low in dissolved mineral content. A faint odor of hydrogen sulfide may be detected from some wells. Chemical, physical and radiological analyses indicate that water derived from the Tuscaloosa Formation is satisfactory for use in potable water systems; however, because no microbiological testing is available, pretreatment and monitoring of ground water supplies is recommended.

MAP UNIT	QUANTITY AND SOURCE	DEPTH	QUALITY	DEVELOPMENT OF SOURCES
1	**Moderate*** quantities of **fresh** ground water from the unconsolidated, kaolinitic, quartz sands and gravels of the Tuscaloosa Formation. Maximum yields of 76 to 189 Lpm (28,800 to 72,000 gpd) have been obtained from coarse sand and gravel zones. Specific capacities of the wells shown in the accompanying map range from 0.14 to 0.39 (L/sec)/m [0.68 to 1.87 (gal/min)/ft]. The Tuscaloosa of Upper Cretaceous age is the basal sedimentary formation in the locale; it has been exposed by erosion in the major stream valleys. The maximum thickness at Fort Gordon is about 67 m (220 ft). The formation dips gently to the southeast as it thickens at the rate of 5.7 m/km (30 ft/mi). A confining bed of kaolin ranging from 6.1 to 12.2 m (20 to 40 ft) in thickness is commonly found at the top of the formation in uneroded sections. Fort Gordon lies within the recharge area where water enters the formation from direct precipitation and influent stream seepage. Yield and hydrostatic artesian head increase to the southeast, down-dip, area of the reservation. Dewatering of the aquifer by springs occurs frequently; however, much of this water returns to the aquifer at lower elevations. Ground water levels and associated yields are not highly susceptible to seasonal variation but are influenced by long term meteorological trends. There is extremely limited up-dip ground water storage in the aquifer, as reflected in the low artesian pressures. In addition, the high clay content of the sands within the aquifer tends to greatly reduce the transmissibility.	For maximum yields, wells can range in depth from 27.4 to 38.1 m (90 to 125 ft). Several water bearing zones 1.5 to 9.1 m (5 to 30 ft) thick have been logged at depths of 25.9 to 36.6 m (85 to 120 ft). These depths generally correspond to elevations of 70 to 88 m (230 to 290 ft) NGVD. The water bearing zones may exhibit local artesian conditions. One well at Union Mill Pond (grid reference 843876) flows freely from the casing at the rate of 5.7 Lpm (2160 gpd). Static water level drawdown of this well during pump tests measured 9.4 m (31 ft) below land surface. Seasonal variation is minimal. Rebound rate ranges from 0.55 to over 1.52 m/min (1.8 to over 5.0 ft/min).	Ground water derived from the Tuscaloosa Formation is generally suitable for all uses including human consumption. Wells yield a very soft to soft water, most of which is very low in total dissolved mineral matter. Total dissolved solids in treated well water tested at Fort Gordon generally range from 10 to 115 mg/L† and average 41 mg/L. Total hardness generally ranges from 1.6 to 44.7 mg/L and averages 15.6 mg/L. One well tested on the reservation had 345 mg/L total hardness and 464 mg/L total dissolved solids. Iron concentrations may be high; fluoride concentrations are generally $<$ 0.1 mg/L. Some well water may have a faint hydrogen sulfide odor; pH values range from 5.15 to 7.4 with most water tending to be acidic. The results of periodic chemical analyses of eleven treated sources and one raw source at Fort Gordon are presented in the subsequent table, GROUND WATER QUALITY ANALYSIS OF FORT GORDON WELLS.	Potentially favorable well sites in close proximity to projected water use areas are easily located within this map unit. Wet areas along Brier Creek and lower reaches of Sandy Run Creek may inhibit access and positioning of drilling equipment. Well construction is commonly by the cable-tool method of drilling; however, the hydraulic-rotary method is especially adapted to conditions on the Coastal Plain. Well diameter is most often 30.5 cm (12 in) with a 15.2 to 20.3 cm (6 to 8 in) steel wall casing installed full depth to the producing zone(s). Graded gravel wall packing is necessary for stability and to assure a sand-free well. Slotted bronze or stainless steel screens 15.2 to 20.3 cm (6 to 8 in) in diameter are used within the water bearing zone(s). The screen assembly will vary in length from 1.5 to 9.1 m (5 to 30 ft). Surface grouting for sanitary sealing should extend to the depth necessary to preclude infiltration of surface water. Pumping tests should be done after well construction is completed; operational pumps should then be sized at no more than 75-80 percent of maximum sustained yield.
2	**Moderate** quantities of **fresh** ground water available from moderately deep wells which penetrate the surficial Barnwell Formation to the sand and gravel aquifers of the basal Tuscaloosa Formation. The overlying Barnwell Formation of Eocene age is found too high on the stream divides at Fort Gordon to be considered as a potential aquifer. Direct precipitation infiltrates the highly permeable sands of the Barnwell Formation rapidly; this water commonly issues as spring flow above the kaolin bed of the upper Tuscaloosa Formation in outcrop areas. The same characteristics regarding lithology, yield, variation of yield, specific capacity and hydrostatic head of the Tuscaloosa Formation in Map Unit 1 also apply in this map unit.	Wells must penetrate 24.4 to 36.6 m (80 to 120 ft) of the Barnwell Formation to reach water bearing zones in the Tuscaloosa at total depths of 61 to 76 m (200 to 250 ft). No flowing wells have been identified in this map unit; however, hydrostatic levels range from approximately 9.1 to 42.6 m (30 to 140 ft) above the producing zones. Drawdown during well testing varied from 7.0 to 17.4 m (23 to 57 ft). Seasonal variation in depth is insignificant.	Ground water derived from the Tuscaloosa aquifers has the same good quality as in Map Unit 1. Iron content and total hardness may increase if wells are not cased through the entire thickness of the overlying Barnwell Formation.	Access to drilling sites is generally unhampered; thick vegetation and deep loose surface sand will be encountered locally. Stable level ground can be easily found in close proximity to the projected use area. Well construction methods and details are generally the same as in Map Unit 1. Well casings should extend to the kaolin beds of the Tuscaloosa Formation, as a minimum, to preclude caving and entry of poorer quality water.

* Definitions of terms in **bold** type are as follows:

Quantity	Liters per Minute (Lpm)	Gallons per Day (gpd)
Moderate	40 - 400	15,000 - 150,000

Quality

Fresh water (1) Maximum chlorides: 600 mg/L
(2) Maximum sulfates : 400 mg/L
(3) Maximum total dissolved solids : 1500 mg/L

† For purposes of this study milligrams per liter (mg/L) may be taken to be roughly equivalent to parts per million (ppm).

USER NOTE: For permissible concentrations of impurities in military water supplies, see Department of the Army Technical Manual TM 5-700, Field Water Supply, July 1967, paragraph 19, or other applicable manuals or regulations.

SUMMARY OF DATA FROM SELECTED WELLS

WELL NUMBER	GRID REFERENCE	LOCATION	DEPTH m	DEPTH (ft)	STATIC WATER LEVEL (Below ground surface) m	STATIC WATER LEVEL (Below ground surface) (ft)	TESTED SUSTAINED YIELD Lpm	TESTED SUSTAINED YIELD (gpd)	DRAWDOWN m	DRAWDOWN (ft)	SPECIFIC CAPACITY[1] (L/sec)/m	SPECIFIC CAPACITY[1] [(gal/min)/ft]
1	855938	Range Control	82	(268)	25	(81)	129	(48,960)	7	(23)	0.31	[1.48]
2	814912	Gibson & Telephone Roads	61	(201)	16	(51)	148	(56,160)	17	(57)	0.14	[0.68]
3	871901	Sawmill & Forestry Roads	65	(214)	18	(58)	154	(58,608)	9	(31)	0.39	[1.87]
4	843876	Union Mill Pond	29	(95)	0*	(0)*	167	(63,360)	9	(31)	0.29	[1.42]
5	832926	Leitner Pond	37	(120)	No Data		76	(28,800)	No Data		No Data	

* Approximately 5.7 Lpm (2160 gpd) flow from well.

[1] (L/sec)/m: Liters per second per meter of drawdown
(gal/min)/ft: Gallons per minute per foot of drawdown

C. WATER RESOURCES (Continued)

2. GROUND WATER (Continued)

GROUND WATER QUALITY ANALYSIS OF FORT GORDON WELLS*

[In milligrams per liter (mg/L) except for pH and color]

WATER QUALITY PARAMETER	TREATED WELL WATER **			RAW WELL WATER **
	MINIMUM	MAXIMUM	AVERAGE	ACTUAL
Alkalinity (as $CaCO_3$)	0.00	62.37	20.22	3.23
pH (pH units)	5.15	7.40	6.10	5.90
Total Hardness (as $CaCO_3$)	1.60	44.67	15.57	9.75
Color (color units)	5.00	25.00	7.50	30.0
Total Dissolved Solids	10.00	115.00	41.00	22.0
Calcium	< 1.00	13.60	< 4.79	2.00
Potassium	< 0.50	1.58	< 0.82	0.63
Silica	2.68	50.50	19.90	10.27
Copper	< 0.025	3.89	< 0.44	0.38
Iron	< 0.10	3.13	< 0.62	2.80
Magnesium	< 0.50	1.40	< 0.75	< 0.50
Manganese	< 0.03	0.16	< 0.04	0.08
Zinc	0.01	3.34	0.61	< 0.02
Chlorides	1.35	4.52	2.57	4.95
Sulfates	0.30	2.70	0.94	0.40
Arsenic	< 0.005	< 0.005	< 0.005	< 0.005
Barium	< 0.30	< 0.30	< 0.30	< 0.30
Cadmium	< 0.005	< 0.005	< 0.005	< 0.005
Chromium	< 0.025	< 0.025	< 0.025	< 0.025
Fluorides	< 0.10	0.20	< 0.13	< 0.10
Lead	< 0.005	0.017	< 0.011	< 0.005
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Nitrates	0.11	1.44	0.56	0.22
Selenium	< 0.005	< 0.005	< 0.005	< 0.005
Silver	< 0.025	< 0.025	< 0.025	< 0.025
Sodium	< 1.00	11.00	< 4.17	2.00

* All analyses provided by Facilities Engineer, Fort Gordon.

** Based on analyses of eleven (11) treated sources and one raw source.

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

WATER RESOURCES

SURFACE WATER

FRESH WATER PERENNIALLY PLENTIFUL

1. **Enormous*** quantities available from stream stretches within 19.3 kilometers (12 miles) of any point on the post.
2. **Very large** quantities available from stream stretches within 4.8 kilometers (3 miles) of any point on the post.
3. **Large** quantities available from stream stretches within 2.4 kilometers (1.5 miles) of any point on the post.
4. **Moderate** quantities available from stream stretches within 1.6 kilometers (1 mile) of any point on the post.

W30 Reservoir or pond

▼5 Estimated flood discharge. See Section B, SURFACE DRAINAGE for data.

NOTE: Number refers to entry in table.

* Definitions of terms in **bold** type are as follows:

Quantity	Liters per Minute (Lpm)	Gallons per Day (gpd)
Enormous	> 40,000	> 15,000,000
Very Large	4000 - 40,000	1,500,000 - 15,000,000
Large	400 - 4000	150,000 - 1,500,000
Moderate	40 - 400	15,000 - 150,000

Quality

Fresh water
(1) Maximum chlorides: 600 mg/L
(2) Maximum sulfates : 400 mg/L
(3) Maximum total dissolved solids : 1500 mg/L

For purposes of this study, milligrams per liter (mg/L) may be taken to be roughly equivalent to parts per million (ppm).

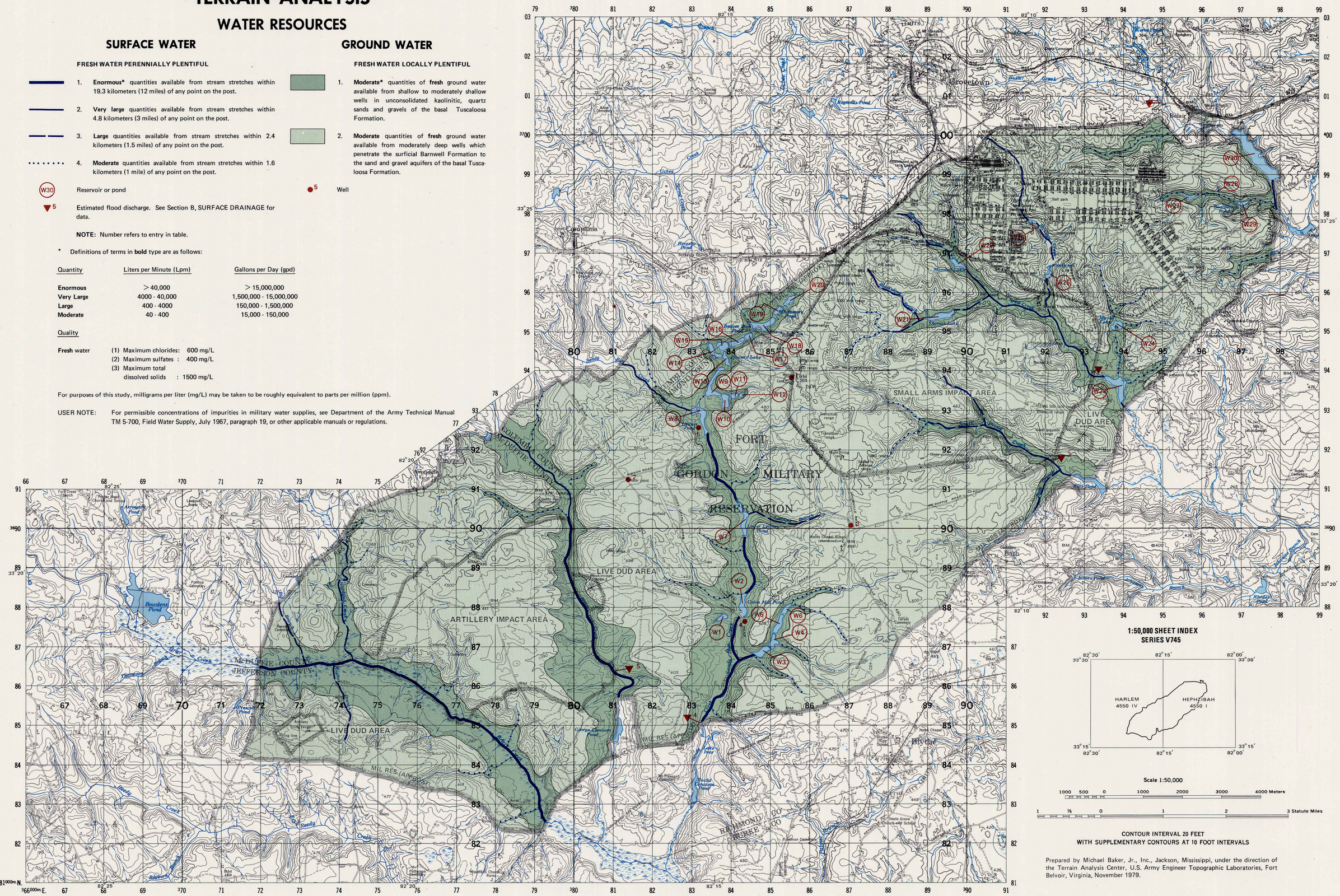
USER NOTE: For permissible concentrations of impurities in military water supplies, see Department of the Army Technical Manual TM 5-700, Field Water Supply, July 1967, paragraph 19, or other applicable manuals or regulations.

GROUND WATER

FRESH WATER LOCALLY PLENTIFUL

1. **Moderate*** quantities of **fresh** ground water available from shallow to moderately shallow wells in unconsolidated kaolinitic, quartz sands and gravels of the basal Tuscaloosa Formation.
2. **Moderate** quantities of **fresh** ground water available from moderately deep wells which penetrate the surficial Barnwell Formation to the sand and gravel aquifers of the basal Tuscaloosa Formation.

●5 Well



1:50,000 SHEET INDEX
SERIES V745

Scale 1:50,000

1000 500 0 1000 2000 3000 4000 Meters

1 ½ 0 1 2 3 Statute Miles

CONTOUR INTERVAL 20 FEET
WITH SUPPLEMENTARY CONTOURS AT 10 FOOT INTERVALS

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

D. ENGINEERING SOILS

The general pattern of soils on Fort Gordon is outlined in the table and accompanying map. This information provides the means to compare key physical characteristics of various soil units on the reservation and gives a preliminary indication of their suitability or limitations in typical engineering projects. It is intended to be a guide, not a substitute, for detailed site investigations relating to a particular application.

The map is based on information contained in soil surveys prepared by U.S. Department of Agriculture, Soil Conservation Service, supplemented by the stereoscopic interpretation of aerial photographs in areas where access is restricted, such as the range impact areas.

Soils are divided into four general groups as shown in the table. Soils on Fort Gordon are quite similar, and the most consistent general guide to their various engineering applications is in their landform and slope characteristics, combined with their general permeability. The soil profiles summarized in the table are highly generalized and represent "average" typical profiles which might be expected in each major unit; actual conditions may vary considerably, especially in thickness of the individual layers.

The soils on Fort Gordon are derived from two sedimentary formations, the Barnwell Formation and the Tuscaloosa Formation. The yellow and red Barnwell Formation is the most prominent. Wedge shaped, it is thinnest on the post in the northeast and increases in thickness to as much as 37 meters (120 feet) at the southwest end of the reservation. Where the Barnwell Formation has been severely eroded, the underlying yellowish pink Tuscaloosa Formation is exposed. This is particularly evident in stream valleys and around the cantonment area. The Tuscaloosa Formation slopes downward generally to the southeast. It also varies considerably in thickness but it can be expected to be several hundred feet thick wherever it is encountered. Both of these sedimentary formations have been severely dissected by small streams, creating the rolling hills topography of Fort Gordon. Typically, stream valleys resulting from this erosion are 8 to 16 meters (26 to 53 feet) deep; some side slopes are nearly vertical over low heights, but more typically are less than 30%. The bedrock underlying the Tuscaloosa Formation is not exposed on the reservation.

In general, the types of soil derived from either of the two formations are quite similar in engineering characteristics in spite of their differences in color. Typically, the soil near the surface is a fine sand, mixed with clays or silts of low plasticity. At greater depths, usually around 2 meters (7 feet), the percentage of clay or silt increases, as does its plasticity, resulting in a silt or clay soil of low to medium plasticity, mixed with varying amounts of fine sand. Except at lower elevations along streambeds, the soils have moderate to rapid permeability and present few drainage problems.

All soils on Fort Gordon are classified as deep [$\geq$ 2 meters (7 feet)]. While the soil is generally well drained, the Tuscaloosa Formation also contains streaks, lenses and beds of kaolinitic clays. Although generally not having a quality suitable for mining, the clay beds, even those of low quality and purity, permit surface water reservoirs to be developed wherever they occur.

There are several small areas on the reservation where formations other than Tuscaloosa or Barnwell occur. Butler Creek, near the northeast boundary of the reservation, and Headstall Creek, near the southwestern boundary have eroded through the overlying sediments to the underlying metavolcanics of the Little River Series. These phyllites, slates and schists are covered by a mantle of alluvium in the flood plains, and are rarely exposed except in the stream bottoms. The materials in these areas have few engineering uses except as fill materials, but the deposits have not been explored thoroughly; other more useful materials may be present.

Soils on exposed slopes at Fort Gordon are subject to erosion unless adequately protected. An average of 114.3 centimeters (45 inches) of rainfall per year in this area contributes to the erosion hazard, but it also permits extensive use of selected vegetation as a means of erosion control.

There are several fill areas on the reservation. These areas are primarily located around the cantonment area and vary from 8 to 16 hectares (20 to 40 acres). Slopes are low, usually less than two percent. Fill depths vary from 1 to 3 meters (3 to 10 feet), generally over natural soil prepared by standard methods to receive a sanitary landfill. The fill material includes sand and clay spoil, fragments of brick, concrete block, rocks, pieces of lumber and other refuse. The water table is typically within 1 meter (3 feet) of the surface in the winter and early spring. The areas are generally open, but in places are covered with weeds and bushes. Potential use of these areas is poor due to flooding, wetness, unstable soils and settling.

SOIL CHARACTERISTICS AND SELECTED EVALUATIONS

MAP UNIT	LANDFORM AND SLOPE	TYPICAL SOIL PROFILE[1] LAYERS, THICKNESS OF LAYERS, DEPTH TO ROCK AND UNIFIED ENGINEERING CLASSIFICATION (PROFILES NOT TO SCALE)	HIGH WATER TABLE (DEPTH AND DURATION)	PERMEABILITY	SHRINK-SWELL POTENTIAL	RATING AND MAJOR LIMITING SOIL CHARACTERISTICS FOR: SEWAGE LAGOONS	SANITARY LANDFILL	FOUNDATIONS FOR SMALL BUILDINGS	ROAD LOCATION	SHALLOW EXCAVATIONS	TRAFFICABILITY	MAJOR SOIL SERIES[2] AND REMARKS
1	Well-drained sands on ridgetops and upper hillsides. Slopes typically 5 to 9% with a range of 1 to 17%.	cm SP, SM 60 SM 200 ML, CL	Poorly graded medium to fine sand Silty sand Silty sand Silts and clays of low plasticity	More than 1.5 m (5 ft) below surface throughout the year.	5.1 to 50.8 cm/hr (2 to 20 in/hr)	Low	Severe (p,s)	Severe (p,s)	Slight	Moderate (s)	Slight	Slight	Major soil series: Ailey, Lakeland, Vaucluse. Constitutes largest area on reservation.
2	Moderately well-drained fine sands on lower hillsides and plains. Slopes typically about 3%, with a range of 0 to 15%.	cm SM, SC 30 ML, CL 120 ML, CL, MH, CH	Fine silty sand Sand with clay Silts and clays of low plasticity Silts and clays of low to medium plasticity.	Perched water table 0.8 m (2.5 ft) below surface Jan thru Apr. Deeper remainder of year.	1.6 to 16.0 cm/hr (0.6 to 6.3 in/hr)	Low	Moderate (p,w)	Moderate (s)	Slight	Slight	Moderate (f,w)	Slight	Major soil series: Dothan, Goldsboro. Constitutes much of the buildable areas of the reservation.
3	Poor to moderately well-drained fine sands and silty sands on flood plains of streams and older stream terraces. Slopes typically less than 3% but as high as 5%.	cm SM, SC 20 ML, CL 80 ML, CL, MH, CH	Fine silty sand Sand with clay Silts and clays of low plasticity Silts and clays of low to medium plasticity.	Frequent flooding Dec thru May. Water table at or near surface Nov thru Mar.	1.6 to 5.1 cm/hr (0.6 to 2 in/hr)	Low	Severe (f,w)	Severe (f,w)	Moderate (f)	Moderate (c,f,w)	Severe (c,f,w)	Severe (f,w,x)	Major soil series: Bibb, Osier, Rains.
4	Poorly drained silts and clays in depressions, at base of slopes, heads of draws and in near-level areas in the alluvium. Slopes less than 2%.	cm CL, ML 20 SM, SC, CL, ML 200 CL, ML, CH, MH	Silts and clays of low plasticity Fine silty sands Sand with clay Silts and clays of low plasticity Silts and clays of low to medium plasticity.	At or near surface throughout the year. Ponding is common.	0.5 to 5.1 cm/hr (0.2 to 2 in/hr)	Moderate	Severe (f,w)	Severe (f,w)	Severe (f)	Severe (c,f,w,x)	Severe (c,f,w)	Severe (f,w,x)	Major soil series: Grady, Worsham. A large number of deposits too small to map occur throughout the reservation. At depth, a source of binder of high plasticity may be available for blending with sandy soils.

1 These are typical average layers based on the major soil series; thickness and composition may vary considerably from that shown.

2 Soils that have similar characteristics are mapped as a soil series. Each series is given a common name after the town or geographic feature near its initial observation. Many other minor soils may be included in the map unit.

DEFINITIONS OF RATING TERMS

- Slight - Relatively free from limitations, or limitations easily overcome.
- Moderate - Limitations can be overcome with good planning and design.
- Severe - Limitations are serious and are difficult to overcome.

SOIL CHARACTERISTICS AFFECTING RATINGS

- c - clayey subsoils of poor workability
- f - flooding
- p - rapid percolation
- s - slope
- w - wetness
- x - low bearing strength

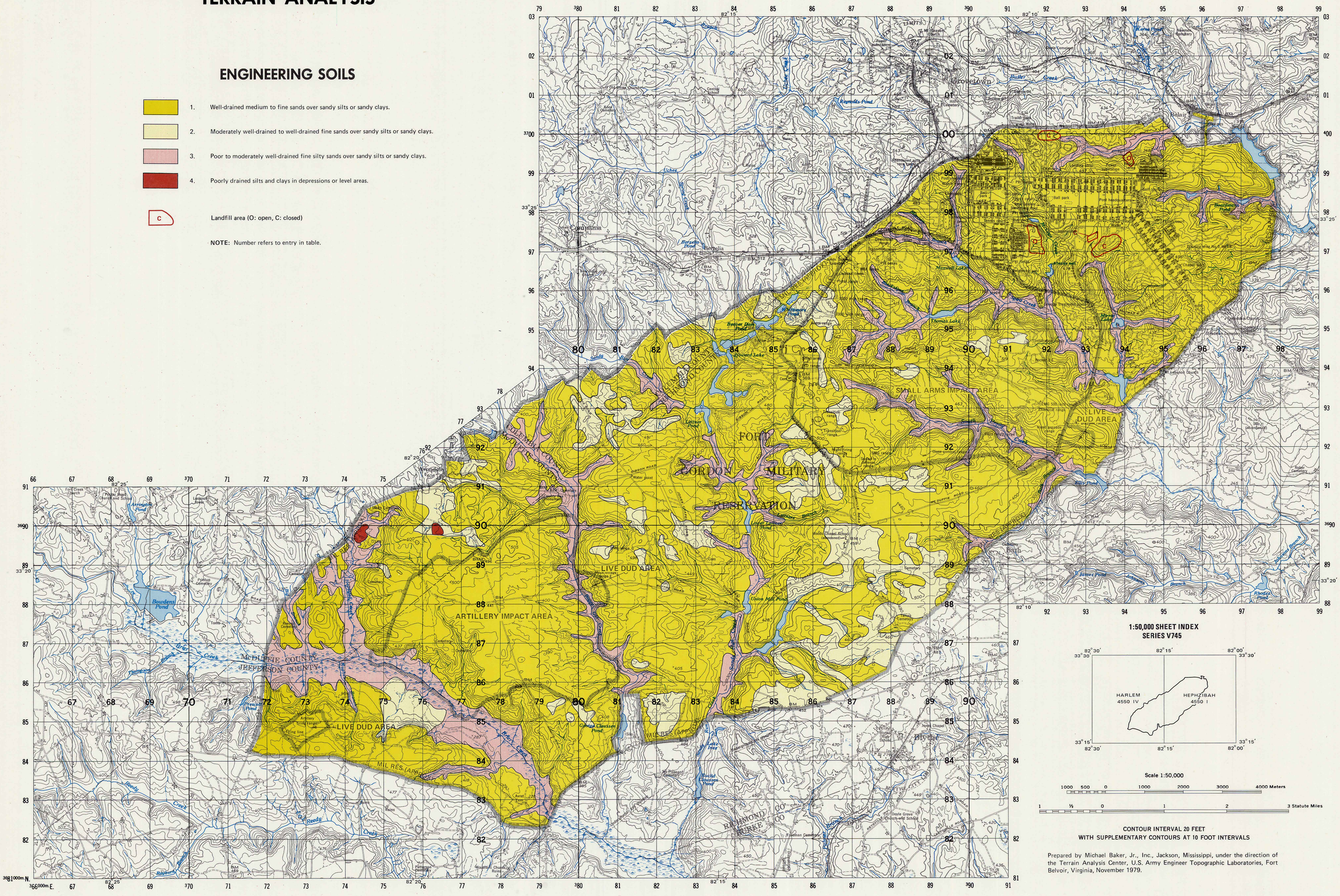
FORT GORDON, GEORGIA
TERRAIN ANALYSIS

ENGINEERING SOILS

1. Well-drained medium to fine sands over sandy silts or sandy clays.
2. Moderately well-drained to well-drained fine sands over sandy silts or sandy clays.
3. Poor to moderately well-drained fine silty sands over sandy silts or sandy clays.
4. Poorly drained silts and clays in depressions or level areas.

C — Landfill area (O: open, C: closed)

NOTE: Number refers to entry in table.


FORT GORDON MILITARY RESERVATION
SMALL ARMS IMPACT AREA
LIVE DUD AREA
ARTILLERY IMPACT AREA
MIL RES (APPROX)
McDUFFIE COUNTY
JEFFERSON COUNTY
RICHMOND CO
BURKE CO
Grovetown
Blythe
Augusta
Berzelia
Graham
Bath
Harlem
Hephzibah
Buffalo Creek
Reedy Creek
Rocky Creek
Sandy Run
Brier Creek
Thomas Lake
Howard Lake
Boudens Pond
Rayburn Pond
Beaver Dam Pond
Walker Pond
Union Mill Pond
Lake Ines
Rhodes Pond
Williams Pond
Jenkins Branch
Little Creek
Tobler Creek
Uchee Creek
Butler Creek
Raymulls Pond
Brazeal Pond
Bonnyclabber Pond
Ellis Pond
Mayo Lake
Morgan Lake
Gertie Claussen Pond
Pinkston Pond
Lower Tarbox Pond
Tarbox Branch
Smith Branch
Tarbox Creek
Brushy Creek
Rocky Branch
Thompson Branch
Reedy Branch
Rayburn Branch
Fort Creek Church
Arrington Pond
Pinelodge Church and School
Pinelodge Cemetery
Pinkston Cemetery
Pattersons Cemetery
Woodlands Church Ruins
Mt Lebanon Church
Mt Lebanon Cemetery
Mt Pisgah Cemetery
Freeman Cemetery
Doyle Grove Church and School
Hollis Cemetery
Hollis Chapel School (abandoned)
Bethel Cemetery
Bethel Church
Bethel Church Ruins
Tabernacle Church
Tabernacle Cemetery
Ebenezer Church
Ebenezer Cemetery
Robert Cemetery
Pond Cemetery
Pond Church
Pond Church Ruins
Pond Church and School
Pond Cemetery
Pond Church Cemetery
Pond Church School
Pond Church School (abandoned)
Pond Church Cemetery
Pond Church School (abandoned)
Pond Church Cemetery
Pond Church School (abandoned)
Pond Church Cemetery

E. ENGINEERING GEOLOGY

Fort Gordon, Georgia, lies within the Coastal Plain Province, with its northwestern boundary near the Piedmont Province. The Piedmont Province is an ancient complex of igneous and metamorphic rocks; adjacent to it is the Coastal Plain Province which is composed of Cretaceous and younger sediments. Because of differences in structure, composition and time of exposure, these two provinces have distinctly different topographic features.

The Coastal Plain Province is composed of unconsolidated and semiconsolidated sediments lying on a basement complex of igneous and metamorphic rocks. This complex, representing an extension of the Piedmont, dips gently south-southeast. The Coastal Plain itself is almost flat and featureless, but certain topographic features related to the underlying geologic formations do exist; these being the "Sand Hills", the "Red Hills", and the "Tifton Upland". The surficial features are derived from the Tuscaloosa and Barnwell Formations while the basement is composed of a Metavolcanic Series. The first two formations are the primary geologic formations on Fort Gordon.

The Tuscaloosa Formation represents the basal Upper Cretaceous strata in South Carolina and Georgia. In eastern Georgia, the Tuscaloosa is exposed in a belt as much as 29 kilometers (18 miles) wide bordering the Piedmont area and trending slightly north of east. Southeast flowing streams have cut through the formation where it is thin. In its outcrop area, the Tuscaloosa nowhere greatly exceeds 46 meters (150 feet) in thickness, and generally it is much thinner, especially towards the north.

The Tuscaloosa Formation consists of Arkosic sand composed largely of angular to subangular quartz grains. Disseminated kaolin and mica are present throughout much of the sand, the latter ranging in color from white to gray, yellow and pink. Lenses of white and gray clay are present throughout the formation. Balls and boulders of pure white kaolin are common. The Tuscaloosa Formation is generally massive, both the sand and the clay show very little bedding or lamination.

The Eocene Barnwell Formation rests unconformably on the Tuscaloosa Formation. It extends across eastern Georgia in a belt south of the outcrop area on Fort Gordon, forming all the divides and higher elevations. The Barnwell Formation is composed of distinctive bright-red sands, with some limestone and clay beds. The Twiggs clay is the basal member of the formation. The middle, Irwinton sand member, is composed of light-colored fine to medium-grained sand interbedded with thin layers of yellow and gray clay; an unnamed upper-sand member consists of coarse red sand and mottled red sandy clay. The Irwinton sand member is well exposed on Fort Gordon, where fresh sections of gray and white fine sand and numerous interbedded laminae of clay are visible in deep gullies. The distinctive red sands of the Barnwell Formation are often leached to an orange or brown color.

The Tuscaloosa and the Barnwell Formations constitute two of the three geologic units found on Fort Gordon. The third unit, the Metavolcanic Series, is only exposed at two small areas on the reservation. These are near the streambed of Butler's Creek at the northeastern edge of the reservation and at the southerly end of the reservation along Headstall Creek.

There are numerous small borrow pits throughout the post. Sizes range from 1 to 16 hectares (3 to 40 acres), slopes range from 2 to 17 percent. The depth of soil removed varies from 1 to 6 meters (3 to 20 feet); the underlying borrow material being a silty or clayey sand. Only a few pits remain in use. In recent years, some of the abandoned pits have been shaped, sodded and planted in trees. The borrow pit potential is poor for most engineering uses.

MAP UNIT	TOPOGRAPHY	ROCK DESCRIPTION	PHYSICAL CONSTANTS	ENGINEERING EVALUATION	EXCAVATION FACTORS	PITS AND QUARRY SITES
1. Clayey sands and clays with streaks, lenses and beds of kaolinitic sands and kaolin.	The surface is bisected by streams flowing to the southeast, producing a rolling "Sand Hill" topography. Sands are light-colored to pink. Relief varies, but averages about 46 m (150 ft) or less. Flooding occurs along the stream terraces during winter and early spring but ridges and upper slopes are well drained. Slopes are stable with no evidence of slides or sloughing.	This unit is within the Tuscaloosa Formation consisting of unconsolidated to lightly consolidated sedimentary deposits of Arkosic sands composed of quartz grains. Kaolin and mica are disseminated throughout the formation. Balls and boulders of pure white kaolin are common. Sands vary in color from light-colored to pink. Thickness of the Tuscaloosa Formation varies, but averages about 46 m (150 ft). The formation thickens to several hundred feet in the south, where it is overlain by other sediments. The Tuscaloosa Formation slopes generally to the southeast.	Permeability: Good over large areas but permeability in small areas may be interrupted by clay beds. Swell Potential: Non critical. Frost Susceptibility: Very slight. Plasticity: Non plastic to low plasticity in the kaolin. PI < 40. Gradation: Poorly graded sands mixed with various amounts of silts or clays.	Rolling terrain presents no major obstacles to construction. Generally low relief permits good road alinements with minimum earthwork. High permeability permits easy drainage. Susceptibility to high hurricane rains requires careful attention to drainage structures where drainage is obstructed by embankments. Permeability may be interrupted locally by clay beds, causing unexpected ponding problems; a definitive soils investigation is essential before beginning any major construction. Small pockets of clay can cause major problems in differential settlements under all structures, including dams, roadway embankments, buildings, and bridges. There is a high risk of leakage under dams. A clay membrane should be placed under small ponds, sanitary landfills, and sewage lagoons to prevent leakage into the underlying strata. Sands can be readily compacted by standard equipment. In-place moisture content of clays is probably above the plastic limit, creating local problems in compaction. Cationic activity of clays is probably acceptable for lime stabilization. Except where clay lenses are found to be a problem, spread footings should be adequate foundation for most applications, including multi-structure emplacements.	Excavation readily performed by conventional earthmoving equipment. Side slopes in the sandy soils of over 70° are generally stable throughout the map unit. Access for earthmoving equipment is readily available along the well-drained ridges or existing roads. Overburden is a sandy clay loam, usually less than 0.5 m (1.6 ft) thick, relatively loose, and with low plasticity. No special ripping equipment is required. Vegetation is generally low grass and scrub oak at ridgelines and high slopes, thickening to pine and hardwoods at the valleys along streambeds. Difficulty in clearing and grubbing will depend on the particular site.	Possible quarries of poorly graded sands are likely at many locations. Pits will likely be small and deposits may have increasing amounts of clay with depth. An extensive investigation of the reservation in 1967 revealed no commercially attractive deposits of kaolin, but deposits suitable for use as a binder are likely to occur at the lower hillsides and in the valleys.
2. Clayey sands grading downward into sandy clays, with thin beds of fossiliferous limestone.	It forms the ridgetops and high slopes at the northern end of the reservation and the surficial material throughout the southern end of the reservation. The erodibility of this unit has produced a rolling "Red Hill" topography where it has been dissected by southeastward flowing streams. Relief varies but averages about 46 m (150 ft). Slopes are stable, with no evidence of slides or sloughing. Ridges and slopes are well-drained but valleys and streambeds can become swampy around mature streams.	This unit is within the Barnwell Formation and is subdivided into three members; the basal member is Twiggs clay, a drab or green hackly clay interbedded with thin layers of sand and marl; the center member is Irwinton sand, a light-colored fine-to-medium grained sand interbedded with thin layers of yellow and gray clay; the top member consists of coarse red sand and mottled red sandy clay, commonly mottled with streaks of gray clay and includes at least one limestone bed. Soils derived from the top member have a distinctive red color and provide the area with the term "Red Hills". The formation is about 37 m (120 ft) deep at the southern tip of Fort Gordon, feathering to nothing at the northern end. The Twiggs clay may be up to 12 m (40 ft) in thickness and the top red sands up to 9 m (30 ft) thick, the remaining 16 m (50 ft) is Irwinton sand.	Permeability: Very good. Swell Potential: Non critical. Frost Susceptibility: Very slight. Plasticity: Low to medium in the clay portion, PI < 60. Gradation: Poorly graded in the sand portion.	Rolling terrain presents no major obstacles to construction at higher elevations. At lower elevations the clayey and fine grained alluvium may have to be replaced for major construction projects. Generally low relief permits good road alinements with minimal earthwork where care is taken in planning and design. High permeability permits easy drainage, including streambeds. Pockets or layers of clay can cause problems in settlements under heavier structures; every effort should be made to identify such pockets or strata in the detailed soils investigation prior to finalizing a design. Except for unpredictable layers of clay, the unit is too permeable to allow formation of ponds or lakes without a membrane of some kind. The unit presents no unusual problems of strength although at lower elevations foundations may have to penetrate the alluvium to the parent sands. At higher elevations where the sands are well-drained, spread footings should be adequate foundations even for multi-structure emplacements. Sands can be compacted readily with conventional equipment. In-place moisture content of the alluvium is probably near its liquid limit. Use of the alluvium is not encouraged. Flash flooding of low areas is likely year round. Seasonal flooding is likely from late fall through early spring.	Excavation can be readily performed by conventional earthmoving equipment. Side slopes in the sandy soils of over 60° are generally stable on all drained areas. Access for earthmoving equipment is readily available along ridgetops or existing roads. Overburden is a sandy clay loam usually less than 0.5 m (1.6 ft) thick, relatively loose and can be removed without rippers or scarifiers. Vegetation is generally grass, brush and scrub oak on the ridgetops and high slopes, becoming more dense brush, pine trees and hardwoods at lower elevations in valleys and along streams. Difficulty of clearing and grubbing will depend on the site.	Pits of poorly graded sands are likely at many locations toward the south end of Fort Gordon. Pits will likely have lenses or layers of clay, requiring washing. Some deposits of clay suitable for blending with coarse-grained soils will likely be encountered at the central areas of Fort Gordon or in the valleys to the south.
3. Phyllites, slates and schists usually covered by a mantle of alluvium.	It underlies the Tuscaloosa Formation in the Butler's Creek and Headstall Creek flood plains and is exposed only at stream bottoms.	This unit is within the Little River Series of Metavolcanic rocks and is composed primarily of phyllites, laid down originally as volcanic ash, and slates, laid down originally as sediments; the entire deposit subsequently metamorphosed into its present composition as phyllites, slates, and schists, underlain by granite gneiss and granite.	Permeability: Poor. Swell Potential: Non critical. Frost Susceptibility: Very slight. Plasticity: Non plastic.	This unit is exposed only in streambeds and as such has few direct uses as a construction site. The unit is good foundation for roads, culverts, bridges or other structures where dikes or piers penetrate the overburden to rest on the rock. The deposit has been quarried off-post for the phyllite, which was used as a refractory material for large ceramic products. It was of marginal quality and its use discontinued. The deposit is inadequately defined on-post to determine whether granite or granite gneiss is within quarrying distance of the surface. Otherwise the shales, slates, and schists have few uses in general construction due to their softness and lack of abrasion resistance.	With routine stream diversion the materials in the deposit could be readily quarried. The upper few feet can be expected to be weathered and to be quarried with nothing more elaborate than a bulldozer and ripper. Below that, routine blasting and quarrying operations would be required. Access to both exposures on-post is readily possible on existing improved roads; only a short extension to the actual exposure would be required.	There are no existing quarries on-post in this unit, nor is there any record that this material has ever been quarried on-post.

F. SPECIAL PHYSICAL PHENOMENA

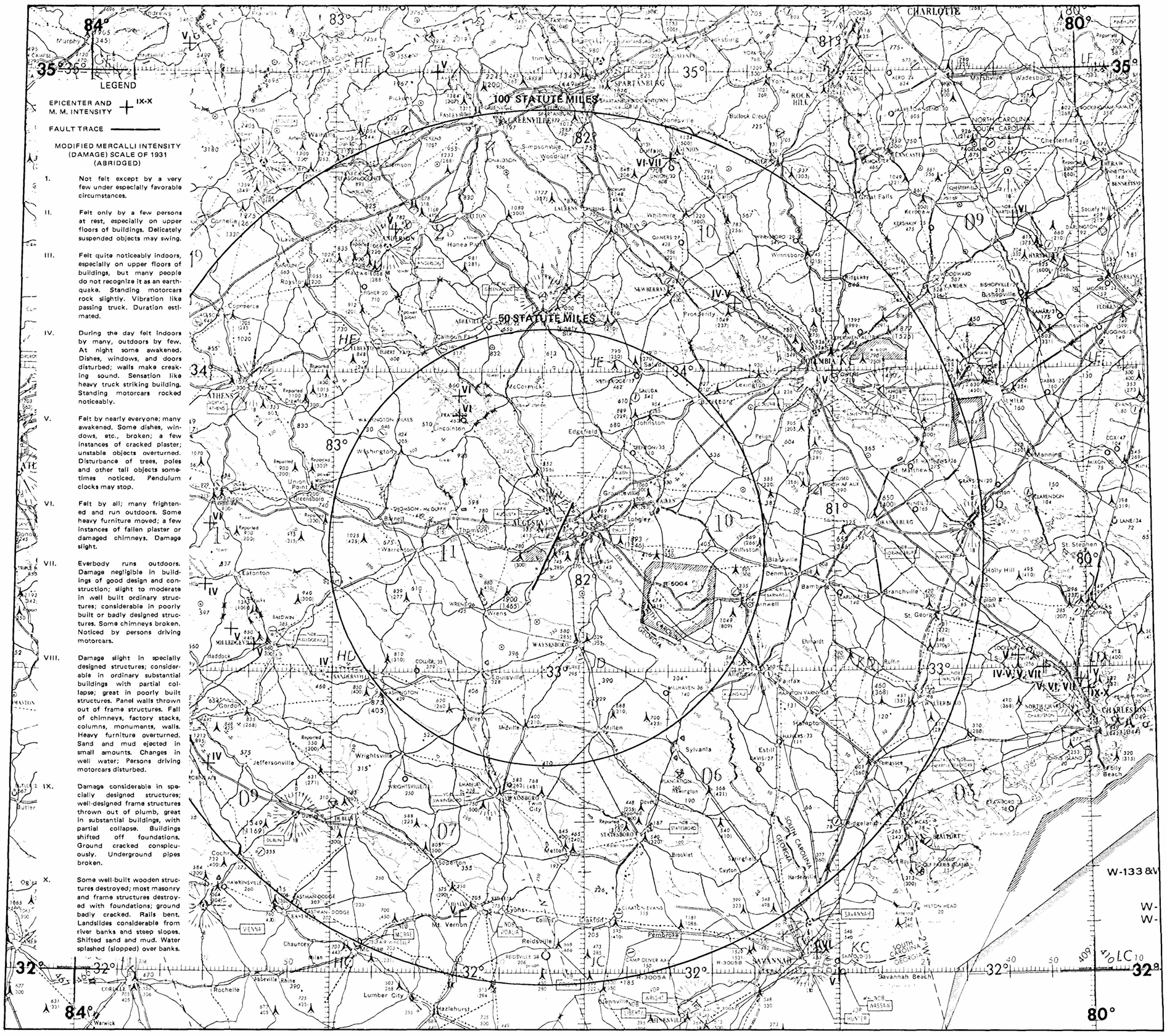
EARTHQUAKES

The Fort Gordon reservation is considered to be in a U.S. Geological Survey Seismic Risk Zone 2, a region of moderate seismic significance, based on the known distribution of damaging earthquakes and the Modified Mercalli Scale intensities associated with them, including energy release.

No earthquake epicenters have ever been recorded at Fort Gordon. A recently discovered fault, the Belair Fault, crosses the northeastern end of the reservation, passing through the eastern edge of the cantonment area, near the post headquarters. The fault was discovered in 1973. It is exposed at clay pits in western Richmond County on the south side of U.S. Highway 78-278, just west of the Fort Gordon entrance. There is no record of recent activity along the fault, but until more is learned about it, it is considered to be active.

Fort Gordon is in close proximity, 200 kilometers (125 miles), to a major U.S.G.S. Seismic Risk Zone 3, centered on Charleston, South Carolina. Here, on August 31, 1886 a major earthquake occurred, killing an estimated 60 people and causing destruction or damage to buildings and utilities over a wide area. Points as far away as 160 kilometers (100 miles) were strongly shaken. Augusta, near Fort Gordon, received some damage in the earthquake but the details are not reported. The Charleston earthquake of 1886 was one of the great earthquakes of United States history. It's Modified Mercalli Scale intensity of IX - X is the largest ever reported in the region. Earthquake tremors of various intensities have been recorded in the same area over the past 120 years, the latest being in 1967.

The accompanying table and map list the reported earthquakes which have occurred within a 200 kilometer (125 mile) radius of the Fort Gordon reservation since 1872. The Modified Mercalli Intensity (Damage) Scale of 1931 (abridged) is included in a legend to the map and the earthquake intensities in accordance with this scale are depicted on the map and are entered in the table.



SUMMARY OF INTENSITY IV OR GREATER EARTHQUAKES WITHIN A RADIUS OF 200 KILOMETERS (125 MILES) OF FORT GORDON, GEORGIA.

YEAR	DATE	LOCALITY	N. LAT. DEGREES	W. LONG. DEGREES	M. M. INTENSITY
1872	Jun. 17	Milledgeville, GA.	33.1	83.3	V
1875	Nov. 2	Lincolnton, GA.	33.8	82.5	VI
1885	Oct. 17	Sandersville, GA.	33.0	83.0	IV
1886	Aug. 31	Charleston, S. C.	32.9	80.0	IX - X
1886	Oct. 22	Charleston, S. C.	32.9	80.0	VI
1886	Oct. 22	Charleston, S. C.	32.9	80.0	VII
1886	Nov. 5	Charleston, S. C.	32.9	80.0	VI
1903	Jan. 24	Savannah, GA.	32.1	81.1	VI
1907	Apr. 19	Charleston, S. C.	32.9	80.0	V
1912	Jun. 12	Summerville, S. C.	33.0	80.2	VII
1912	Jun. 20	Savannah, GA.	32.0	81.0	V
1912	Oct. 23	Wilson, GA.	32.7	83.5	IV
1913	Jan. 1	Union County, S. C.	34.7	81.7	VI - VII
1914	Mar. 5	Madison, GA.	33.5	83.5	VI
1914	Sep. 22	Summerville, S. C.	33.0	80.2	V
1924	Oct. 20	Pickens County, S. C.	35.0	82.6	V
1933	Dec. 19	Summerville, S. C.	33.0	80.2	IV - V
1933	Jun. 9	Eatonton, GA.	33.3	83.5	IV
1935	Jan. 1	N. C. - GA. Border	35.1	83.6	V
1945	Jul. 26	Murray Lake, S. C.	34.3	81.4	IV - V
1952	Nov. 19	Charleston, S. C.	32.9	80.0	V
1958	Oct. 20	Anderson, S. C.	34.5	82.8	V
1959	Oct 26	N. E. South Carolina	34.5	80.3	VI
1960	Jul. 23	Charleston, S. C.	33.0	80.0	V
1964	Mar. 13	Milledgeville, GA.	33.2	83.4	V
1964	Apr. 20	Columbia, S. C.	34.0	81.0	V
1967	Oct. 23	Summerville, S. C.	33.1	80.3	V
1974	Aug. 2	Lincolnton, GA.	33.9	82.5	VI
1976	Dec. 27	Mt. Vernon, GA.	32.2	82.5	V

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

ENGINEERING GEOLOGY

SOME ENGINEERING USES

1. Clayey sands and clays with streaks, lenses and beds of kaolinitic sands and kaolin.

2. Clayey sands grading downward into sandy clays with thin beds of fossiliferous limestone.

FEW ENGINEERING USES

3. Phyllites, slates and schists usually covered by a mantle of alluvium.

CONSTRUCTION MATERIALS

Borrow pit (active)

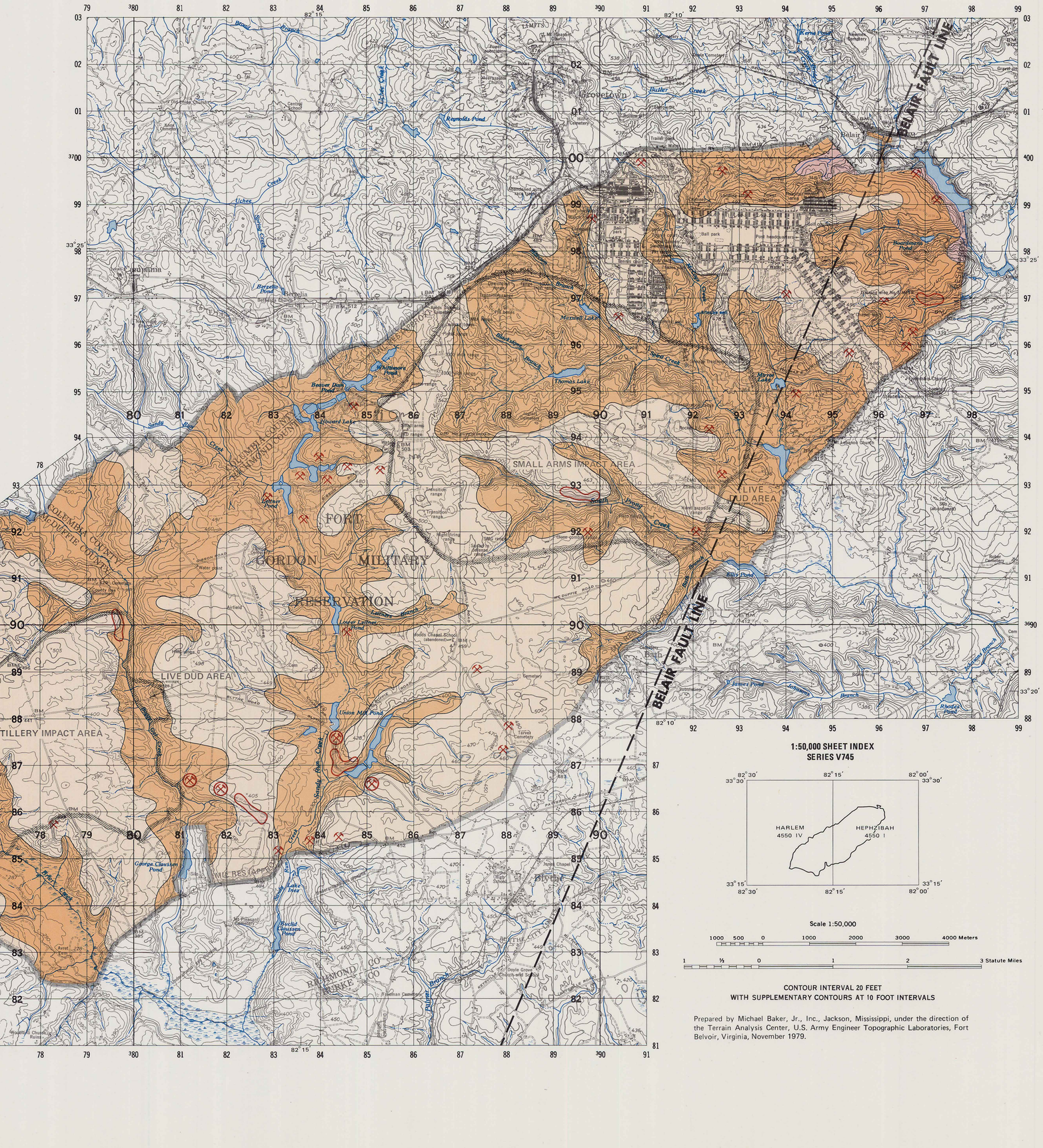
Borrow pit (inactive)

Potential sand deposit

SPECIAL PHYSICAL PHENOMENA

Belair Fault Line (approximate location)

NOTE: Number refers to entry in table.



1:50,000 SHEET INDEX
SERIES V745

Scale 1:50,000

1000 500 0 1000 2000 3000 4000 Meters

1 ½ 0 1 2 3 Statute Miles

CONTOUR INTERVAL 20 FEET
WITH SUPPLEMENTARY CONTOURS AT 10 FOOT INTERVALS

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

G. VEGETATION

Forests, scrub, grasslands, and wetlands are the four major vegetative types significant to military training at Fort Gordon.

Forests, consisting of evergreen needleleaf and deciduous broadleaf trees, compose 58 percent of the reservation land area. Evergreen needleleaf trees include loblolly pine, slash pine, longleaf pine and shortleaf pine. Longleaf pine is the dominant species on the well drained uplands and loblolly pine is the dominant species on the slopes. Deciduous broadleaf trees include a wide variety of species located along streams and on bottomlands. Forest management favors yellow poplar, red oak, blackgum, red maple, ash, beech and hickory. Black walnut and white oak are considered special species due to their high value and are intensively managed on appropriate sites. Fort Gordon actively maintains a Forest Management Program aimed at providing merchantable timber on a sustained yield basis, a desirable wildlife habitat, recreational areas, and the prevention of forest fires, consistent with the military mission of the reservation. The reservation is divided into 10 management compartments and a 10 year cutting cycle is maintained.

Low forests, consisting of young evergreen needleleaf trees, compose about 19 percent of the reservation land area. The low forests are mainly slash pine and loblolly pine plantations located on sites which have been clearcut.

Scrub vegetation, consisting of deciduous broadleaf trees and evergreen needleleaf trees, composes about 12 percent of the reservation land area. Dominant evergreen needleleaf species is longleaf pine. Scrub oak is the prevalent deciduous broadleaf species located on the dry sandy sites.

Grasslands compose approximately one percent of the reservation land area. Grasses are classified as short, seldom reaching heights of one meter (three feet). Major species are broomsedge, orchard grass, crabgrass, fescue, and Johnson grass.

Wetlands compose approximately three percent of the reservation land area, consisting of perennially and seasonally water covered bottomlands. The medium to dense deciduous broadleaf trees include black willow, water oak, river birch, swamp cottonwood, and American beech.

Open areas compose about seven percent of the reservation land area. The open areas are built-up areas, barren areas or heavily used areas.

The vegetative types that afford the best cover for foot troops and vehicles are the dense evergreen needleleaf and dense deciduous broadleaf forests. Best concealment possibilities for foot troops and vehicles are the dense evergreen needleaf forests year-round and dense deciduous broadleaf forests from mid-April through September. Vegetative types providing the least concealment are grasslands, deciduous broadleaf forests and deciduous broadleaf scrub when leafless (October through mid-April).

The location and extent of vegetative types on Fort Gordon are shown on the accompanying vegetation map. Descriptive details of each map unit are included in the table below.

MAP UNIT	DESCRIPTION	DISTRIBUTION	REMARKS	COVER	CONCEALMENT
1 Evergreen needleleaf trees; medium to dense spacing.	Evergreen needleleaf trees, 50 to 100% crown cover density; 75% or more of each stand composed of one or more evergreen needleleaf species; dominant species is loblolly pine interspersed with longleaf, slash and shortleaf pine; stem heights average over 10.6 m (35 ft); stem diameters generally over 15.2 cm (6 in); tree spacing 1.8 to 4.6 m (6 to 15 ft). Undergrowth varies from sparse to medium, height generally less than 1.2 m (4 ft); undergrowth consists of young pines, greenbrier, scrub oak, honeysuckle, sweetbrier, sumac and short grasses.	Occurs throughout the reservation; comprises approximately 9% of the reservation land area.	Mature trees are harvested on an annual basis in selected management compartments. Management practices include selective cutting, clear-cutting, prescribed burning and reforestation by machine planting or natural regeneration.	Cover for foot troops from flat-trajectory fire of small arms is fair to good.	Concealment from aerial and ground observation is good year-round for foot troops and fair to good for vehicles.
2 Evergreen needleleaf trees; nearly open to medium spacing.	Evergreen needleleaf trees, 10 to 50% crown cover density; 75% or more of each stand composed of one or more evergreen needleleaf species; dominant species is loblolly pine interspersed with longleaf, slash and shortleaf pine; stem heights generally more than 7.6 m (25 ft); stem diameters range from 10.2 cm (4 in) in young stands to over 22.9 cm (9 in) in older stands; tree spacing varies from 1.8 to 9.1 m (6 to 30 ft). Undergrowth varies from sparse to medium, height generally less than 1.2 m (4 ft); undergrowth consists of young pines, greenbrier, honeysuckle, sweetbrier, short grasses and thick stands of scrub oak in openings.	Small to large stands occur throughout the reservation; occupies approximately 41% of the reservation land area.	Mature trees are harvested on an annual basis in selected management compartments. Management practices include selective cutting, clear-cutting, prescribed burning and reforestation by machine planting or natural regeneration.	Cover for foot troops from flat-trajectory fire of small arms is fair to good.	Concealment from aerial observation is fair to poor year-round for foot troops and poor for vehicles. Concealment from ground observation is fair year-round for foot troops and poor for vehicles.
3 Deciduous broadleaf trees; medium to dense spacing.	Deciduous broadleaf trees, 50 to 100% crown cover density; 75% or more of each stand composed of one or more deciduous broadleaf species; dominant species are white oak, yellow poplar, red oak, blackgum, red maple, ash, beach and hickory; stem height is generally over 10.6 m (35 ft); stem diameters average over 15.2 cm (6 in); tree spacing ranges from 1.8 to 6.1 m (6 to 20 ft). Medium to dense undergrowth consists of young trees, wax myrtle, sumac, scrub oak, laurel, sweetbrier, honeysuckle and rhododendron, height generally 1.5 m (5 ft) or less.	Common throughout the reservation in the bottomlands; the largest stand located in Brier Creek area in the southwest portion of the reservation; comprises approximately 7% of the reservation land area.	Mature trees are harvested depending on market demand. Yellow poplar, white oak, red oak and blackgum are the preferred species for timber production; other species are maintained for wildlife habitat.	Cover for foot troops from flat-trajectory fire of small arms is fair to good.	Concealment from aerial observation is good for foot troops and vehicles when trees are in leaf (mid-April through September); during leafless season concealment is poor for foot troops and vehicles. Concealment from ground observation is fair year-round for foot troops; when trees are in leaf, concealment is fair for vehicles, but poor at other times.
4 Mixed evergreen needleleaf and deciduous broadleaf trees; medium to dense spacing.	Mixed evergreen needleleaf and deciduous broadleaf trees, 50 to 100% crown cover density; each stand contains roughly equal distribution of evergreen needleleaf and deciduous broadleaf species; dominant species are loblolly pine, sweetgum, yellow poplar, and blackgum, interspersed with longleaf pine, white oak, and red oak; stem heights generally over 10.6 m (35 ft); stem diameters generally over 15.2 cm (6 in); tree spacing varies from 1.8 to 9.1 m (6 to 30 ft). Undergrowth varies from sparse to dense, height generally 1.5 m (5 ft) or less, consisting of young trees, wax myrtle, sumac, scrub oak and rhododendron.	Scattered small tracts in the western portion of the reservation; comprises approximately 1% of the reservation land area.	These mixed stands are managed to favor the evergreen needleleaf species on well drained upland sites. Mature trees are harvested on an annual basis in selected areas.	Cover for foot troops from flat-trajectory fire of small arms is fair to good.	Concealment from aerial and ground observation is fair year-round for foot troops. Concealment from aerial and ground observation is fair to poor year-round for vehicles.
5 Evergreen needleleaf trees; uniform spacing in rows.	Evergreen needleleaf trees, 25 to 50% crown cover density, in rows; each stand is composed primarily of evergreen needleleaf species. Loblolly and slash pine are the dominant species in these plantations; stem heights generally less than 4.6 m (15 ft); stem diameters average 10.2 cm (4 in) or less; tree spacing averages 2.4 to 3.0 m (8 to 10 ft). Undergrowth varies from sparse to medium, height 1 m (3 ft) or less; undergrowth consists of sweetbrier, sumac, wax myrtle, rhododendron, laurel and short grasses.	Numerous small to large areas occur throughout the reservation; comprises approximately 19% of the reservation land area.	Due to stem height this map unit does not fit in either the forest or scrub categories. In approximately 10 to 15 years, tree growth will cause this unit to change to map unit one.	Cover for foot troops from flat-trajectory fire of small arms is poor.	Concealment from aerial and ground observation is fair year-round for foot troops and poor year-round for vehicles.
6 Deciduous broadleaf scrub; medium to dense spacing.	Deciduous broadleaf scrub, 50 to 75% crown cover density; each stand composed primarily of scrub oak interspersed occasionally with turkey oak and blackjack oak; stem heights generally less than 4.6 m (15 ft); stem diameters average 10.2 cm (4 in); tree spacing varies from 1.2 to 6.1 m (4 to 20 ft). Undergrowth varies from sparse to medium, height averaging less than 1 m (3 ft); undergrowth consists of young trees, sweetbrier, sumac, wax myrtle, honeysuckle, and short grasses.	Small to large areas located throughout the reservation; largest stands are in the small arms impact area; comprises approximately 4% of the reservation land area.	Areas suitable to grow evergreen needleleaf trees are being cleared and reforested.	Cover for foot troops from flat-trajectory fire from small arms is fair.	Concealment for foot troops is fair from aerial and ground observation when trees are in leaf (mid-April through September); during the leafless season concealment for foot troops is poor. Concealment for vehicles from aerial and ground observation is poor year-round.
7 Mixed evergreen needleleaf and deciduous broadleaf scrub; nearly open to medium spacing.	Mixed evergreen needleleaf and deciduous broadleaf scrub, 10 to 50% crown cover density; each stand contains roughly equal distribution of evergreen needleleaf and deciduous broadleaf species; dominant species are longleaf pine, loblolly pine, shortleaf pine, scrub oak, blackjack oak and turkey oak; stem heights generally less than 4.6 m (15 ft), but scattered mature trees exist; stem diameters generally less than 10.2 cm (4 in); tree spacing varies 1.2 to 9.1 m (4 to 30 ft). Undergrowth varies from sparse to medium, height generally less than 1.2 m (4 ft); undergrowth consists of young trees, wax myrtle, greenbrier, sweetbrier, sumac, honeysuckle and short grasses.	Occupies large area located in artillery impact area; other small areas scattered throught the reservation; occupies approximately 8% of the reservation land area.	Numerous small open grass areas exist in this map unit; area is control burned periodically for fire prevention. These lands have limited use for foot troops and vehicles due to unexploded shells.	Cover for foot troops from flat-trajectory fire of small arms is fair to poor.	Concealment from aerial observation is fair for foot troops and poor for vehicles year-round. Concealment from ground observation is fair to poor for foot troops and poor for vehicles year-round.
8 Short grasses.	Short grasses; mixed species, including broomsedge, orchard grass, crabgrass, fescue and Johnson grass; heights generally less than 1 m (3 ft); includes scattered trees and scrub vegetation, not exceeding 10% crown cover density.	Few isolated areas near central portion of reservation; occupies approximately 1% of the reservation land area.	Two grassed areas are maintained as dove habitat; some areas are kept closely mowed at the golf course.	No cover for foot troops from flat-trajectory fire of small arms.	Concealment from aerial observation for foot troops and vehicles is nonexistent. Concealment from ground observation is poor for foot troops and nonexistent for vehicles.
9 Swamps; wet areas with over 50% trees.	Swamps; wet areas with over 50% trees; deciduous broadleaf trees; 50 to 100% crown cover density; dominant species include black willow, water oak, river birch, swamp cottonwood and American beech; stem heights average over 10.6 m (35 ft); stem diameters generally over 15.2 cm (6 in); tree spacing averages 1.2 to 3 m (4 to 10 ft). Undergrowth varies from medium to dense, height averaging less than 1.8 m (6 ft); undergrowth consists of young trees, sourwood, greenbrier, sweetbrier, honeysuckle and alder.	Common on seasonally wet lands mainly in the Brier Creek area in the southwest portion of the reservation; comprises approximately 3% of the reservation land area.	These lands have limited use for military operations. Numerous beaver dams and ponds in the streams.	Cover for foot troops from flat-trajectory fire of small arms is fair to poor.	Concealment from aerial observation is good for foot troops and vehicles when trees are in leaf (mid-April through September); during leafless season concealment is poor for foot troops and vehicles. Concealment from ground observation is fair year-round for foot troops; when trees are in leaf concealment is fair for vehicles, but poor at other times.

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

VEGETATION

FORESTS

1. Evergreen needleleaf trees; medium to dense spacing.
2. Evergreen needleleaf trees; nearly open to medium spacing.
3. Deciduous broadleaf trees; medium to dense spacing.
4. Mixed evergreen needleleaf and deciduous broadleaf trees; medium to dense spacing.

LOW FORESTS

5. Evergreen needleleaf trees; uniform spacing in rows.

SCRUB

6. Deciduous broadleaf scrub; medium to dense spacing.
7. Mixed evergreen needleleaf and deciduous broadleaf scrub; nearly open to medium spacing.

GRASSLANDS

8. Short grasses.

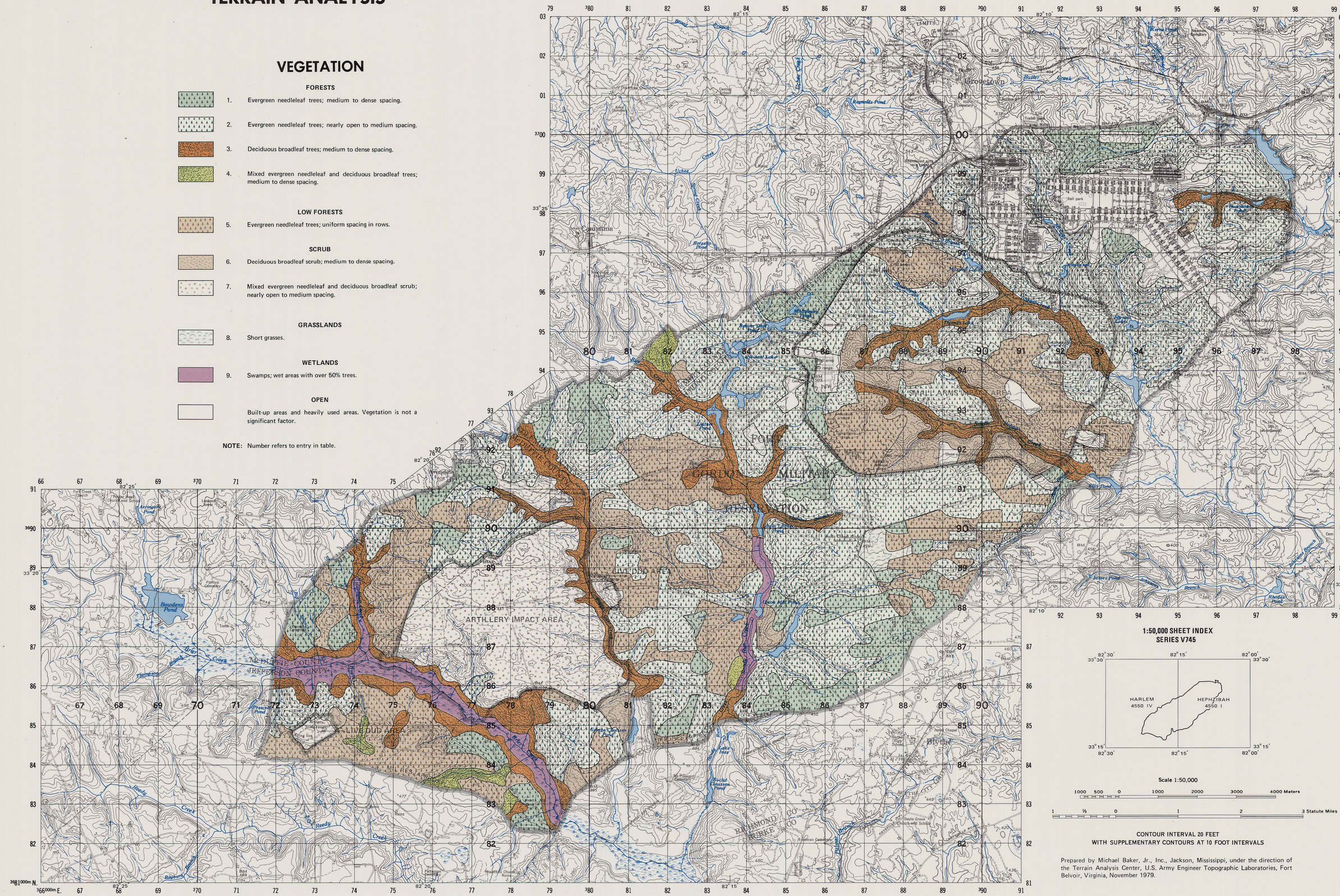
WETLANDS

9. Swamps; wet areas with over 50% trees.

OPEN

Built-up areas and heavily used areas. Vegetation is not a significant factor.

NOTE: Number refers to entry in table.


SMALL ARMS IMPACT AREA
LIVE DUD AREA
FORT GORDON MILITARY RESERVATION
ARTILLERY IMPACT AREA
LIVE DUD AREA
LIVE DUD AREA
MILES LAKE
MCDUFFIE COUNTY
JEFFERSON COUNTY
RICHMOND CO
BURKE CO
Groveland
Blythe
Bath
Georgia
Reynolds Pond
Butler Creek
Uchee Creek
Spring Creek
Rocky Branch
Sandy Run
Reedy Creek
Thompson Branch
Rabbit Branch
Boudens Pond
Lake Tirza
Lake Olmstead
Lake Olivia
Lake Levy
Lake Thomas
Lake Strom
Lake Ellis
Lake Lucille
Lake Lois
Lake Ruth
Lake Ida
Lake Ann
Lake Ina
Lake Ivy
Lake Ila
Lake Ira
Lake Ina
Lake Ivy
Lake Ila
Lake Ira
Lake Ina
Lake Ivy
Lake Ila
Lake Ira

H. CLIMATE

Fort Gordon lies at the northern edge of the Coastal Plain province where the Fall Line forms its boundary with the Piedmont Plateau, approximately 322 km (200 mi) southeast of the Appalachian Mountains and 322 km (200 mi) northwest of the Atlantic Ocean. Due to its latitude and proximity to the warm waters of the Gulf of Mexico and Atlantic Ocean, Fort Gordon's climate consists of mainly warm, humid summers and short, mild winters. All four seasons are apparent, but spring is usually short and blustery with frequent periods of storminess of varying intensity, while the autumn is characterized by long periods of mild sunny weather.

In summer, temperatures exceed 32.2° C (90° F) on most days and during the 87 year period of record, absolute maximum temperatures of 37.8° C (100° F) or more have been recorded in each of the months from May through October, with a maximum recorded temperature of 42.8° C (109° F) on one July day. Winters are characterized by frequent and sometimes large temperature fluctuations but the average daily temperature during December, January and February is almost 10° C (50° F). Freezing temperatures are experienced for over 50 days in most winters. However, daytime temperatures almost always rise to above freezing, even during the coldest weather.

A mean annual precipitation in excess of 1117.6 mm (44 in), fairly well distributed throughout the year, peaks in July, chiefly as a result of thunderstorm activity. October and November are usually the driest months. Snowfall is light and of very little significance.

Winds are predominantly from the southeast during the spring and summer months and westerly or northwesterly during the winter. Average relative humidities are moderately high throughout the year, but regularly exceed 90% in August and September at 7 AM, dropping to less than 60% by early afternoon. Cloud cover of 30% or less is most frequent during the months of October through December and least frequent in July.

Several tornadoes may be expected in Georgia each year, occurring during any month of the year but most often in the spring. There has been some loss of life and damage has been extensive on occasion. More regularly, damage results from high winds and hail associated with spring and summer thunderstorms. Hurricanes sometimes affect the region but at reduced intensity, producing moderate winds and heavy rainfall in late summer and early autumn.

CLIMATIC SUMMARY

BUSH FIELD, AUGUSTA, GEORGIA LATITUDE 33°22'N LONGITUDE 81°57'W ELEVATION 44.2M(145FT)*

PARAMETER DESCRIPTION		UNIT OF MEASURE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	YEARS OF RECORD
Temperature																
Absolute Maximum Temperature		°C	28.9	28.9	33.9	34.4	37.8	41.7	42.8	41.1	41.1	37.8	32.2	27.2	42.8	87
		°F	84.0	84.0	93.0	94.0	100.0	107.0	109.0	106.0	106.0	100.0	90.0	81.0	109.0	87
Mean Daily Maximum Temperature		°C	14.4	15.6	19.4	24.4	28.9	32.2	32.8	32.2	30.0	24.4	18.9	14.4	23.9	85
		°F	58.0	60.0	67.0	76.0	84.0	90.0	91.0	90.0	86.0	76.0	66.0	58.0	75.0	85
Mean Daily Minimum Temperature		°C	3.9	4.4	7.8	11.7	16.7	20.6	22.2	21.7	18.9	12.8	6.7	3.9	12.8	85
		°F	39.0	40.0	46.0	53.0	62.0	69.0	72.0	71.0	66.0	55.0	44.0	39.0	55.0	85
Absolute Minimum Temperature		°C	−14.4	−16.1	−10.0	−1.7	4.4	7.8	12.8	10.6	5.0	−5.6	−11.7	−14.4	−16.1	86
		°F	6.0	3.0	14.0	29.0	40.0	46.0	55.0	51.0	41.0	22.0	11.0	6.0	3.0	86
Mean Number Days Maximum Temperature ⩾ 32.2° C (90° F)		days	0.0	0.0	0.0	0.7	8.4	17.3	24.0	23.3	9.5	1.0	0.1	0.0	84.3	12
Mean Number Days Minimum Temperature ⩽ 0.0° C (32° F)		days	14.7	8.7	5.1	0.3	0.0	0.0	0.0	0.0	0.0	1.1	8.4	14.2	52.5	12
Normal Heating Degree Days (Base 18.3° C/65° F)		°C days	350.9	282.2	181.1	63.2	10.1	0.3	0.0	0.0	2.8	61.0	182.7	313.1	1447.4	20
		°F days	631.7	508.0	325.9	113.8	18.1	0.5	0.0	0.0	5.0	109.8	328.9	563.6	2605.3	20
Normal Cooling Degree Days (Base 18.3° C/65° F)		°C days	0.3	0.6	7.8	30.6	100.6	201.2	263.7	243.1	169.9	41.2	7.6	1.9	1068.3	20
		°F days	0.6	1.0	14.0	55.1	181.0	362.1	474.7	437.6	305.8	74.1	13.6	3.4	1923.0	20
Mean Dew Point Temperature		°C	2.2	3.9	5.6	10.6	15.6	19.4	21.1	21.1	18.3	11.7	6.1	2.2	11.7	12
		°F	36.0	39.0	42.0	51.0	60.0	67.0	70.0	70.0	65.0	53.0	43.0	36.0	53.0	12
Precipitation																
Mean Precipitation		mm	93.47	104.39	114.05	85.60	81.28	105.41	128.52	118.62	89.66	61.98	65.02	85.85	1133.86	89
		in	3.68	4.11	4.49	3.37	3.20	4.15	5.06	4.67	3.53	2.44	2.56	3.38	44.64	89
Absolute Maximum Precipitation		mm	320.04	244.09	243.01	214.12	189.48	255.27	355.60	318.26	288.54	280.92	197.36	205.23	1875.03	78
		in	12.60	9.61	9.57	8.43	7.46	10.05	14.00	12.53	11.36	11.06	7.77	8.08	73.82	78
Absolute Maximum 24 hr Precipitation		mm	91.69	91.19	134.87	100.58	112.01	105.92	143.51	105.92	212.85	249.43	109.98	101.35	249.43	89
		in	3.61	3.59	5.31	3.96	4.41	4.17	5.65	4.17	8.38	9.82	4.33	3.99	9.82	89
Absolute Minimum Precipitation		mm	19.05	13.21	17.53	15.24	5.08	20.32	30.23	12.45	1.52	T	2.29	8.13	712.72	78
		in	0.75	0.52	0.69	0.60	0.20	0.80	1.19	0.49	0.06	T	0.09	0.32	28.06	78
Mean Number Days Precipitation ⩾ 2.54 mm (0.1 in)		days	7.1	7.6	7.0	6.4	6.3	6.9	7.8	7.5	5.7	4.2	4.4	6.7	77.6	89
Mean Number Days With Thunderstorms		days	0.0	1.0	2.0	3.0	5.0	7.0	10.0	8.0	3.0	1.0	1.0	0.0	41.0	79
Mean Snowfall		mm	5.1	17.8	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	22.9	39
		in	0.2	0.7	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.9	39
Absolute Maximum Snowfall		mm	109.2	355.6	43.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	66.0	355.6	78
		in	4.3	14.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.6	14.0	78
Mean Number Days Snowfall ⩾ 38.1 mm (1.5 in)		days	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	9
Humidity																
Mean Relative Humidity	(at 0100 LST)	%	80.0	75.0	76.0	79.0	85.0	87.0	89.0	90.0	91.0	88.0	83.0	81.0	84.0	13
	(at 0700 LST)	%	83.0	80.0	83.0	84.0	86.0	87.0	89.0	91.0	92.0	89.0	87.0	85.0	86.0	13
	(at 1300 LST)	%	55.0	47.0	47.0	45.0	50.0	53.0	57.0	58.0	56.0	49.0	48.0	54.0	52.0	13
	(at 1900 LST)	%	68.0	59.0	56.0	54.0	62.0	65.0	70.0	73.0	77.0	75.0	70.0	71.0	67.0	13
Wind																
Percent Frequency Surface Wind Speed ⩾ 28 knots (51.9 kmph/32.2 mph)		%	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	12
Percent Frequency Surface Wind Speed ⩾ 17 knots (31.5 kmph/19.6 mph)		%	1.8	2.7	3.8	3.3	0.5	0.4	0.3	0.2	0.6	0.4	1.0	1.5	1.4	12
Fastest One-Minute Wind Speed		kts	27.8	34.8	45.2	33.9	41.7	53.9	41.7	39.1	30.4	34.8	34.8	29.5	53.9	27
		kmph	51.5	64.4	83.7	62.8	77.2	99.8	77.2	72.4	56.3	64.4	64.4	54.7	99.8	27
		mph	32.0	40.0	52.0	39.0	48.0	62.0	48.0	45.0	35.0	40.0	40.0	34.0	62.0	27
Mean Number Days Surface Wind Speed ⩾ 17 knots (31.5 kmph/19.6 mph) and No Precipitation	(at 1900 LST)	days	0.7	0.5	0.8	0.2	0.0	0.2	0.2	0.1	0.0	0.1	0.3	0.1	3.2	12
	(at 0100 LST)	days	0.2	0.3	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.5	12
	(at 0700 LST)	days	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.2	1.6	12
	(at 1300 LST)	days	1.2	1.7	2.8	2.4	0.4	0.2	0.0	0.0	0.2	0.4	0.6	1.5	11.5	12
Mean Number Days Surface Wind Speed 4–10 knots (7.4 –18.5 kmph or 4.6–11.5 mph) and Temperature 0.6–31.7° C (33–89° F) and No Precipitation	(at 1900 LST)	days	12.1	12.6	16.0	15.5	16.7	18.0	17.0	16.5	14.1	8.9	9.3	12.3	169.0	12
	(at 0100 LST)	days	10.1	11.4	13.4	12.6	10.3	8.7	9.0	9.2	8.1	9.4	9.2	10.4	121.8	12
	(at 0700 LST)	days	8.7	9.4	14.0	13.6	15.6	14.9	13.4	10.9	12.6	10.9	9.7	10.4	144.1	12
	(at 1300 LST)	days	17.4	15.4	17.1	16.3	19.0	14.7	10.8	11.4	17.5	19.6	18.7	19.6	197.5	12
Visibility																
Mean Number Days with Occurrence Visibility ⩽ 0.8 km (0.5 mi)		days	2.3	2.0	1.6	1.4	1.2	1.8	1.1	2.1	2.6	2.6	3.2	2.7	24.6	12
Percent Frequency Ceiling ⩽ 1524 m (5000 ft) or Visibility ⩽ 8.0 km (5 mi)		%	30.6	30.6	29.2	21.5	22.1	21.0	21.3	21.8	29.5	27.6	29.6	28.9	26.1	12
Percent Frequency Ceiling ⩽ 457.2 m (1500 ft) or Visibility ⩽ 4.8 km (3 mi)	(for 0000–0200 LST)	%	11.6	16.4	14.1	10.3	6.6	5.2	4.0	4.1	10.8	10.3	12.2	13.3	9.9	12
	(for 0300–0500 LST)	%	17.1	18.0	18.1	14.4	14.7	12.4	13.5	13.3	23.6	17.5	16.0	17.6	16.4	12
	(for 0600–0800 LST)	%	21.9	20.9	22.0	16.7	20.3	17.6	19.7	22.6	30.1	26.4	23.7	21.0	21.9	12
	(for 0900–1100 LST)	%	18.6	19.2	18.9	8.6	10.2	7.9	6.4	8.0	16.3	14.7	19.0	17.3	13.8	12
	(for 1200–1400 LST)	%	12.9	13.0	10.9	3.5	3.8	1.6	0.8	1.6	6.5	7.7	8.4	11.5	6.9	12
	(for 1500–1700 LST)	%	9.3	11.0	9.8	2.7	2.2	1.0	0.8	1.6	5.4	6.2	4.8	7.5	5.2	12
	(for 1800–2000 LST)	%	9.1	10.5	9.6	3.6	2.6	1.3	0.4	1.4	4.7	6.9	4.8	8.5	5.3	12
	(for 2100–2300 LST)	%	10.2	12.1	10.8	4.9	3.3	2.4	1.5	1.7	6.3	8.0	7.1	9.9	6.5	12
Percent Frequency Ceiling ⩽ 91.4 m (300 ft) or Visibility ⩽ 1.6 km (1 mi)	(for 0000–0200 LST)	%	2.4	3.3	2.2	0.7	0.8	0.2	0.2	0.4	0.6	1.2	3.3	4.0	1.6	12
	(for 0300–0500 LST)	%	3.5	5.6	2.7	3.4	3.0	2.4	1.6	3.3	5.1	4.2	6.5	5.7	3.9	12
	(for 0600–0800 LST)	%	4.8	5.9	3.9	3.3	2.8	3.8	3.2	4.7	8.1	6.9	8.4	5.9	5.1	12
	(for 0900–1100 LST)	%	1.4	2.0	0.8	0.0	0.1	0.0	0.0	0.4	0.3	0.6	2.3	2.2	0.8	12
	(for 1200–1400 LST)	%	0.4	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.7	0.1	12
	(for 1500–1700 LST)	%	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.3	0.8	0.2	12
	(for 1800–2000 LST)	%	1.2	0.5	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.6	1.3	0.4	12
	(for 2100–2300 LST)	%	2.0	1.9	0.7	0.0	0.1	0.1	0.0	0.0	0.1	0.4	0.9	2.7	0.7	12
Mean Number Days Sky Cover ⩽ 30% and Visibility ⩾ 4.8 km (3 mi)	(at 1900 LST)	days	12.2	10.4	11.2	12.4	10.3	6.9	4.8	7.6	10.1	15.5	13.7	12.3	127.4	12
	(at 0100 LST)	days	13.4	12.3	12.4	15.2	16.2	13.7	12.3	14.7	14.8	18.7	14.9	14.1	172.7	12
	(at 0700 LST)	days	9.9	8.5	9.0	12.4	10.2	8.5	8.0	9.6	9.0	12.5	11.2	10.9	119.7	12
	(at 1300 LST)	days	9.1	8.5	8.2	9.5	6.7	3.9	3.7	4.5	6.2	11.6	11.6	10.2	93.7	12

H. CLIMATE (Continued)

CLIMATIC SUMMARY (Continued)

BUSH FIELD, AUGUSTA, GEORGIA LATITUDE 33°22'N LONGITUDE 81°57'W ELEVATION 44.2M(145FT)*

PARAMETER DESCRIPTION		UNIT OF MEASURE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	YEARS OF RECORD
Mean Number Days Ceiling ≥ 304.8 m (1000 ft)	(at 1900 LST)	days	28.8	25.8	28.6	29.5	30.7	29.7	30.8	30.8	28.9	29.5	29.0	28.6	350.7	12
and Visibility ≥ 4.8 km (3 mi)	(at 0100 LST)	days	27.9	24.2	27.3	27.8	29.1	29.3	30.1	30.1	27.8	28.6	27.0	27.3	336.5	12
	(at 0700 LST)	days	25.6	23.0	24.8	25.6	26.0	25.7	26.1	24.7	21.9	23.7	23.0	25.0	295.1	12
	(at 1300 LST)	days	28.6	25.5	28.9	29.2	30.3	29.8	30.7	30.5	29.1	29.3	28.6	28.6	349.1	12
Mean Number Days Ceiling ≥ 609.6 m (2000 ft)	(at 1900 LST)	days	23.8	20.5	23.0	23.5	28.4	26.6	28.1	29.1	27.2	26.9	25.7	25.4	308.2	12
and Visibility ≥ 4.8 km (3 mi) and	(at 0100 LST)	days	23.7	18.9	21.3	24.1	26.7	27.2	29.6	28.9	25.7	26.4	24.2	23.6	300.3	12
Surface Wind Speed ≤ 10 knots	(at 0700 LST)	days	20.3	18.3	20.0	20.5	22.3	23.5	24.3	22.9	19.5	21.6	20.2	21.3	254.7	12
(18.5 kmph or 11.5 mph)	(at 1300 LST)	days	14.3	12.6	13.2	14.4	20.4	20.8	22.8	22.7	19.8	19.5	17.4	17.2	215.1	12
Mean Number Days Ceiling ≥ 762 m (2500 ft)	(at 1900 LST)	days	27.1	24.2	27.4	28.1	29.6	28.7	30.6	30.2	27.6	28.4	27.7	27.5	337.1	12
and Visibility ≥ 4.8 km (3 mi)	(at 0100 LST)	days	26.1	22.3	25.8	26.2	27.7	27.9	29.6	29.0	26.1	26.8	25.7	26.1	319.3	12
	(at 0700 LST)	days	22.8	21.1	22.7	23.6	23.8	24.5	24.6	23.2	19.8	21.7	21.2	22.9	271.9	12
	(at 1300 LST)	days	25.0	23.4	25.6	26.4	28.9	28.7	29.7	29.6	26.8	26.9	25.7	25.9	322.6	12
Mean Number Days Ceiling ≥ 1828.8 m (6000 ft)	(at 1900 LST)	days	23.7	21.6	24.1	24.8	26.1	24.7	26.2	25.7	23.9	25.6	24.1	24.4	294.9	12
and Visibility ≥ 4.8 km (3 mi)	(at 0100 LST)	days	21.9	20.2	22.8	25.0	26.3	26.8	27.9	28.4	23.7	24.6	23.1	22.7	293.4	12
	(at 0700 LST)	days	19.1	17.6	19.6	21.4	22.5	23.1	23.4	22.2	17.4	19.1	18.8	20.1	244.3	12
	(at 1300 LST)	days	20.2	18.8	20.9	21.2	21.9	19.1	19.5	20.6	18.0	22.1	21.8	22.2	246.3	12
Mean Number Days Ceiling ≥ 3048 m (10,000 ft)	(at 1900 LST)	days	21.7	19.6	22.2	23.6	24.1	22.4	24.2	24.9	22.2	23.8	22.7	22.0	273.4	12
and Visibility ≥ 4.8 km (3 mi)	(at 0100 LST)	days	20.2	18.4	21.3	23.6	24.6	25.7	26.4	27.2	22.7	23.7	21.8	21.5	277.1	12
	(at 0700 LST)	days	17.8	16.1	18.2	19.6	21.1	22.0	22.3	21.6	16.8	18.3	17.8	18.8	230.4	12
	(at 1300 LST)	days	18.7	17.3	18.9	20.1	21.4	18.4	18.8	20.0	17.3	21.0	20.1	20.5	232.5	12

LST – Local Standard Time; T – Trace

* Bush Field is located 20.9 km (13 mi) east of Fort Gordon. Prior to 1950, data taken from stations in Augusta, about 16 km (10 mi) northeast of Fort Gordon.

EPHEMERIS FOR FORT GORDON, GEORGIA

(EASTERN STANDARD TIME)

DATE	NAUTICAL TWILIGHT BEGINNING	NAUTICAL TWILIGHT END	SUNRISE	SUNSET	DATE	NAUTICAL TWILIGHT BEGINNING	NAUTICAL TWILIGHT END	SUNRISE	SUNSET	DATE	NAUTICAL TWILIGHT BEGINNING	NAUTICAL TWILIGHT END	SUNRISE	SUNSET	DATE	NAUTICAL TWILIGHT BEGINNING	NAUTICAL TWILIGHT END	SUNRISE	SUNSET
January 1	0634	1830	0733	1732	April 1	0522	1943	0617	1849	July 1	0418	2046	0522	1942	October 1	0529	1907	0623	1813
January 11	0635	1838	0733	1740	April 11	0508	1951	0604	1856	July 11	0424	2044	0527	1940	October 11	0536	1854	0630	1800
January 21	0634	1846	0731	1749	April 21	0455	2000	0552	1904	July 21	0431	2038	0533	1936	October 21	0543	1842	0638	1748
February 1	0629	1856	0725	1800	May 1	0443	2009	0541	1911	August 1	0441	2028	0541	1928	November 1	0552	1832	0647	1737
February 11	0622	1904	0717	1809	May 11	0432	2018	0532	1919	August 11	0449	2017	0548	1919	November 11	0600	1825	0656	1729
February 21	0612	1913	0707	1818	May 21	0423	2027	0525	1926	August 21	0458	2005	0555	1908	November 21	0608	1820	0705	1723
March 1	0604	1919	0657	1825	June 1	0417	2036	0520	1933	September 1	0507	1949	0602	1854	December 1	0616	1819	0714	1721
March 11	0551	1927	0645	1833	June 11	0414	2042	0518	1938	September 11	0515	1935	0609	1841	December 11	0624	1820	0722	1721
March 21	0538	1934	0631	1841	June 21	0415	2046	0519	1941	September 21	0522	1921	0616	1827	December 21	0630	1823	0728	1725

I. CROSS-COUNTRY MOVEMENT

MAP UNIT	GENERAL TERRAIN CONDITIONS	MOVEMENT OF TRACKED VEHICLES[1]	MOVEMENT OF WHEELED VEHICLES[2]	MOVEMENT OF FOOT TROOPS
1	Clear grassy areas with some low scrub, and scattered trees, with slopes ranging from 0 to about 3%; soils generally are moderately well-drained to well-drained poorly graded sands, but clayey bogs may occur in lower depressed areas. Map unit includes areas that have been cleared for troop training and other types of habitation.	Generally unrestricted in all directions for both tank and armored personnel carrier (APC). Movement around stream crossings may be hindered in clayey bog areas. Conditions for movement may improve when soils are moist. Dust conditions can be anticipated in dry weather, particularly where grass is thin and soils have been loosened by traffic.	Generally unrestricted in all directions for limited traffic as long as grass cover is intact; on barren, loosened sands, movement is severely slowed. Conditions may improve when soils are moist. Movement around stream crossings is impeded in areas of bogs. Dust problems can be anticipated in dry weather where grass has been destroyed.	Unhindered in any direction. Bogs easily avoided.
2	Small to extensive tracts of scrub oak, blackjack oak and small trees generally located on ridgetops and upper slopes on well-drained sands; slopes largely from 0 to 8% with a maximum of 20%; stem diameters average 10.2 cm (4 in) and tree spacing 1.2 to 9.1 m (4 to 30 ft); scattered mature trees; sparse to medium undergrowth with some areas of dense vegetation.	Slightly slowed in all directions for tanks, where occasional maneuvering may be necessary to avoid trees. Locally dense brush and trees may hinder APCs more than tanks. Destruction of vegetation by traffic will aggravate dust problems.	Moderately slowed by vegetation; frequent maneuvering necessary to avoid trees and areas of dense undergrowth. Destruction of vegetation by traffic will cause dust problems.	Unhindered in any direction. Areas of heavier undergrowth easily avoided. Peak flows may temporarily hinder stream crossings.
3	Young to mature managed forest, chiefly pine. Generally located on ridgetops and upper slopes on moderately well-drained to well-drained sands, including drainageways at higher elevations; slopes largely less than 12% but occasional slopes to 30%; stem diameters average 10.2 cm (4 in) in young stands to over 22.9 cm (9 in) in older stands and tree spacing 1.8 to 9.1 m (6 to 30 ft). Some areas in uniform rows; sparse to medium undergrowth. Cleared firebreaks about 4 m (13 ft) wide in general east-west direction at a variable spacing, about 200 m (656 ft) apart.	Severely slowed in areas where trees are mature and randomly spaced; considerable maneuvering would be required to move through these forests. Stream banks may be steep and high and soft spots may occur unpredictably along drainageways. Movement through firebreaks is generally unrestricted though may be slightly slowed in steeper areas.	Severely slowed in areas where trees are mature and randomly spaced; considerable maneuvering would be required to move through these forests. Stream banks may be steep and high and soft spots may occur unpredictably along drainageways. Movement through firebreaks is generally unrestricted though may be slightly slowed in steeper areas.	Slightly slowed in areas of heavier undergrowth. Peak flows may temporarily hinder movement at stream crossings. Movement along firebreaks unhindered.
4	Unmanaged medium to dense mixed forest, dominant species loblolly pine, sweetgum, white and red oak, generally located on low hillsides, stream terraces and streambeds, with a few areas on the higher hillsides; poor to moderately well-drained fine silty sands and fine clayey sands; occasional bogs in and around streambeds. Slopes largely less than 8% but occasional slopes to 30%; stem diameters average over 15.2 cm (6 in) and tree spacing 1.8 to 9.1 cm (6 to 30 ft); medium to dense undergrowth.	Severely slowed due to dense vegetation, large trees and limited visibility. Stream banks are often high with steep slopes and low wet areas may occur along streambeds. Movement is not practical for long distances but limitations may be acceptable for short distances or when seeking cover.	Severely slowed due to dense vegetation, large trees, high, steep stream banks and low wet areas. Not practical for any but the shortest distances or when seeking cover from observation.	Moderately slowed due to combined effects of steep slopes, dense vegetation and stream flows.
5	Densely forested swamps along slower moving streams, stem diameters generally over 15.2 cm (6 in), tree spacing 1.2 to 3 m (4 to 10 ft); medium to dense undergrowth; alluvial and organic soils.	Movement precluded at all times due to dense vegetation, large trees, obstructed vision, unpredictable water depths and wet soils.	Movement precluded at all times due to dense vegetation, large trees, obstructed vision, unpredictable water depths and wet soils.	Severely slowed and very difficult due to combined effects of dense vegetation, limited visibility, unpredictable water depths and swamps.

1 Comments apply to the M-60 tank and the M-113 armored personnel carrier (APC).

2 Comments apply to the M-35, 2½ ton truck and the M-151, ¼-ton truck.

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

CROSS-COUNTRY MOVEMENT

This map deals with off-road movements and is intended only for use in planning of operations. For final determination of routes, a ground reconnaissance is required. Data are generalized to suit the scale of the map; areas of minor consequence do not appear.

The predicted movement ratings are those believed to prevail in most years. Variations in these evaluations may occur from year to year and even within a season due to variations in the weather. Movement conditions in sandy areas usually improve slightly immediately following a rain.

The evaluations are based on terrain conditions as they are known at present. Future alterations of the terrain, such as timber clearing operations, artificial drainage, and road construction would change cross-country movement conditions. See NON-URBAN CULTURE FEATURES for man-made features which may affect movement.

EVALUATION OF TERRAIN FOR CROSS-COUNTRY MOVEMENT

		PREDICTED MOVEMENT RATINGS FOR:				
		TANK (M-60)	APC (M-113)	2½-TON TRUCK (M-35)	¼-TON TRUCK (M-151)	FOOT TROOPS
	1. Grassy areas on gentle slopes; sandy soils.	Good	Good	Fair	Good	Good
	2. Scrub and trees on ridgetops and upper slopes; sparse to medium undergrowth; sandy soils.	Good	Good	Fair	Fair	Good
	3. Managed forest on ridgetops and hillsides; medium undergrowth; sands and fine sands.	Fair	Fair	Poor	Poor	Good
	4. Unmanaged forest on low hillsides, stream terraces and streambeds: medium undergrowth; fine sands.	Poor	Poor	Unsuited	Poor	Fair
	5. Densely forested swamps in stream channels; dense undergrowth; fine sands, silts, clays.	Unsuited	Unsuited	Unsuited	Unsuited	Poor

NOTE: Number refers to entry in table.

IMPACT AREA; off-limits to vehicles and foot troops due to danger of unexploded munitions.

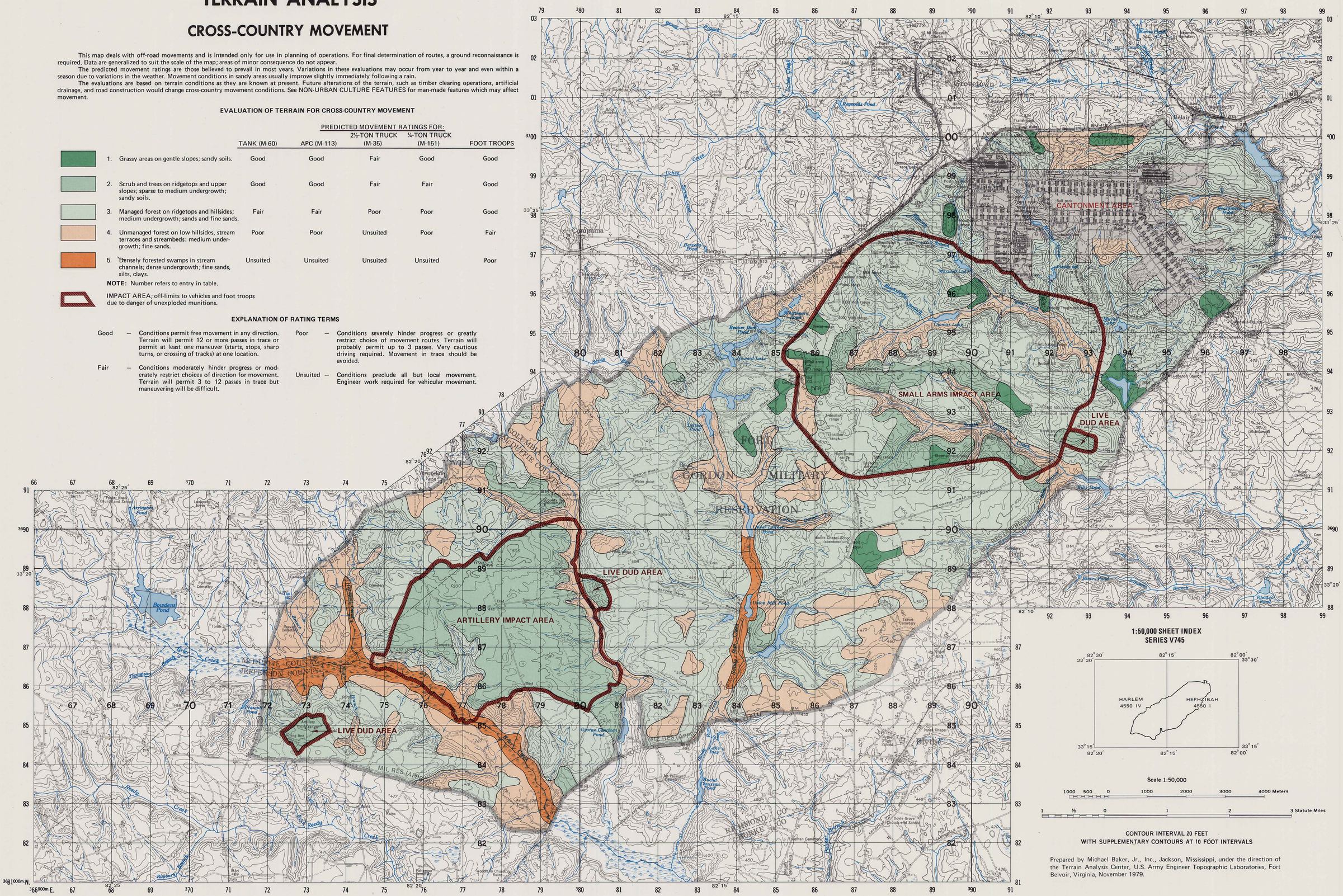
EXPLANATION OF RATING TERMS

Good — Conditions permit free movement in any direction. Terrain will permit 12 or more passes in trace or permit at least one maneuver (starts, stops, sharp turns, or crossing of tracks) at one location.

Fair — Conditions moderately hinder progress or moderately restrict choices of direction for movement. Terrain will permit 3 to 12 passes in trace but maneuvering will be difficult.

Poor — Conditions severely hinder progress or greatly restrict choice of movement routes. Terrain will probably permit up to 3 passes. Very cautious driving required. Movement in trace should be avoided.

Unsuited — Conditions preclude all but local movement. Engineer work required for vehicular movement.


CANTONMENT AREA
SMALL ARMS IMPACT AREA
LIVE DUD AREA
LIVE DUD AREA
ARTILLERY IMPACT AREA
LIVE DUD AREA
FORT GORDON MILITARY RESERVATION
MILES ARMY AIRFIELD
MIL RES (AF)
Growtown
Belair
Bath
Blythe
Harrisburg
Ivy
Ivy Chapel
Ivy Church
Ivy School
Ivy Cemetery
Item Gemma
Bergelia
Bergelia Church
Bergelia Cemetery
Bergelia Pond
Bergelia Dam
Woodlawn
Woodlawn Church
Woodlawn Cemetery
Woodlawn Ruins
Fort Creek Church
Fort Creek Church and School
Prestup Cemetery
Prestup Road Church and School
Prestup Road Cemetery
Prestup Pond
Prestup Dam
Arrington Pond
Arrington Dam
Boudens Pond
Boudens Dam
Boudens Cemetery
Boudens Church
Boudens Church and School
Boudens Road
Boudens Road Cemetery
Boudens Road Church
Boudens Road Church and School
Fairview Church
Fairview Cemetery
Fairview Pond
Fairview Dam
Fairview Road
Fairview Road Cemetery
Fairview Road Church
Fairview Road Church and School
Fairview Road Pond
Fairview Road Dam
Fairview Road Church and Cemetery
Fairview Road Church and School
Fairview Road Cemetery

J. LINES OF COMMUNICATION

Lines of Communications (LOC) at Fort Gordon are depicted on the accompanying map. Supportive information for LOC as shown on the graphic is provided in the tables following this summary. **ROADS:** Primary access to Fort Gordon is provided by U.S. Route 78-278 (2 lane asphaltic concrete highway) and U.S. Route 1 (2 lane asphaltic concrete highway); Interstate Route 20 (4 lane divided asphaltic concrete highway) is approximately 6.4 kilometers (4 miles) north of the cantonment area. There are approximately 160 kilometers (100 miles) of bituminous paved primary roads (including the cantonment area) providing all-weather 2 lane travel for conventional vehicles on mostly 7.3 meters (24 feet) wide surfaces. The secondary unpaved sand clay roads are well drained and provide all-weather travel; most will accommodate 2 lane travel for conventional vehicles on 4.9 to 5.5 meters (16 to 18 feet) wide surfaces. There are no designated tank trails on the reservation, but there are three tank crossings. An abundance of fire-breaks exist throughout the reservation providing troops and small four-wheel drive vehicles access to much of the land area for training or fire control. **ROAD BRIDGES:** There are three road bridges on Fort Gordon; they are posted with Military Load Classifications. Bridges are inspected annually by the Directorate of Facilities Engineering; all were found to be in good condition in June, 1978. **RAILROADS:** Railroads on Fort Gordon are U.S. Government owned and maintained single track, standard gage line servicing the warehouse and coal storage area located in the northwest portion of the cantonment area. Total length of trackage is 10.0 kilometers (6.2 miles). The railroad is connected by a wye to the main line of the Georgia Railroad at grid reference 892999. Switching is done by Georgia Railroad. **RAILROAD BRIDGES:** There is one U. S. Government owned and maintained railroad bridge which carries rail traffic over U.S. Highway 78. **AIRFIELDS/AIRSTRIPS:** Fort Gordon has one airstrip located in the range area about 9.7 kilometers (6 miles) southwest of the cantonment area. The pierced steel plank runway is 1280.2 x 30.5 meters (4200 x 100 feet); there are no supporting facilities or navigational aids at the site. The army leases a hangar having maintenance and operations facilities at City of Augusta owned Bush Field commercial airport about 20.9 kilometers (13 miles) east of the cantonment area. Details of Bush Field are included in OFF-POST FEATURES of this Terrain Analysis. A second City of Augusta owned airport, Daniel Field, located about 9.7 kilometers (6 miles) northeast of the cantonment area is used by military aircraft for passenger drop and training purposes. The airport's longest runway is 1219.2 meters (4000 feet). **PIPELINES:** One underground privately owned gas pipeline crosses the cantonment area of Fort Gordon. The pipeline is located in a 3 meter (10 feet) wide easement. The government owned distribution system is tapped into the gas pipeline at 17 points where pressure is reduced for suitable distribution. **HELICOPTER LANDING ZONES:** Fort Gordon has three designated helicopter landing zones; one each at the Eisenhower Medical Center, the east end of the parade field near Headquarters Road, and Range Control Headquarters at the intersection of Range Road and Gibson Road. **DROP ZONE:** There is no designated drop zone on Fort Gordon. Some Army Reserve units have infrequently used the airstrip as a drop zone during training exercises.

1. ROADS

ROUTE NAME	GRID REFERENCE FROM	GRID REFERENCE TO	LENGTH OF SEGMENT	MILITARY LOAD CLASSIFICATION[1]	ROUTE TYPE	SURFACE CONSTRUCTION MATERIALS	SURFACE WIDTH/CONDITION	SHOULDERS CONSTRUCTION MATERIALS	SHOULDERS WIDTH/CONDITION	REMARKS
Bath Road	881902	900891	2.6 km (1.6 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
Blythe Road										
Segment a	797936	813913	2.9 km (1.8 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
Segment b	813913	817908	0.5 km (0.3 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and Clay	2.4 m (8 ft)/good	
Segment c	842877	864856	3.2 km (2.0 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
Boardman Lake Road	959991	972983	1.6 km (1.0 mi)	No Data	All Weather	Asphaltic concrete	3.7 to 6.1 m (12 to 20 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Campania Road	822947	833935	1.8 km (1.1 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/fair	No shoulder		
Carter Road	921935	939930	1.1 km (0.7 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
Charles Milburn	829882	825846	3.9 km (2.4 mi)	No Data	All Weather	Sand and clay	4.9 km (16 ft)/good	Sand and clay	Undefined	
Daughtrey Road	868893	882872	2.6 km (1.6 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	1.2 m (4 ft)/good	
Dorsey Drive	966989	978987	1.3 km (0.8 mi)	No Data	All Weather	Bituminous	6.1 m (20 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Forestry Road	868914	871899	1.3 km (0.8 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Fourth Avenue	901979	961953	7.4 km (4.6 mi)	No Data	All Weather	Bituminous	11.0 m (36 ft)/excellent	No Data	No Data	
Gibson Road										
Segment a	766913	813913	5.0 km (3.1 mi)	110 W, 100 T	All Weather	Sand and clay	5.5 m (18 ft)/good	Sand and clay	Undefined	
Segment b	813913	856938	5.0 km (3.1 mi)	110 W, 100 T	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Harlem Road	802854	816868	2.1 km (1.3 mi)	27 W	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
Headquarters Road	942988	942978	1.1 km (0.7 mi)	No Data	All Weather	Bituminous	11.0 m (36 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Ivy Road	775893	798902	2.6 km (1.6 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/fair	Sand and clay	Undefined	
Jones Chapel Road	824916	841878	4.3 km (2.7 mi)	No Data	All Weather	Sand and clay	6.1 m (20 ft)/good	Sand and clay	1.2 m (4 ft)/good	
Lake Road	852954	858951	0.6 km (0.4 mi)	No Data	All Weather	Sand and clay	3.7 m (12 ft)/fair	No Shoulder		
Little Hill Road	827901	869902	4.5 km (2.8 mi)	No Data	All Weather	Sand and clay	3.7 to 4.9 m (12 to 16 ft)/fair	Sand and clay	Undefined	
McDuffie Road										
Segment a	742898	818885	8.4 km (5.2 mi)	No Data	All Weather	Sand and clay	4.9 to 5.5 m (16 to 18 ft)/fair	Sand and clay	Undefined	
Segment b	818885	914913	10.9 km (6.8 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Mirror Lake Road	933953	938951	1.4 km (0.9 mi)	No Data	All Weather	Sand and clay	7.3 to 9.1 m (24 to 30 ft)/good	Sand and clay	Undefined	
Nineteenth Street	921978	914002	2.6 km (1.6 mi)	No Data	All Weather	Bituminous	11.0 m (36 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Ninth Street	899989	901979	1.1 km (0.7 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
North Carter Road	917948	921935	1.4 km (0.9 mi)	No Data	All Weather	Sand and clay	7.3 m (24 ft)/good	Sand and clay	Undefined	
North Range Road	890974	954961	7.4 km (4.6 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Old McDuffie Road	856940	921935	6.8 km (4.2 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/fair	Sand and clay	Undefined	
Orchard Road	833935	851934	2.6 km (1.6 mi)	No Data	All Weather	Sand and clay	7.3 m (24 ft)/good	Sand and clay	Undefined	
Range Road	899986	921978	23.2 km (14.4 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Sawmill Road	846930	871901	3.9 km (2.4 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
Scout Lake Road										
Segment a	926972	921963	1.0 km (0.6 mi)	No Data	All Weather	Asphaltic concrete	7.3 m (24 ft)/good	Sand and clay	1.2 m (4 ft)/good	
Segment b	921963	925959	0.6 km (0.4 mi)	No Data	All Weather	Sand and clay	7.3 m (16 ft)/fair	Sand and clay	Undefined	
Seventh Avenue										
Segment a	899989	919989	1.9 km (1.2 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Bituminous	1.8 m (6 ft)/good	
Segment b	919989	942988	2.1 km (1.3 mi)	No Data	All Weather	Asphaltic concrete	14.6 m (48 ft)/excellent	Concrete	Curb and gutter	
Segment c	942988	950988	0.6 km (0.4 mi)	No Data	All Weather	Bituminous	14.6 m (48 ft)/excellent	Concrete	Curb and gutter	4 lanes divided
Segment d	950988	962005	2.6 km (1.6 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Bituminous	1.8 m (6 ft)/good	
South Carter Road	919931	921935	0.6 km (0.4 mi)	No Data	All Weather	Sand and clay	7.3 m (16 ft)/good	Sand and clay	Undefined	
Telephone Road										
Segment a	817908	818885	2.4 km (1.5 mi)	No Data	All Weather	Bituminous	7.3 m (24 ft)/excellent	Sand and clay	1.2 m (4 ft)/good	
Segment b	818885	828859	3.2 km (2.0 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/fair	Sand and clay	Undefined	
Turkey Farm Road	846868	852854	1.8 km (1.1 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/good	Sand and clay	Undefined	
West Boundary Road	767917	799835	8.9 km (5.5 mi)	No Data	All Weather	Sand and clay	4.9 m (16 ft)/fair	Sand and clay	Undefined	

[1] W: Wheeled Vehicles
T: Tracked Vehicles

ROAD BRIDGES

BRIDGE NUMBER	ROUTE DESIGNATION	GRID REFERENCE	FEATURE CROSSED	MILITARY LOAD CLASSIFICATION[1]	DIMENSIONS	CLEARANCE	TYPE/CONSTRUCTION MATERIAL	CONDITION
1	Gibson Road	834924	Sandy Run Creek	110 W 100 T	18.6 m (61 ft) long 5.4 m (17.8 ft) wide Roadway width 4.9 m (16 ft)	Unlimited vertical 4.9 m (16 ft) horizontal	Two span concrete T-beam bridge/reinforced concrete	Good
2	Gibson Road	799908	Boggy Gut Creek	110 W 100 T	23.8 m (78 ft) long 6.2 m (20.2 ft) wide Roadway width: 5.5 m (18 ft)	Unlimited vertical 5.5 m (18 ft) horizontal	Three span concrete T-beam bridge/reinforced concrete	Good
3	Harlem Road	810863	Boggy Gut Creek	27 W	18.4 m (60.5 ft) long 3.9 m (12.8 ft) wide Roadway width: 3.5 m (11.5 ft)	Unlimited vertical 3.5 m (11.5 ft) horizontal	Two span concrete slab bridge/reinforced concrete	Good

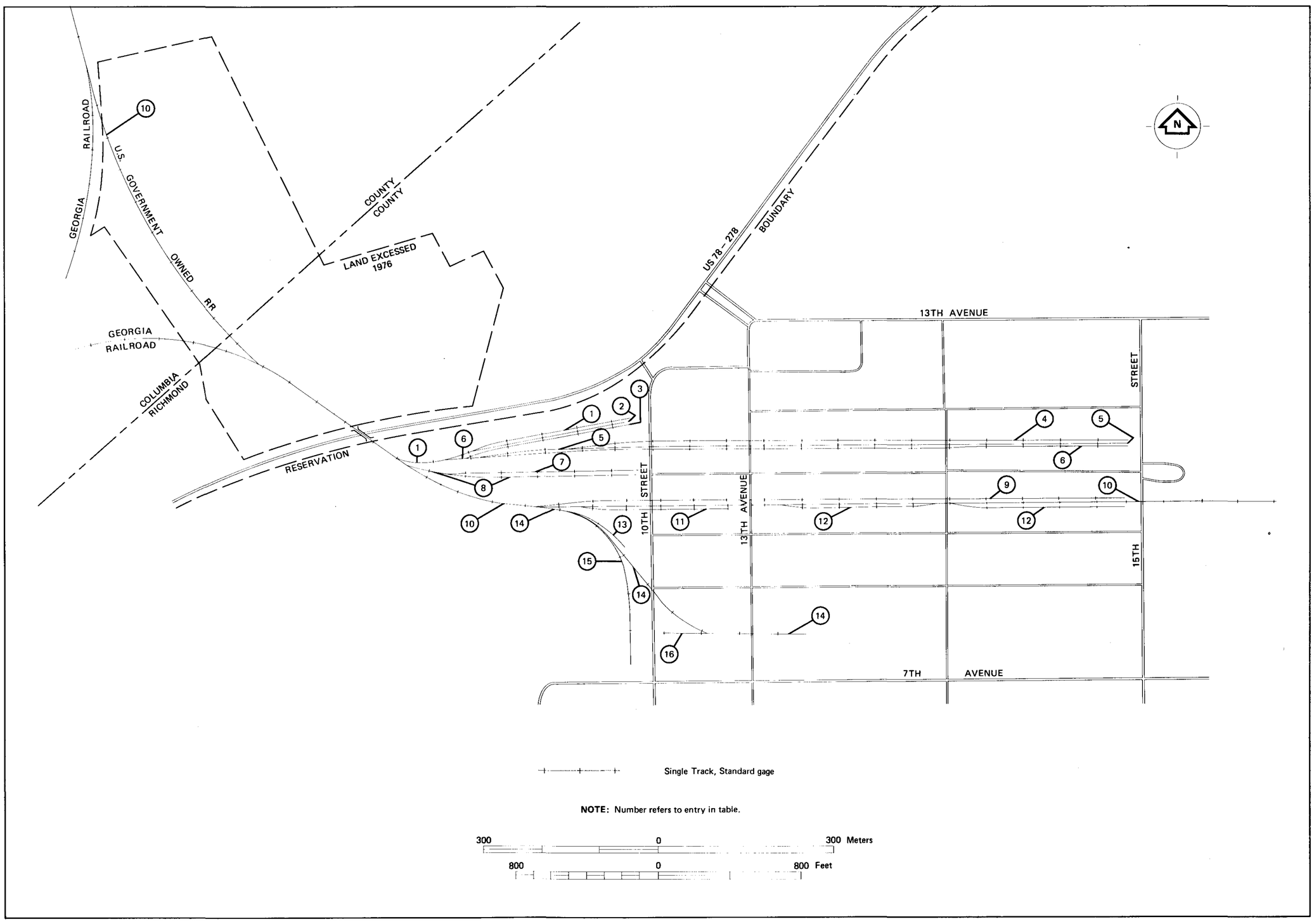
[1] W: Wheeled Vehicles
T: Tracked Vehicles

J. LINES OF COMMUNICATION (Continued)

2. RAILROADS

IDENTIFICATION	SEGMENT OF TRACK GRID REFERENCE FROM	TO	LENGTH OF SEGMENT	OWNERSHIP OF LINE/ CONDITION OF TRACK	TRACK AND BED CHARACTERISTICS	CROSS-OVER LOCATIONS	SIDINGS	VOLUME OF TRAFFIC[1]	FACILITIES	REMARKS
Rail yard; (refer to individual tracks by number in the inset figure below).	Track 1: 898993	901994	408.4 m (1340 ft)	U.S. Government owned and maintained/good condition.	Single track standard gage; maximum grade less than 2%; minimum radius of curvature 274.3 m (900 ft); ballast material crushed stone; weight of rails: 39.7 kg/m (80 lb/yd)	901991 901992 901993 903990 903992 903993 906992 906993 910992	All track segments are sidings.	5 to 24	Warehousing and coal storage areas.	No main lines on the reservation.
	Track 2: 898993	901994	274.3 m (900 ft)					Less than 5		
	Track 3: 898993	901994	286.5 m (940 ft)					5 to 24		
	Track 4: 901993	910993	960.1 m (3150 ft)					5 to 24		
	Track 5: 897993	910993	1109.5 m (3640 ft)					5 to 24		
	Track 6: 899993	910993	1164.3 m (3820 ft)					5 to 24		
	Track 7: 897993	901993	320.0 m (1050 ft)					25 to 99		
	Track 8: 898993	901993	402.3 m (1320 ft)					25 to 99		
	Track 9: 900992	910992	1005.8 m (3300 ft)					5 to 24		
	Track 10: 892999	911992	2395.7 m (7860 ft)					100 to 299		
	Track 11: 900992	903992	274.3 m (900 ft)					Less than 5		
	Track 12: 904992	910992	557.8 m (1830 ft)					Less than 5		
	Track 13: 900992	901992	121.9 m (400 ft)					5 to 24		
	Track 14: 900992	904990	536.4 m (1760 ft)					25 to 99		
	Track 15: 901991	901990	292.6 m (960 ft)					25 to 99		
	Track 16: 902990	903990	73.2 m (240 ft)					0		

[1] Average number of car movements per month.



J. LINES OF COMMUNICATION (Continued)

RAILROAD BRIDGES

IDENTIFICATION NUMBER	GRID REFERENCE	FEATURE CROSSED	NUMBER OF TRACKS	ROADWAY WIDTH	CLEARANCE HORIZONTAL	CLEARANCE VERTICAL	DECK MATERIAL	OVERALL LENGTH	TYPE OF STRUCTURE	REMARKS
1	897994	U.S. Highway Route No. 78	Single track	Standard gage; 1.44 m (4 ft 8½ in)	3.7 m (12 ft)	Unlimited	Wood	50.6 m (166 ft)	Truss bridge/three span; steel center span; timber beam approach spans.	Repairs and changes were made in 1977 to make the design capacity Coopers E-60 loading.

3. AIRFIELDS/AIRSTRIPS

MAP NUMBER; LOCATION; TYPE; AND CLASSIFICATION	ELEVATION AND STATUS	RUNWAY DESCRIPTION	TAXIWAY, PARKING APRON AND HARDSTAND AREA DESCRIPTION	BUILDING DESCRIPTION	POL FACILITIES	NAVIGATIONAL AIDS	REMARKS
1. 823906; Army Airstrip.	146.3 m (480 ft); Operational	1280.2 x 30.5 m (4200 x 100 ft); azimuth, 164° - 244°; maximum weight bearing capacity (no data); pierced steel plank surface, fair condition.	No taxiway, parking apron, or hard-stand area.	No buildings	No facilities	No navigational aids	Trees at southeast end of runway average about 10.7 m (35 ft) in height.

4. PIPELINES

MAP NUMBER	GRID REFERENCE FROM	GRID REFERENCE TO	STATUS	OWNERSHIP	PIPELINE CHARACTERISTICS	TANK CROSSING SITES	REMARKS
1	962953	904996	Operative	Atlanta Gas Light Company	20.3 cm (8 in) diameter pipe; 8.9 km (5.5 mi) through cantonment area; natural gas transmission line, 9.1 kg/cm^2 (130 lb/in^2) operating pressure.	None	Through-put is on "as required" basis; no data available for burial depth.

5. HELICOPTER LANDING ZONES

MAP NUMBER	GRID REFERENCE	DIMENSIONS	AZIMUTH	ELEVATION	SURFACE MATERIAL	RESTRAINTS
1	954994	4.1 x 4.1 m (13.3 x 13.3 ft)	No Data	134.1 m (440 ft)	Concrete	13 story hospital west.
2	940983	4.1 x 4.1 m (13.3 x 13.3 ft)	No Data	144.8 m (475 ft)	Concrete	Buildings and wires north, south and east.
3	853934	No Data	No Data	146.3 m (480 ft)	Grass	Wires east and northeast.

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

LINES OF COMMUNICATION

ROADS

- Hard surface divided, 4 lanes
- Hard surface, 4 lanes
- Hard surface, 2 lanes
- Loose surface, 2 lanes
- Loose surface, 1 lane
- Tank crossing

ROAD BRIDGE DATA

(All measurements in meters)

A. Bridge number
B. One way military load classification
C. Two way military load classification
   W - Wheeled Vehicles
   T- Tracked Vehicles
D. Roadway width
E. Length
F. Vertical clearance
∞ Unlimited

NOTE: Number refers to entry in table.

RAILROADS

(see inset figure following Table 2, RAILROADS

RAILROAD BRIDGE DATA

(All measurements in meters)

A. Bridge number
B. Vertical clearance
C. Horizontal clearance
D. Length
∞ Unlimited

AIRFIELDS/AIRSTRIPS

1 Airstrip

PIPELINES

1 Pipeline

HELICOPTER LANDING ZONES

3 Landing Zone

SEE INSET WITH TEXT

SMALL ARMS IMPACT AREA

LIVE DUD AREA

ARTILLERY IMPACT AREA

FORT GORDON MILITARY RESERVATION

MCDUFFIE COUNTY
JEFFERSON COUNTY
COLUMBIA COUNTY
RICHMOND COUNTY

1:50,000 SHEET INDEX
SERIES V745

HARLEM 4550 IV
HEPHZIBAH 4550 I

Scale 1:50,000

1000 500 0 1000 2000 3000 4000 Meters

1 ½ 0 1 2 3 Statute Miles

CONTOUR INTERVAL 20 FEET
WITH SUPPLEMENTARY CONTOURS AT 10 FOOT INTERVALS

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

K. URBAN AREA (CANTONMENT AREA)

FAMILY HOUSING

TYPE	NUMBER OF BUILDINGS	NUMBER OF FAMILY UNITS	CURRENT OCCUPANCY	YEAR OF CONSTRUCTION	CONDITION	REMARKS
General:						
Temporary	2	2	2	1930	Good	Houses not built originally as military residences.
Permanent	1	1	1	1930	Good	Wood construction; two brick veneered. Renovated and modernized. Estimated further life of 20 years.
Colonel:						
Temporary	2	2	2	1930	Good	Wood construction.
Permanent	27	27	27	1930 and 1958 to 1968	Good	One house of similar vintage to above, constructed of wood. Remainder of brick construction.
Lt. Colonel and Major:						
Permanent	26	52	52	1966 and 1975	Good	Wood and brick construction. Duplex units.
Company Grade and Warrant Officer:						
Permanent	30	74	74	1966 and 1975	Good to Fair	Wood and brick construction. Multiplex units.
NCO:						
Permanent	245	718	718	1966, 1970, 1974, 1975	Good to Fair	Wood and brick construction. Multiplex units.
TOTAL	333	876	876			A shortage of Company Grade Officers and NCO married quarters is offset by off-post housing, which is generally readily available. Land has been earmarked adjacent to existing housing areas for expansion at a future date as follows: 272 Officers married quarters 27.5 ha (68 acres) 1741 NCO married quarters 176.4 ha (436 acres)

QUARTERS

TYPE	TOTAL NUMBER	TOTAL CAPACITY	CURRENT OCCUPANCY	YEAR OF CONSTRUCTION	CONDITION	REMARKS
BOQ						
Permanent	2	160	160	1967	Good	Griffith Hall is located in the Dwight D. Eisenhower Medical Center area.
		299	299	1972	Good	Ring Hall is located close to the officer's open mess.
TOTAL	2	459	459			Permanent Party requirements are currently for 187 billets. TDY requirements are for 355. The shortfall in permanent accommodation is 83. Both BOQs are constructed of brick on concrete block. Planning for future post expansion includes additional building or extension to Ring Hall to accommodate an additional 122 officers.
GUEST HOUSES						
Permanent	1	75 rooms		1971	Good	All ranks accommodation; used for visitors and transient families.
Temporary	1	19		1942	Fair	Visiting enlisted men's quarters.
TOTAL	2	94				

SCHOOLS AND MEDICAL FACILITIES

TYPE	CAPACITY	REMARKS
SCHOOLS		There are no schools on the post. Students attend schools in the Augusta area. There are plans for building an elementary school and a high school at some future date.
MEDICAL FACILITIES		
Hospital		
Permanent	Total : 760 beds medical : 310 beds surgical : 275 beds neuropsychiatric : 175 beds	The Dwight D. Eisenhower Army Medical Center, a 13 story precast concrete structure was opened in 1976. It provides full range care including radioisotope therapy and neurosurgery. There is a comprehensive out-patient service plus facilities for medical research, pathology and occupational and physical therapy. The Eisenhower Medical Center is the Military Regional Health Coordination Center for the southeast United States and the Canal Zone.
Dispensaries		
Permanent and Semi-permanent		Four dispensaries (including one of semi-permanent construction at Brems barracks) are located in the cantonment area. They do not contain in-patient facilities.
Dental Clinic		
Permanent	42 dental treatment rooms	The Tingay Dental Clinic, opened in 1975, is a Regional Dental Facility.
Temporary		Three temporary dental clinics are also available in the cantonment area.
		Further improvements to the Eisenhower Medical Center are planned, to include an applied instruction building, an occupational health clinic, a new family practice clinic and further laboratory and supply buildings. Increase in car parking to 800 cars is also planned.

TELECOMMUNICATIONS

TYPE	CAPACITY	REMARKS
Official Telephone	5600 lines 2 two-way trunk lines 63 one-way-out trunk lines 56 one-way-in trunk lines 31 Autovon circuits 4 WATS circuits	Southern Bell Telephone and Telegraph Company provides the incoming service. The Federal (ITT), automatic dial, main exchange is housed in a permanent building and an expansion to 6000 lines is possible without structural alteration. Any further increase will require building extension. The communications center consists primarily of a UNIVAC DCT 9000 DATA/MAGNETIC Type DCA communications system. There are 57.9 km (36 mi) of direct buried telephone cables and 35.4 km (22 mi) in ducts. There are 273.5 km (170 mi) of aerial telephone cables on poles.
Fire Reporting Telephone	200 lines	Kellog manual switchboard with 142 fire telephones currently connected. There is a tie-line with Augusta Fire Headquarters.
Intercommunication Systems	400 lines "Post-wide"	A solid state system for Signal School internal use. A public address system consisting of speaker clusters mounted on poles throughout the main cantonment area and a master console located in the Provost Marshal's office.
Closed Circuit TV		A closed circuit cable TV system consists of 354.8 km (220.5 mi) of cable, currently serving 11,590 outlets.

TROOP BILLETS

TYPE	TOTAL NUMBER	TOTAL CAPACITY	CURRENT OCCUPANCY	YEAR OF CONSTRUCTION	CONDITION	REMARKS
TRAINEES						
Permanent	19	5066	6104	1966-1969	Good	Constructed of brick on concrete block. Centrally heated and air conditioned. Located between 6th and 7th Avenues.
Semi-permanent	23	1242		1967	Good	Patrick Brems Barracks. Utilized mainly by Army Reserve and National Guard. Constructed of concrete block and metal frames.
Temporary	62	2604		Various Majority 1942	Fair to Poor	Construction is of wood with concrete pier foundations. Buildings are due for demolition in the future as they are replaced with permanent conconstruction.
TOTAL	104	8912	6104			
PERMANENT PARTY						
Permanent	32	5048	3627	1968-1975	Good	Constructed of brick on concrete block. Located mainly between 4th and 5th Avenues. Two additional units, housing 282 men, together with support building, are to be added. Expansion of post facilities includes plans to add a further three battalion sized barracks, each housing 1150 men. Total capacity includes provision for 540 enlisted medical personnel in two barrack blocks close to the Dwight D. Eisenhower Medical Center.

RECREATION FACILITIES

TYPE	CAPACITY	REMARKS
INDOOR FACILITIES		
8 Recreation day rooms	190.5 m² (2050 ft²) each	Detached. Built 1969. Permanent construction. Located in barracks area south of parade ground.
1 Auditorium	2051 m² (22,077 ft²)	Alexander Hall. Built 1970. Permanent construction.
1 Arts and Crafts Center	1434 m² (15,436 ft²)	Built 1969. Permanent construction.
1 Community Center	272.7 m² (2935 ft²)	Built 1946. Temporary building.
4 Gymnasiums		Built 1969. Permanent construction. Located in main barracks areas.
3 Enlisted Men's Service Clubs		One permanent, one semi-permanent and one temporary building, all located adjacent to main barracks areas.
2 Bowling Centers	Total 40 lanes	Built 1966-67. Permanent construction.
2 Theatres w/o stage	1500 seats	Built 1972. Permanent construction.
	1000 seats	Built 1967. Temporary construction.
3 Libraries	Main library 1366.7 m² (14,712 ft²)	Main library built 1966. Permanent construction. Two additional branch library buildings are of temporary construction.
1 Youth Center	541 m² (5823 ft²)	Built 1971. Permanent construction. Additional temporary accommodation is utilized to help make provision for an estimated 5000 youth population.
1 Museum	250.8 m² (2700 ft²)	Built 1942. Temporary building.
OUTDOOR FACILITIES		
2 Golf courses	18 holes	Located approximately 4.8 km (3 mi) south of cantonment area.
	9 holes	Located in cantonment area.
4 Running tracks		One regulation size; three training tracks.
2 Swimming pools		One located at officer's open mess; one located at enlisted men's open mess.
1 Riding stable	1625.8 m² (17,500 ft²)	
12 Tennis courts		At six locations in cantonment area.
12 Basketball courts		At various locations in cantonment area.
6 Volleyball courts		
2 Badminton courts		
1 Baseball field		
2 Junior baseball fields		
11 Softball fields		
4 Football fields		One superimposed on running track.
1 Junior football field		
10 Multi-purpose courts		Basketball, volley ball, badminton or tennis.
1 Skeet range		Located north of 8th Avenue.
1 Bandstand		Located adjacent to main Post Exchange.
Boy Scout camping		Camping area at Scout Lake (alternative name Signal Lake). Facilities include temporary buildings of 520.2 m² (5600 ft²) at the lake.
Picnic area.		Mirror Lake picnic area includes a recreation building of 4658.6 m² (50,146 ft²).
Hunting		Deer, dove, quail, turkey, rabbit and squirrel.
Fishing		27 lakes and ponds stocked with large-mouth bass; bluegill; channel, white and blue catfish; rainbow trout; and assorted sunfish.
		There is sufficient land available for expansion of most facilities. Future plans include a physical fitness center, stadium, enlisted men's swimming pool and another bowling center. 43.3 km (27 mi) northwest of the reservation is the Clark Hill Recreation Area of 329.4 ha (814 acres), available to all personnel. This area, which is under permit from the Corps of Engineers, provides picnicking, camping, fishing, boating and waterskiing.

K. URBAN AREA (CANTONMENT AREA) (Continued)

WATER SUPPLY

TYPE	CAPACITY liters per day (gpd)	CURRENT LOAD liters per day (gpd)	REMARKS
SUPPLY			
Butler Creek	22.7×10^6 (6×10^6) average flow	7.6×10^6 (2×10^6) average 14.4×10^6 (3.8×10^6) maximum	The creek daily flow and a reservoir assure an ample water supply. A secondary source of treated water is available for emergencies through a government constructed 457.2 mm (18 in) cast iron pipe from the Augusta treatment plant.
TREATMENT			
Water treatment plant	20.1×10^6 (5.3×10^6) overall design 28.4×10^6 (7.5×10^6) pumping equipment 9.8×10^6 (2.6×10^6) with auxiliary power source		The treatment plant employs reactor-clarifier type flocculation and settling units and standard rate sand filters.
STORAGE			
Reservoir	1560×10^6 L (412×10^6 gal)		The water distribution system is mainly of cast iron pipe with some recent asbestos cement extensions. The cantonment area is adequately served, with the exception of a small group of buildings near Gate 2 which is served by a single trunk line that is deficient in fire flow volume. Looping of the system through this area would provide the necessary water volume for fire flow. Gordon Terrace and Olive Terrace family housing areas are similarly deficient in fire flow volume, without manually by-passing the installed water meters. Adequate chlorine residual is maintained throughout the system except in the area south of 4th Avenue and West of 17th Street. Because of the very low draft in this area, chlorine residuals cannot be maintained. The installation of pumps to provide positive circulation is under consideration.

ELECTRICITY

SUBSTATIONS	CAPACITY	LOAD	REMARKS
Main	40,000 kVA		Two 20,000 kVA transformers with 115 kV primary and 12.7 kV secondary.
Eisenhower Medical Center	10,000 kVA		Two 5000 kVA transformers with 115 kV primary and 12.7 kV secondary.
		Total post usage FY 1977: 106,505,000 kWh. Peak usage FY 1977 (August): 10,710,000 kWh. Peak demand FY 1977 (August): 21,060 kW.	Electricity is purchased from the Georgia Power Company which owns all the high side equipment. Low side frame and switching equipment are government owned. Each post substation is supplied by two 110 kV power lines; one from the primary substation at Evans and the other from West Augusta substation. Power distribution is by 944,880 m (3.1 million ft) of overhead primary lines and 31,394.4 m (103,000 ft) of underground lines; 1088 distribution transformers of 73,302 kVA total capacity. Standby diesel generators are available for essential services. In recent years, during summer months, power shortages have occurred as a result of overloaded lines and transformers. Future development of the post will need an increase in power capacity and some improvement in its distribution. In addition, although the majority of the electrical load is served by the 12.7 kV distribution system, there remains in use four 4.2 kV primary feed lines which should be converted to the higher voltage system.

SEWERAGE

PLANT	CAPACITY liters per day (gpd)	CURRENT LOAD liters per day (gpd)	REMARKS
Main sewage plant.	17×10^6 (4.5×10^6)	4.5×10^6 (1.2×10^6) average daily flow	Adequate collection service is available in all parts of the cantonment area. The 11 lift stations incorporated in the system are of the dry well duplex pumping unit type. Stations having wet well overflows to surface drainage are being modified to eliminate overflow. The sewage plant provides trickling filter secondary treatment and is capable of 100% recirculation at the design capacity. Spirit Creek, which receives the plant outfall, has recently been impounded to provide a lake at Gordon Lakes golf course. As a result of the impoundment, limitations imposed on plant effluent to insure full compliance under the terms of the National Pollutant Discharge Elimination System permit have been the subject of study.

NATURAL GAS

CAPACITY	LOAD	REMARKS
Adequate to meet present and likely future demands.	Consumption FY 1977: $848,407 \times 10^9$ J ($804,673 \times 10^6$ Btu)	Natural gas is the principal heating fuel at Fort Gordon. It is supplied by the Atlanta Gas and Light Company (AGLC). The on-post transmission line enters at Gate 5, runs northwest through the cantonment area to a point west of Gate 3 and dead-ends at the post boundary. The 203.2 mm (8 in) line, laid in a 3 m (10 ft) easement, is owned and maintained by AGLC. High side pressure of 28.1 kg/cm^2 (400 lb/in^2) is reduced at the Gate 5 metering station to 9.1 kg/cm^2 (130 lb/in^2) for post transmission, and government owned tappings at 17 points in the line reduce pressure further for particular local requirements. Such distribution pressures vary from 1.4 to 5.3 kg/cm^2 (20 to 75 lb/in^2). The system is in excellent condition. Fort Gordon has approximately 1600 buildings heated chiefly by natural gas. The three major central boiler plants are gas-fired, with fuel oil back-up, and these service the hospital, Signal School and main barracks complexes with heating and air conditioning. Remaining buildings, including most family housing units, are heated by individual gas furnaces. During FY 1977, natural gas supply was interrupted 23 times for periods of from 2 hours to several days. Directives relating to fuel selections will limit any major increase in gas consumption occasioned by construction of new facilities. Some net reduction in load may in fact take place in the future if major gas fired units are converted to coal or oil in accordance with current fuel use guidelines.

URBAN AREA (CANTONMENT AREA)

LOCATION DIAGRAM

AREA FEATURES

- Family Housing, Officer
- Family Housing, NCO
- Barracks, Troop Quarters
- Bachelor Officer Quarters
- Guest Houses, Temporary Quarters
- Parade Grounds
- Outdoor Recreation Facilities

500 250 0 500 1000 1500 METERS

500 0 1000 2000 3000 4000 FEET

POINT FEATURES

1. Post Headquarters
2. Post Hospital
3. Officers' Open Mess
4. Post Exchange
5. Commissary
6. Post Office
7. Dental Clinic
8. Chapel
9. Directorate of Facilities Engineering
10. Telephone Exchange
11. Sewage Treatment Plant
12. Electric Power Substation
13. Water Storage Tank
14. Indoor Recreation
15. Signal Center and Signal School Headquarters
16. SNCO Mess
17. Water Treatment Plant
18. Fuel Storage Tanks
19. Central Heating and Air Conditioning Plant
20. Enlisted Men's Open Mess
21. Helipad

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

L. NON-URBAN CULTURE FEATURES

Fort Gordon has numerous man-made features outside the cantonment area, which could affect positively or negatively, military training and operations. These features consist mainly of buildings associated with range areas, utility lines, training areas, support facilities and cemeteries. The man-made features included are those that existed as of June 1979.

MAP NUMBER	GRID REFERENCE	DESCRIPTION
1	719855	Cemetery
2	723875	Cemetery
3	723876	Cemetery
4	743853	Cemetery
5	744859	Cemetery
6	746886	Cemetery
7	747904	Cemetery
8	771900	Range 44 (trainfire II squad in attack; inactive): Control tower[1]; range house, 26.8 m² (288 ft²), concrete block, semi-permanent; mess hall, 167.2 m² (1800 ft²), concrete block, semi-permanent.
9	774899	Range 44A (hand grenade confidence course; inactive): Two throwing bays.
10	771879	Cemetery
11	763870	Cemetery
12	757847	Cemetery
13	760849	Cemetery
14	779835	Cemetery
15	787830	Cemetery
16	809854	Cemetery
17	804858	Range 37 (106 mm recoilless rifle sub-caliber and spotter; inactive): 10 firing points; control tower[2]; target house, 36.4 m² (392 ft²), wood, temporary; range house, 36.4 m² (392 ft²), wood, temporary.
18	788882	Cemetery
19	788901	Cemetery
20	793908	Cemetery
21	795909	Cemetery
22	798905	Cemetery
23	793901	Range 43 (trainfire II squad in defense, day and night; inactive): 24 firing points; control tower[1]; range house, no data.
24	809893	Range 42 (battle drill and assault, day and night, trainfire II; inactive): Control tower[1].
25	805885	Ranges 40 and 41 (inactive): Two control towers[2].
26	807883	Range 39 (0.50 caliber machine gun, 106 mm recoilless rifle and weapons demonstration): Three concrete pads for 106 mm recoilless rifle.
27	809877	Range 38 (81 mm and 4.2 inch mortar; inactive): General instruction building, 260.1 m² (2800 ft²), concrete block and metal, semi-permanent.
28	814871	Cemetery
29	820863	Cemetery
30	823862	Cemetery
31	827856	Cemetery
32	825870	Cemetery
33	821881	Cemetery
34	818881	Building: Classroom, 260.1 m² (2800 ft²), metal, semi-permanent.
35	825884	Building: General storehouse, 161.7 m² (1740 ft²), metal, semi-permanent.
36	841881	Cemetery
37	833891	Cemetery
38	826896	Cemetery
39	823902	Cemetery
40	826903	Cemetery
41	825916	Cemetery
42	816919	Cemetery
43	831928	Leitner Pond Recreation Area: Rod and gun club, 204.4 m² (2200 ft²), concrete block, temporary; recreation building, 142.1 m² (1530 ft²), concrete block, temporary; pavilion, 162.8 m² (1752 ft²), wood, temporary; chlorinator building, 7.4 m² (80 ft²), concrete block, semi-permanent; latrine, 22.5 m² (242 ft²), concrete block, temporary.
44	830938	Cemetery
45	847947	Cemetery
46	848948	Cemetery
47	855938	Buildings: Electrical target repair shop, 95.1 m² (1024 ft²), wood, temporary; electrical target storehouse, 89.2 m² (960 ft²), metal, temporary.
48	854938	Cemetery
49	857939	Range 17 (trainfire I field fire): 35 firing points; control tower[2]; range house, 36.4 m² (392 ft²), wood, temporary; bleachers, 220 man capacity, temporary; earth berm, length 500 m (1640.4 ft).
50	857937	Cemetery
51	855937	Buildings (Range Control Headquarters): Telephone exchange building, 106.3 m² (1144 ft²), concrete block, temporary; target house, 89.2 m² (960 ft²), metal, temporary; general storehouse, 218.3 m² (2350 ft²), wood, temporary; administration building, 130.4 m² (1404 ft²), wood, temporary; storage shed, 185.8 m² (2000 ft²), wood, temporary; paint shop, 230 m² (2400 ft²), wood, temporary.
52	857937	Range 18 (trainfire I field fire); 35 firing points; control tower[2]; target house, 260.9 m² (2808 ft²), wood, temporary; flammable material storehouse, 223.0 m² (2400 ft²), wood, temporary; bleachers, 220 man capacity, temporary.
53	858929	Range 19 (combat firing; inactive): 18 firing points; control tower[1]; target house, 36.4 m² (392 ft²), wood, temporary.
54	859927	Range 20 (15, 25, 30, and 50 meter zero/night firing): 50 firing points; control tower[1]; range house, no data; bleachers, 220 man capacity, temporary.
55	870928	Cemetery
56	860924	Range 21 (25 meter): 80 firing points; control tower[2]; range house, 95.1 m² (1024 ft²), wood, temporary; earth berm, length 700 m (2296.6 ft).
57	859919	Cemetery
58	863920	Range 22 (trainfire I record fire): 16 firing points; control tower[2]; classroom, 65.4 m² (704 ft²), concrete block, semi-permanent; two bleachers, 275 man capacity, semi-permanent; Two earth berms, length each 350.0 m (1148.3 ft).
59	865918	Range 22A (0.38 caliber pistol qualification): Four firing lanes, seven graduated firing points per lane; range house, no data; bleachers, 60 man capacity, temporary. Range 23 (106 mm recoilless rifle - 10 meter sub-caliber and 0.50 caliber spotter): Six firing points.
60	876924	Cemetery
61	871915	Range 24 (trainfire I record firing): 16 firing points; control tower[2]; range house, no data; bleachers, 220 man capacity, temporary.
62	867910	Cemetery
63	870903	Building: General storehouse, 260.9 m² (2808 ft²), wood, temporary.
64	869897	Buildings (Fish and Wildlife Section): General storehouse, 262.9 m² (2830 ft²), wood, temporary; general storehouse, 89.2 m² (960 ft²), metal, temporary; maintenance shop, 274.2 m² (2951 ft²), concrete block, semi-permanent; oil house, 11.1 m² (120 ft²), concrete block, semi-permanent.
65	856871	Cemetery
66	873869	Cemetery
67	878869	Cemetery
68	882875	Cemetery
69	884893	Cemetery
70	878896	Cemetery
71	876898	Building: General storehouse, 139.4 m² (1500 ft²), concrete block, temporary.
72	880901	Cemetery
73	872903	Buildings (Forestry Headquarters): Administration building, 59.5 m² (640 ft²), wood, temporary; building, 53.2 m² (573 ft²), wood, temporary; equipment shed, 155.7 m² (1676 ft²), wood, temporary; oil and paint house, 13.0 m² (140 ft²), metal, temporary; general storehouse, 17.8 m² (192 ft²), wood and metal, temporary; fire tower, height 30.5 m (100 ft), steel tower frame with building on top, 4.6 m² (49 ft²), wood and glass, semi-permanent.
74	879906	Cemetery
75	878909	Cemetery
76	892918	Range 26 (trainfire I record firing; inactive): 16 firing points; control tower[2]; range house, 29.7 m² (320 ft²), wood, temporary; range house, 95.1 m² (1024 ft²), wood, temporary; bleachers, 220 man capacity, temporary.
77	905919	Range 27 (overhead fire attack course): Two firing points; control tower[1]; range house, 285.4 m² (3072 ft²), concrete block; mess hall, 150.5 m² (1620 ft²), concrete block; bleachers, 240 man capacity; all structures are semi-permanent.
78	900907	Buildings: Five training buildings, one, 41.6 m² (448 ft²), concrete block; one 17.8 m² (192 ft²), metal; one 36.4 m² (392 ft²), metal; one 29.3 m² (315 ft²), metal; one 81.8 m² (880 ft²), wood; communications center, 327.8 m² (3528 ft²), wood; telephone exchange, 111.5 m² (1200 ft²), metal; all structures are temporary.
79	926926	Range 29 (40 mm grenade launcher, M-79/M-203): 10 firing points; range house, 31.2 m² (336 ft²), wood, temporary; bleachers, 220 man capacity, temporary.
80	922926	Range 30 (hand grenade): Eight throwing bays; observation tower, base 13.4 m² (144 ft²), height 4.9 m (16 ft), concrete, permanent; ready wall, length 24.4 m (80 ft), height 4.6 m (15 ft), concrete, permanent; ammunition shed, 63.9 m² (688 ft²), concrete, permanent.
81	916929	Range 31 (chemical; inactive): Two unidentified structures.
82	915930	Range 33 (M-60 machine gun and familiarization of U.S. weapons): Five firing lanes; observation tower[1]; bleachers, 480 man capacity, temporary.
83	888944	Cemetery
84	887948	Cemetery
85	920940	Range 34 (anti-tank): 10 firing bays.
86	916947	Range 35 (infiltration course; inactive): Range house, 95.1 m² (1024 ft²), wood, temporary.
87	917948	Range 35A (automatic rifle transition course; inactive): Three firing lanes.

L. NON-URBAN CULTURE FEATURES (Continued)

MAP NUMBER	GRID REFERENCE	DESCRIPTION
88	938939	Buildings (golf course): Clubhouse, 519.0 m^2 (5587 ft^2), concrete and brick, permanent; storehouse, 26.8 m^2 (288 ft^2), wood, temporary; general storage building, 290.9 m^2 (3131 ft^2), concrete block, temporary.
89	934944	Buildings: Three golf course maintenance shops, each 89.2 m^2 (960 ft^2), metal, temporary.
90	935945/938939	Underground power cable to golf course clubhouse.
91	936945	Cemetery
92	932945	Cemetery
93	952947	Cemetery
94	930953	Cemetery
95	928961	Cemetery
96	932971	Cemetery
97	929972	Gas chamber, 129.3 m^2 (1392 ft^2), wood, temporary.
98	935000	Willard training facility: Restricted area, no data.
99	919995	Cemetery
100	914001	Cemetery
101	894979	Ammunition supply point: 21 igloos, 1474.1 m^2 (15,868 ft^2) total, concrete, permanent; perimeter chain link fence, height 2.4 m (8 ft), topped with circular accordian barbed wire, length approximately 749.8 m (2460 ft).
102	892973	Range 1 (25 meter): 110 firing points; control tower[2]; range house, 36.4 m^2 (392 ft^2), wood; bleachers, 220 man capacity; all structures are temporary.
103	889974	Range 2 (25 meter; inactive): 50 firing points; target house, 36.4 m^2 (392 ft^2), wood, temporary.
104	886975	Range 3 (25 meter): 110 firing points; control tower[2]; target house, 36.4 m^2 (392 ft^2), wood, temporary.
105	881975	Range 4 (close combat): Four lanes; target house, 95.1 m^2 (1024 ft^2), wood, temporary.
106	877972	Range 6 (close combat): Four lanes; control tower[1]; target house, 36.4 m^2 (392 ft^2), wood, temporary; three earth berms, total length 1700 m (5577 ft).
107	871966	Range 8 (National Rifle Association match course, pistol): 24 firing points; overhead cover, 185.8 m^2 (2000 ft^2), metal, temporary; two range houses, each, 35.4 m^2 (392 ft^2), wood, temporary.
108	866969	Cemetery
109	867963	Range 9 (0.45 caliber pistol): 90 firing points; control tower[2], range house, 95.1 m^2 (1024 ft^2), wood, temporary; bleachers, 220 man capacity, temporary; earth berm, length 80 m (262.5 ft).
110	865963	Building: General storehouse, 89.2 m^2 (960 ft^2), metal, temporary.
111	865961	Range 10 (shotgun, submachine gun and 0.45 caliber pistol): 20 firing points.
112	865954	Range 11 (25 meter; inactive): 48 firing points; target house, 36.4 m^2 (392 ft^2), wood, temporary.
113	859952	Range 12 (fire and maneuver course, day): 10 firing lanes; control tower[2]; target house, 95.1 m^2 (1024 ft^2), wood, temporary.
114	853945	Range 14 (known distance, 914.4 meters (1000 yards): 50 firing points; Seven movable control towers[2]; pits with earth berm, 160 m (524.9 ft); earth berm between Ranges 14 and 15, 457 m (1500 ft).
115	857942	Range 15 (automatic rifle, night firing and known distance): 35 firing points; control tower[2]; target house, 36.4 m^2 (392 ft^2), wood, temporary.
116	858941	Range 16 (trainfire I field firing): 35 firing points; control tower[2]; range house, 36.4 m^2 (392 ft^2), wood, temporary; bleachers, 60 man capacity, temporary; two earth berms, length each 500 m (1640 ft).
117	771900/905968/929959	Power line: U.S. Government owned, range distribution, single phase, 12 Kv, aerial pole line.
118	771900/893973/928978	Telephone line: U.S. Government owned, range communications.

[1] Control tower, base 15.3 m^2 (165 ft^2), height 7.3 m (24 ft), steel columns, semi-permanent.

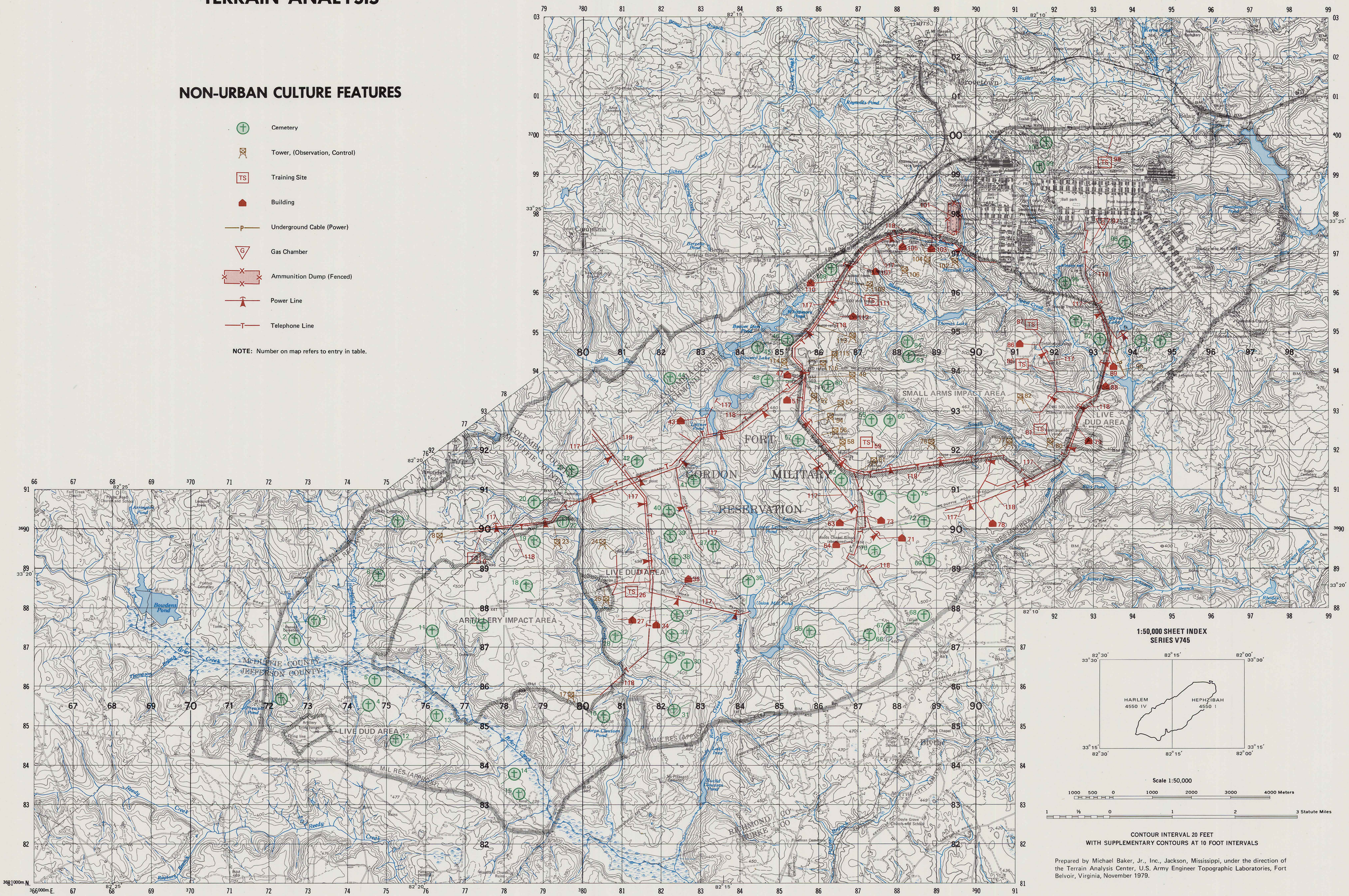
[2] Control tower, base 5.9 m^2 (64 ft^2), height 4.6 m (15 ft), wood, temporary.

FORT GORDON, GEORGIA
TERRAIN ANALYSIS

NON-URBAN CULTURE FEATURES

- Cemetery
- Tower, (Observation, Control)
- TS — Training Site
- Building
- P — Underground Cable (Power)
- G — Gas Chamber
- Ammunition Dump (Fenced)
- Power Line
- T — Telephone Line

NOTE: Number on map refers to entry in table.



1:50,000 SHEET INDEX
SERIES V745

Scale 1:50,000

1000 500 0 1000 2000 3000 4000 Meters

1 ½ 0 1 2 3 Statute Miles

CONTOUR INTERVAL 20 FEET
WITH SUPPLEMENTARY CONTOURS AT 10 FOOT INTERVALS

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

III. OFF-POST FEATURES

Off-post features in this study are limited to airfields and urban areas within an 80 kilometer (50 mile) radius and ports within a 160.9 kilometer (100 mile) radius of Fort Gordon. The locations of these features are shown on the accompanying map.

AIRFIELDS. There is only one airfield within an 80 kilometer (50 mile) radius of Fort Gordon that will support aircraft as large as the C-130 Hercules on a regular basis. This is Bush Field, a civil airport owned by the City of Augusta. It is situated approximately 21 kilometers (13 miles) east of the army post.

URBAN AREAS. There are 17 urban areas with populations of 2500 or more, within an 80 kilometer (50 mile) radius of Fort Gordon, in the states of Georgia and South Carolina. They range in size from 2500 for Blackville, South Carolina to 50,900 for Augusta, Georgia. The accompanying tables present data in terms of population, housing, education, medical and recreation facilities, and public utilities. Some of the urban areas listed, although officially-constituted towns, do not maintain independent planning authorities, and statistics of some of their facilities are combined with those of their parent counties. Where data in the tables is county-wide it is so annotated.

No port facilities are included in this study. The nearest port equipped to receive ocean going vessels is Savannah, Georgia which is located approximately 180 kilometers (112 miles) southeast of the army post. Full details of the port facilities at Savannah are contained in the Fort Stewart, Georgia Terrain Analysis.

A. AIRFIELDS

NAME; LOCATION; TYPE; CLASSIFICATION	ELEVATION AND STATUS	RUNWAY DESCRIPTION	TAXIWAY, PARKING APRON, AND HARDSTAND AREA DESCRIPTION	BUILDING DESCRIPTION	POL FACILITIES, MAINTENANCE AND SERVICES	NAVIGATIONAL AIDS	REMARKS
Bush Field 33° 22′ N 81° 58′ W Type: Civil (Joint use facility with Aviation Section, Army Training Center, Fort Gordon located on field as tenant). Classification: Airport	Elevation : 44.2 m (145 ft) Status : Operational	Runway 17/35 Direction : 169°/349° (magnetic) Length : 2438.7 m (8001 ft) Width : 45.7 m (150 ft) Maximum weight bearing capacity S52, T166, ST175, TT266.[1] Asphalt surface. Good condition. Runway 08/26 Direction : 079°/259° (magnetic) Length : 1641.7 m (5386 ft) Width : 45.7 m (150 ft) Maximum weight bearing capacity S52, T71, TT126. Asphalt surface. Good condition.	Taxiways: Parallel and link types, width 22.9 m (75 ft) except for 18.3 m (60 ft) width parallel to runway 08/26; maximum weight bearing capacity TT266, based on past usage. Asphalt surface in good condition. Parking Aprons: Two, total area 37,160 m^2 (400,000 ft^2), located in the main terminal area. Maximum weight bearing capacity TT266, based on past usage. Asphalt surface in good condition.	Hangars: Five, total area 4830.8 m^2 (52,000 ft^2) with workshops and maintenance bays attached. One hangar, with maintenance facilities, leased to the army. All hangars located together on west side of airfield. Main Terminal and Administration Buildings: Located on west side of airfield, with direct access to main parking apron, total area 1191 m^2 (12,820 ft^2), with nine gates. Weather office open 24 hours.	Fuel: Jet fuel, types TA, TB and JP4 in underground and above ground storage, 64,350.1 liters (17,000 gal) capacity. 100/130 octane aviation gasoline in underground and above ground storage, 155,197.3 liters (41,000 gal) capacity. Fuel is dispensed and restored by tank truck. Single point fueling available. City of Augusta, Aviation Department, provides the contract fuel. Oil: Oil and lubricants are available for all engine categories. Maintenance and Services: Army transit maintenance normally available 1200 to 2100 Z Monday through Friday. Civilian major and minor servicing and repairs available for powerplants and airframes. High pressure and low pressure oxygen, jet starters, and auxiliary power units available. Logistics: Access road to primary highway. Augusta 11.3 km (7 mi) north. Distance to Fort Gordon 14.4 km (9 mi) via Tobacco Road directly to Gate 5. Railroad runs along western boundary of airport. Communications: Point-to-point telephone, telegraph and teletype.	Navigational and Landing Aids: Radio navigation beacons [VORTAC at 24.1 km (15 mi) northwest and NDB at 8 km (5 mi) north] operated and maintained by the Federal Aviation Administration. Full air traffic control and radar surveillance. Precision approach Instrument Landing System (ILS) available on runways 17/35. Lighting: Civil airport rotating beacon and full approach, runway and taxiway lighting. Runway lighting is of high intensity on runways 17/35; medium intensity on runways 08/26.	Maximum aircraft arrival/departure rates that can normally be accepted are 12 per hour under instrument weather conditions and 30 per hour in good weather. Trees form unlighted obstruction, elevation 62.2 m (204 ft) at 781.5 m (2564 ft) from threshold of runway 26 and elevation 65.2 m (214 ft) at 765.7 m (2512 ft) from threshold of runway 08, raising minimum approach paths to ratios 35 to 1 and 29 to 1 respectively. Approach to runway 35, in high humidity, may produce gummy substance on windshield in smoke from paper mill, 4.8 km (3 mi) south of airport.

[1] Runway weight bearing capacity in pounds (gross weight of aircraft) is determined by adding 000 to figure following S, T, ST, TT. Runway weight bearing capacity given is for unlimited operations. Aircraft weight higher than given requires prior permission from aerodrome controlling authority.

- S- Runway weight bearing capacity for aircraft with single-wheel type landing gear (C-47, F100).
- T- Runway weight bearing capacity for aircraft with twin-wheel type landing gear (C-9A).
- ST- Runway weight bearing capacity for aircraft with single-tandem landing gear (C-130).
- TT- Runway weight bearing capacity for aircraft with twin-tandem type (includes quadricycle) landing gear (B-52, C-135).

For further information, see DOD Flight Information Publication (enroute IFR-Supplement United States).

B. URBAN AREAS

Aiken, SC (Aiken County) 33° 33′ N 81° 43′ W

POPULATION

1970 census	:	13,436
1979	:	14,132
1984 projection	:	14,627

HOUSING AVAILABILITY

Houses

Total units	:	3750
Renter-occupied	:	74
Average monthly rent	:	$225
Vacancy rate	:	< 1%
New house starts	:	36
Number of sales	:	210
Average sale price	:	$46,000

Apartments

Total units	:	159
Average monthly rent	:	$200
Vacancy rate	:	< 1%

(1978/79 data)

EDUCATION FACILITIES

Aiken Public Schools

Elementary Schools

Number of schools	:	7
Enrollment capacity	:	3680
1979 Enrollment	:	3533
1984 Projection	:	3109

Junior High Schools

Number of schools	:	2
Enrollment capacity	:	1300
1979 Enrollment	:	1313
1984 Projection	:	1247

Secondary Schools

Number of schools	:	2
Enrollment capacity	:	2646
1979 Enrollment	:	2646
1984 Projection	:	2302

Special Education Schools

Number of schools	:	2
1979 Enrollment	:	180

Private Schools

Number of schools (kindergarten to 8th grade)	:	4
1979 Enrollment	:	676

Higher Education

University of South Carolina (Aiken Campus) offers full range of 4 year courses.

1979 Enrollment	:	1539

Aiken Technical College

1979 Enrollment	:	1103

MEDICAL FACILITIES

Doctors

Total number	:	46
Doctor/population ratio	:	1/307

Dentists

Total number	:	20
Dentist/population ratio	:	1/707

Hospitals

Total number	:	1
Total beds	:	190

Intensive care unit of eight beds

Nursing Homes

Total number	:	3
Total beds	:	102

(1978 data)

RECREATION FACILITIES

Parks	:	2
Athletic Fields	:	3
Tennis Facilities	:	4
Golf Courses	:	4

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	Nuclear station under construction. Construction of two additional coal-fired stations to commence in 1980.

Sewage Disposal

Number of plants	:	2
Type of treatment	:	Primary and secondary.
Flow capacity PD[1]	:	9.5 million liters (2.5 million gal).
Actual flow PD	:	6.4 million liters (1.7 million gal).

Main plant to be phased out in 1980 and city will be included in new 75.7 million liter (20 million gal) per day, county system.

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Southern Natural Gas Company through SC Electric and Gas Company. Oil on local delivery.

Water Supply

Source	:	Surface water from Shawes Creek, supplemented by two wells of 8.3 million liters (2.2 million gal) per day, capacity. Storage in elevated tanks of 7.9 million liters (2.1 million gal) capacity.
Capacity PD	:	Municipal treatment plant 22.7 million liters (6 million gal).
Consumption PD	:	17 million liters (4.5 million gal).
Adequacy of service	:	Treatment plant in process of expansion to 37.6 million liters (10 million gal) per day, capacity.

(1979 data)

Augusta, GA (Richmond County) 33° 27′ N 82° 01′ W

POPULATION

1970 census	:	59,864
1979	:	50,900
1984 projection	:	48,820

HOUSING AVAILABILITY

Houses

Total units	:	15,400
Renter-occupied	:	5409
Average monthly rent	:	$190
Vacancy rate	:	6%
New house starts	:	34
(Richmond County:		1026)
Number of sales, including unincorporated urban areas:		1353
Average sale price	:	$34,320

Apartments

Total units	:	5749
Average monthly rent	:	$170
Vacancy rate	:	6%

(1978/79 data)

EDUCATION FACILITIES

Augusta Public Schools

Elementary Schools

Number of schools	:	26
Enrollment capacity	:	14,200
1979 Enrollment	:	12,417
1984 Projection	:	12,100

Junior High Schools

Number of schools	:	7
Enrollment capacity	:	4260
1979 Enrollment	:	4262
1984 Projection	:	4200

Secondary Schools

Number of schools	:	6
Enrollment capacity	:	8100
1979 Enrollment	:	8044
1984 Projection	:	8000

Special Education Schools

Special education programs are included in regular public schools.

Vocational Schools

Augusta combined High Schools Vocational/Technical School

1979 Enrollment day	:	2341
night	:	1312

Private Schools

Number of schools	:	18
1979 Enrollment	:	4577

Higher Education

Augusta College

1979 Enrollment	:	3883

Paine College

1979 Enrollment	:	840

Medical College of Georgia

1979 Enrollment	:	2114

MEDICAL FACILITIES

Doctors

Total number	:	228
Doctor/population ratio	:	1/223

Dentists

Total number	:	65
Dentist/population ratio	:	1/783

Hospitals

Total number	:	6
Total beds	:	2199

Includes 2 psychiatric hospitals with 402 beds

Nursing homes

Total number	:	1
Total beds	:	192

(1978 data)

RECREATION FACILITIES

Parks	:	9

Includes Mistletoe State Park at 38.2 km (24 mi)

Athletic Fields	:	12
Tennis Facilities	:	5
Golf Courses	:	6

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Oglethorpe Electric Membership Corporation.
Type	:	Coal, nuclear and hydro.
Future plants	:	Further coal, nuclear and hydro stations are under construction to meet expected demand over next 10 years.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary and secondary.
Flow capacity PD	:	113.6 million liters (30 million gal).
Actual flow PD	:	68 million liters (18 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Georgia Natural Gas Company. Oil on local delivery.

Water Supply

Source	:	Savannah River plus two deep wells of 106 million liters (28 million gal) per day capacity. Storage in 7.6 million liters (2 million gal) elevated tanks and 56.8 million liters (15 million gal) ground tanks.
Capacity PD	:	Treatment plant 170 million liters (45 million gal).
Consumption PD	:	68 million liters (18 million gal) average; 90.8 million liters (24 million gal) maximum.

(1979 data)

Barnwell, SC (Barnwell County) 33° 14′ N 81° 21′ W

POPULATION

1970 census	:	4439
1979	:	4926
1984 projection	:	5665

HOUSING AVAILABILITY

Houses

Total units	:	1540
Renter-occupied	:	260
Average monthly rent	:	$200
Vacancy rate	:	2%
New house starts	:	17
Number of sales	:	30
Average sale price	:	$41,250

Apartments

Total units	:	262
Average monthly rent	:	$180
Vacancy rate	:	< 1%

(1978/79 data)

EDUCATION FACILITIES

Barnwell Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	975
1979 Enrollment	:	965
1984 Projection	:	1022

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	525
1979 Enrollment	:	525
1984 Projection	:	608

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	660
1979 Enrollment	:	660
1984 Projection	:	673

Vocational Schools

Barnwell Vocational School

1979 Enrollment	:	67

Private Schools

Number of schools (kindergartens)	:	3
1979 Enrollment	:	72

School (kindergarten to 12th grade), enrollment 600, 17.7 km (11 mi) at Blackville.

Higher Education

Orangeburg 53 km (33 mi)

South Carolina State College

1979 Enrollment	:	3897

Orangeburg-Calhoun Technical College

1979 Enrollment	:	1495

Claflin College

1979 Enrollment	:	911

Aiken 58 km (36 mi)

University of South Carolina, full range of 4 year courses.

1979 Enrollment	:	1539

Aiken Technical College

1979 Enrollment	:	1103

MEDICAL FACILITIES

Doctors

Total number	:	5
Doctor/population ratio	:	1/985

Dentists

Total number	:	4
Dentist/population ratio	:	1/1232

Hospitals

Total number	:	1
Total beds	:	61

Nursing Homes

Total number	:	1
Total beds	:	36

(1978 data)

RECREATION FACILITIES

Barnwell County facilities

Parks	:	9
Athletic Fields	:	6
Tennis Facilities	:	5
Golf Courses	:	3

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary and secondary.
Flow capacity PD	:	3.8 million liters (1 million gal).
Actual flow PD	:	1.9 million liters (0.5 million gal).

Heating Fuels

Types available	:	Natural gas, propane and oil.
Service available	:	SC Electric and Gas Company. Propane through Dixie Pipeline Company. Oil on local delivery.

Water Supply

Source	:	11 deep wells. Storage in 3 elevated tanks of 1.6 million liters (0.4 million gal) total capacity.
Capacity PD	:	28.4 million liters (7.5 million gal).
Consumption PD	:	Peak demand 18.9 million liters (5 million gal).

(1979 data)

B. URBAN AREAS (Continued)

Batesburg, SC (Lexington County) 33° 54′ N 81° 33′ W

POPULATION

1970 census	:	4036
1979	:	3905
1984 projection	:	4060

HOUSING AVAILABILITY

Houses

Total units	:	1297
Renter-occupied	:	351
Average monthly rent	:	$180
Vacancy rate	:	8%
New house starts		
Lexington County	:	583
Number of sales		
Lexington County	:	2120
Average sale price	:	$32,500

Apartments

Total units	:	140
Average monthly rent	:	$180
Vacancy rate	:	4%

(1978/79 data)

EDUCATION FACILITIES

Batesburg Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	475
1979 Enrollment	:	456
1984 Projection	:	398

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	814
1979 Enrollment	:	814
1984 Projection	:	758

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	875
1979 Enrollment	:	840
1984 Projection	:	756

Private Schools

Number of schools in Lexington County	:	23
1979 Enrollment	:	1427

Higher Education

Columbia 46.7 km (29 mi)

University of South Carolina		
1979 Enrollment	:	22,175
Benedict College		
1979 Enrollment	:	2031
Columbia College		
1979 Enrollment	:	910

Both colleges offer 2 year associate degree courses.

Midlands Technical College		
1979 Enrollment	:	5592

MEDICAL FACILITIES

Doctors

Total number	:	2
Doctor/population ratio	:	1/1953

Dentists

Total number	:	2
Dentist/population ratio	:	1/1953

Hospitals

Nearest hospitals, Edgefield 38 km (24 mi) 40 beds, and West Columbia 40 km (25 mi) 255 beds.

(1978 data)

RECREATION FACILITIES

Parks	:	1
Athletic Fields	:	3
Tennis Facilities	:	3
Golf Courses	:	2

There are 10 golf courses in Lexington County.

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary.
Flow capacity PD	:	4.9 million liters (1.3 million gal).
Actual flow PD	:	3.4 million liters (0.9 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Source available	:	SC Electric and Gas Company. Oil on local delivery.

Water Supply

Source	:	North Edisto River. Storage in elevated tanks of 662,000 liters (175,000 gal) capacity plus 2 clear wells of 2.3 million liters (0.6 million gal).
Capacity PD	:	Treatment plant 7.6 million liters (2 million gal).
Consumption PD	:	3.4 million liters (0.9 million gal).

(1979 data)

Blackville, SC (Barnwell County) 33° 22′ N 81° 16′ W

POPULATION

1970 census	:	2395
1979	:	2500
1984 projection	:	2560

HOUSING AVAILABILITY

Houses

Total units	:	865
Renter-occupied	:	200
Average monthly rent	:	$195
Vacancy rate	:	3%
New house starts	:	5
Number of sales	:	12
Average sale price	:	$31,000

Apartments

Total units	:	35
Average monthly rent	:	$190
Vacancy rate	:	3%

(1978/79 data)

EDUCATION FACILITIES

Blackville Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	400
1979 Enrollment	:	388
1984 Projection	:	419

Junior High Schools

Number of schools	:	2
Enrollment capacity	:	600
1979 Enrollment	:	608
1984 Projection	:	608

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	381
1979 Enrollment	:	381
1984 Projection	:	324

Private Schools

Number of schools (kindergarten to 12th grade)	:	1
1979 Enrollment	:	600

Higher Education

Orangeburg 45 km (28 mi)

South Carolina State College		
1979 Enrollment	:	3897
Orangeburg-Calhoun Technical College		
1979 Enrollment	:	1495
Claflin College		
1979 Enrollment	:	911

MEDICAL FACILITIES

Doctors

Total number	:	2
Doctor/population ratio	:	1/1250

Dentists

Barnwell County

Total number	:	6
Dentist/population ratio	:	1/417

Hospitals

Nearest hospital, Barnwell 16 km (10 mi), 61 beds

Nursing Homes

Total number	:	2
Total beds	:	111

(1978 data)

RECREATION FACILITIES

Barnwell County facilities

Parks	:	9
Athletic Fields	:	6
Tennis Facilities	:	5
Golf Courses	:	3

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Water Supply

Source	:	3 deep wells. Storage in 3 elevated tanks, total capacity 1.9 million liters (0.5 million gal).
Capacity PD	:	3 million liters (0.8 million gal).
Consumption PD	:	1.1 million liters (0.3 million gal).

(1979 data)

Edgefield, SC (Edgefield County) 33° 47′ N 81° 56′ W

POPULATION

1970 census	:	2750
1979	:	2890
1984 projection	:	3010

HOUSING AVAILABILITY

Houses

Total units	:	857
Renter-occupied	:	192
Average monthly rent	:	$190
Vacancy rate	:	5.5%
New house starts	:	10
Number of sales	:	18
Average sale price	:	$32,400

Apartments

Total units	:	41
Average monthly rent	:	$185
Vacancy rate	:	3%

(1978/79 data)

EDUCATION FACILITIES

Edgefield Public Schools

Combined Elementary and Junior High Schools

Number of schools	:	1
Enrollment capacity	:	1188
1979 Enrollment	:	1088
1984 Projection	:	1118

There are no secondary schools in Edgefield. Nearest school is in Johnston, 11.3 km (7 mi).

Private Schools

Number of schools (kindergarten to 12th grade)	:	1
1979 Enrollment	:	345

Higher Education

Aiken 35.4 km (22 mi)

University of South Carolina, full range of 4 year courses.		
1979 Enrollment	:	1539
Aiken Technical College		
1979 Enrollment	:	1103

Augusta 41.8 km (26 mi)

Augusta College		
1979 Enrollment	:	3883
Paine College		
1979 Enrollment	:	840
Medical College of Georgia		
1979 Enrollment	:	2114

MEDICAL FACILITIES

Doctors

Total number	:	6
Doctor/population ratio	:	1/482

Dentists

Total number	:	2
Dentist/population ratio	:	1/1445

Hospitals

Total number	:	1
Total beds	:	40

Includes intensive care unit of 2 beds

Nursing Homes

Total number	:	2
Total beds	:	99

(1978 data)

RECREATION FACILITIES

Parks	:	4
Athletic Fields	:	6
Tennis Facilities	:	2
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	4 oxidation lagoons shared with city of Johnston.
Flow capacity PD	:	3.8 million liters (1 million gal).
Actual flow PD	:	2.3 million liters (0.6 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	SC Electric and Gas Company. Oil on local delivery.

Water Supply

Source	:	Savannah River. Storage in elevated tanks of 5.2 million liters (1.4 million gal) and in ground tanks of 4.9 million liters (1.3 million gal).
Capacity PD	:	Treatment plant 22.7 million liters (6 million gal) shared with city of Johnston.
Consumption PD	:	6.8 million liters (1.8 million gal).

(1979 data)

B. URBAN AREAS (Continued)

Grovetown, GA (Columbia County) 33° 27′ N 82° 12′ W

POPULATION

1970 census	:	3169
1979	:	3460
1984 projection	:	4020

HOUSING AVAILABILITY

Houses

Total units	:	887
Renter-occupied	:	329
Average monthly rent	:	$215
Vacancy rate	:	3%
New house starts	:	12
Number of sales	:	37
Average sale price	:	$44,000

Apartments

Total units	:	134
Average monthly rent	:	$200
Vacancy rate	:	5%

(1978/79 data)

EDUCATION FACILITIES

Grovetown Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	600
1979 Enrollment	:	603
1984 Projection	:	625

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	580
1979 Enrollment	:	586
1984 Projection	:	650

There are no secondary schools in Grovetown. Nearest school is in Evans, 16 km (10 mi), capacity 1500. A new secondary school is due for completion in 1981 in Harlem, 12.9 km (8 mi).

Vocational Schools

Augusta Vocational/Technical School is at 11.3 km (7 mi).

1979 Enrollment	:	2341

Private Schools

Number of schools	:	2
1979 Enrollment	:	659

Higher Education

Augusta 11.3 km (7 mi)
Augusta College

1979 Enrollment	:	3883

Paine College

1979 Enrollment	:	840

Medical College of Georgia

1979 Enrollment	:	2114

MEDICAL FACILITIES

Doctors

Total number	:	4
Doctor/population ratio	:	1/865

Dentists

Total number	:	1
Dentist/population ratio	:	1/3460

Hospitals

There are no hospitals in Grovetown. Nearest hospital is at Fort Gordon 4.8 km (3 mi).

(1978 data)

RECREATION FACILITIES

Parks	:	1

Mistletoe State Park and Clark Hill Recreation Center 35.3 km (22 mi)

Athletic Fields	:	1
Tennis Facilities	:	2
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Jefferson Electric Membership Corporation.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1

Treatment plant is situated in Evans. Grovetown plans to have own plant by 1981.

Type of treatment	:	Secondary.
Flow capacity PD	:	8.7 million liters (2.3 million gal).
Actual flow PD	:	4.9 million liters (1.3 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Georgia Natural Gas Company. Oil on local delivery.

Water Supply

Source	:	9 deep wells. Elevated storage 378,000 liters (100,000 gal).
Capacity PD	:	3.8 million liters (1 million gal).
Consumption PD	:	1.9 million liters (0.5 million gal) average; 3 million liters (0.8 million gal) peak demand.

(1979 data)

Johnston, SC (Edgefield County) 33° 50′ N 81° 48′ W

POPULATION

1970 census	:	2552
1979	:	2602
1984 projection	:	2654

HOUSING AVAILABILITY

Houses

Total units	:	765
Renter-occupied	:	190
Average monthly rent	:	$190
Vacancy rate	:	3%
New house starts	:	12
Number of sales	:	7
Average sale price	:	$32,400

Apartments

Total units	:	76
Average monthly rent	:	$175
Vacancy rate	:	4%

(1978/79 data)

EDUCATION FACILITIES

Johnston Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	425
1979 Enrollment	:	394
1984 Projection	:	434

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	389
1979 Enrollment	:	389
1984 Projection	:	389

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	1134
1979 Enrollment	:	1134
1984 Projection	:	1094

Private Schools

One school at Edgefield 12.9 km (8 mi)

1979 Enrollment	:	345

Higher Education

Aiken 30.6 km (19 mi)
University of South Carolina, full range of 4 year courses

1979 Enrollment	:	1539

Aiken Technical College

1979 Enrollment	:	1103

MEDICAL FACILITIES

Doctors

Total number	:	5
Doctor/population ratio	:	1/520

Dentists

Total number	:	2
Dentist/population ratio	:	1/1301

Hospitals

There are no hospitals or nursing homes in Johnston. Nearest hospital is at Edgefield, 12.9 km (8 mi).

(1978 data)

RECREATION FACILITIES

Parks	:	1
Athletic Fields	:	5
Tennis Facilities	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	4 oxidation lagoons shared with city of Edgefield.
Flow capacity PD	:	3.8 million liters (1 million gal).
Actual flow PD	:	2.3 million liters (0.6 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	SC Electric and Gas Company. Oil on local delivery.

Water Supply

Source	:	Savannah River. Storage in elevated tanks of 5.2 million liters (1.4 million gal) and in ground tanks of 4.9 million liters (1.3 million gal).
Capacity PD	:	Treatment plant 22.7 million liters (6 million gal) shared with city of Edgefield.
Consumption PD	:	6.8 million liters (1.8 million gal).

(1979 data)

Louisville, GA (Jefferson County) 33° 00′ N 82° 24′ W

POPULATION

1970 census	:	2691
1979	:	2550
1984 projection	:	2600

HOUSING AVAILABILITY

Houses

Total units	:	711
Renter-occupied	:	238
Average monthly rent	:	$175
Vacancy rate	:	5%
New house starts	:	8
Number of sales	:	5
Average sale price	:	$32,400

Apartments

Total units	:	114
Average monthly rent	:	$165
Vacancy rate	:	5%

(1978/79 data)

EDUCATION FACILITIES

Louisville Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	850
1979 Enrollment	:	717
1984 Projection	:	720

Combined Junior High Schools and Secondary Schools

Number of schools	:	1
Enrollment capacity	:	1100
1979 Enrollment	:	910
1984 Projection	:	850

Vocational Schools

Swainsboro Vocational/Technical School is at 48.3 km (30 mi).

1979 Enrollment	:	590

Private Schools

Number of schools	:	2
1979 Enrollment	:	302

Higher Education

Swainsboro 48.3 km (30 mi)
Swainsboro Junior College

1979 Enrollment	:	323

MEDICAL FACILITIES

Doctors

Total number	:	7
Doctor/population ratio	:	1/364

Dentists

Total number	:	3
Dentist/population ratio	:	1/850

Hospitals

Total number	:	1
Total beds	:	74

Includes 24 beds for psychiatric patients

Nursing Homes

Total number	:	1
Total beds	:	143

(1978 data)

RECREATION FACILITIES

Jefferson County facilities

Parks	:	2

In addition, Hamburg State Park is at 48.3 km (30 mi).

Athletic Fields	:	2
Tennis Facilities	:	8
Golf Courses	:	2

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Oglethorpe Electric Membership.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary, secondary and oxidation lagoon.
Flow capacity PD	:	3 million liters (0.8 million gal).
Actual flow PD	:	1.9 million liters (0.5 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Georgia Natural Gas Company, distributed by Louisville City.

Water Supply

Source	:	5 deep wells with pumping capacity of 9460 liters (2500 gal) per minute. Storage 1.8 million liters (0.5 million gal) in elevated and ground tanks.
Capacity PD	:	Treatment plant 13.6 million liters (3.6 million gal).
Consumption PD	:	3 million liters (0.8 million gal) average; 5.2 million liters (1.4 million gal) peak demand.

(1979 data)

B. URBAN AREAS (Continued)

Millen, GA (Jenkins County) 32° 48′ N 81° 57′ W

POPULATION

1970 census	:	3713
1979	:	4240
1984 projection	:	4440

HOUSING AVAILABILITY

Houses

Total units	:	1326
Renter-occupied	:	485
Average monthly rent	:	$190
Vacancy rate	:	2%
New house starts	:	9
Number of sales	:	14
Average sale price	:	$40,000

Apartments

Total units	:	100
Average monthly rent	:	$190
Vacancy rate	:	2%

(1978/79 data)

EDUCATION FACILITIES

Millen Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	500
1979 Enrollment	:	490
1984 Projection	:	485

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	720
1979 Enrollment	:	724
1984 Projection	:	700

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	850
1979 Enrollment	:	838
1984 Projection	:	750

Vocational Schools

Swainsboro Vocational/Technical School is at 49.9 km (31 mi).

1979 Enrollment	:	590

Private Schools

Number of schools	:	1
1979 Enrollment	:	180

Higher Education

Statesboro 46.7 km (29 mi)
Georgia Southern University

1979 Enrollment	:	5864

Swainsboro 49.9 km (31 mi)
Swainsboro Junior College

1979 Enrollment	:	323

MEDICAL FACILITIES

Doctors

Total number	:	4
Doctor/population ratio	:	1/1060

Dentists

Total number	:	1
Dentist/population ratio	:	1/4240

Hospitals

Total number	:	1
Total beds	:	42

Nursing Homes

Total number	:	1
Total beds	:	100

(1978 data)

RECREATION FACILITIES

Parks	:	5
Athletic Fields	:	3
Tennis Facilities	:	6
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Oglethorpe Electric Membership Corporation.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary.
Flow capacity PD	:	3.8 million liters (1 million gal).
Actual flow PD	:	1.9 million liters (0.5 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Gas distributed by Millen City. Oil on local delivery.

Water Supply

Source	:	4 deep wells with pumping capacity of 9080 liters (2400 gal) per minute. Storage 1.5 million liters (0.4 million gal) in elevated tanks.
Capacity PD	:	Treatment plant 10.6 million liters (2.8 million gal).
Consumption PD	:	1.9 million liters (0.5 million gal) average; 3 million liters (0.8 million gal) peak demand.

(1979 data)

North Augusta, SC (Aiken County) 33° 31′ N 81° 58′ W

POPULATION

1970 census	:	12,883
1979	:	15,208
1984 projection	:	16,000

HOUSING AVAILABILITY

Houses

Total units	:	5220
Renter-occupied	:	100
Average monthly rent	:	$200
Vacancy rate	:	2%
New house starts	:	20
Number of sales	:	121
Average sale price	:	$35,500

Apartments

Total units	:	240
Average monthly rent	:	$195
Vacancy rate	:	< 1%

(1978/79 data)

EDUCATION FACILITIES

North Augusta Public Schools

Elementary Schools

Number of schools	:	5
Enrollment capacity	:	2613
1979 Enrollment	:	2613
1984 Projection	:	2300

Junior High Schools

Number of schools	:	2
Enrollment capacity	:	1554
1979 Enrollment	:	1554
1984 Projection	:	1476

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	1411
1979 Enrollment	:	1411
1984 Projection	:	1230

Public schools include one special education school. Special education classes are also taught in the regular schools.

Vocational Schools

Augusta Vocational/Technical School is at 6.4 km (4 mi).

1979 Enrollment	:	2341

Private Schools

Number of schools (kindergarten to 12th grade):		6
1979 Enrollment	:	1033

Higher Education

Augusta 6.4 km (4 mi)
Augusta College

1979 Enrollment	:	3883

Paine College

1979 Enrollment	:	840

Medical College of Georgia

1979 Enrollment	:	2114

MEDICAL FACILITIES

Doctors

Total number	:	18
Doctor/population ratio	:	1/845

Dentists

Total number	:	6
Dentist/population ratio	:	1/2535

Hospitals

There are no hospitals in North Augusta. Nearest hospitals are in Augusta, 6.4 km (4 mi).

Nursing Homes

Total number	:	1
Total beds	:	120

(1978 data)

RECREATION FACILITIES

Parks	:	4
Athletic Fields	:	8
Tennis Facilities	:	12
Golf Courses	:	2

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary and secondary.
Flow capacity PD	:	12.1 million liters (3.2 million gal).
Actual flow PD	:	9.5 million liters (2.5 million gal).

New area plant of capacity 76 million liters (20 million gal) per day, is due for completion in 1980.

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	SC Electric and Gas Company. Oil on local delivery.

Water Supply

Source	:	Savannah River. Storage of treated water, 3 million liters (0.8 million gal) in 3 elevated tanks, plus 2 clear water basins of total capacity 4.9 million liters (1.3 million gal).
Capacity PD	:	Treatment plant 15 million liters (4 million gal).
Consumption PD	:	7.6 million liters (2 million gal).

(1979 data)

Saluda, SC (Saluda County) 34° 00′ N 81° 46′ W

POPULATION

1970 census	:	2442
1979	:	2503
1984 projection	:	2520

HOUSING AVAILABILITY

Houses

Total units	:	802
Renter-occupied	:	210
Average monthly rent	:	$204
Vacancy rate	:	3.9%
New house starts		
Saluda County	:	120
Number of sales		
Saluda County	:	690
Average sale price	:	$31,000

Apartments

Total units	:	42
Average monthly rent	:	$200
Vacancy rate	:	2.9%

(1978/79 data)

EDUCATION FACILITIES

Saluda Public Schools

Elementary Schools

Number of schools	:	2
Enrollment capacity	:	1081
1979 Enrollment	:	1147

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	750
1979 Enrollment	:	648
1984 Projection	:	680

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	763
1979 Enrollment	:	763
1984 Projection	:	650

Private Schools

Number of schools (kindergarten to 12th grade):		1
1979 Enrollment	:	259

Higher Education

Columbia 64.4 km (40 mi)
University of South Carolina

1979 Enrollment	:	22,175

Benedict College

1979 Enrollment	:	2031

Columbia College

1979 Enrollment	:	910

Both colleges offer 2 year courses.
Midlands Technical College

1979 Enrollment	:	5592

MEDICAL FACILITIES

Doctors

Total number	:	4
Doctor/population ratio	:	1/626

Dentists

Total number	:	2
Dentist/population ratio	:	1/1252

Hospitals

There are no hospitals in Saluda. Nearest hospital is in Edgefield, 32 km (20 mi).

Nursing Homes

Total number	:	2
Total beds	:	132

(1978 data)

RECREATION FACILITIES

Parks	:	1
Athletic Fields	:	4
Tennis Facilities	:	1
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	2 oxidation lagoons.
Flow capacity PD	:	1.5 million liters (0.4 million gal).
Actual flow PD	:	1.5 million liters (0.4 million gal).

New treatment plant is planned for 1981.

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	SC Electric and Gas Company. Oil on local delivery.

Water Supply

Source	:	Saluda River.
Capacity PD	:	Water treatment from plant at Newberry, capacity 26.5 million liters (7 million gal).
Consumption PD	:	1.1 million liters (0.3 million gal).

(1979 data)

B. URBAN AREAS (Continued)

Sandersville, GA (Washington County) 32° 59′ N 82° 49′ W

POPULATION

1970 census	:	5546
1979	:	5381
1984 projection	:	5460

HOUSING AVAILABILITY

Houses

Total units	:	1390
Renter-occupied	:	506
Average monthly rent	:	$185
Vacancy rate	:	5%
New house starts	:	16
Number of sales	:	15
Average sale price	:	$32,800

Apartments

Total units	:	89
Average monthly rent	:	$185
Vacancy rate	:	1%

(1978/79 data)

EDUCATION FACILITIES

Sandersville Public Schools

Elementary Schools

Number of schools	:	2
Enrollment capacity	:	1650
1979 Enrollment	:	1662
1984 Projection	:	1500

Building of a new elementary school is to start in 1980.

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	850
1979 Enrollment	:	847
1984 Projection	:	825

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	570
1979 Enrollment	:	560
1984 Projection	:	560

Vocational Schools

Area Vocational/Technical School is at Swainsboro 70.8 km (44 mi).

1979 Enrollment	:	590

Private Schools

Number of schools	:	1
1979 Enrollment	:	580

Higher Education

Milledgeville 46.7 km (29 mi)

Georgia College

1979 Enrollment	:	3361

Georgia Military College

1979 Enrollment	:	388

MEDICAL FACILITIES

Doctors

Total number	:	10
Doctor/population ratio	:	1/538

Dentists

Total number	:	3
Dentist/population ratio	:	1/1794

Hospitals

Total number	:	1
Total beds	:	65

Hospital also has adjacent extended care facility of 60 beds.

Nursing Homes

Total number	:	2
Total beds	:	54

(1978 data)

RECREATION FACILITIES

Parks	:	1
Athletic Fields	:	3
Tennis Facilities	:	6
Golf Courses	:	1

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Municipal Electric Authority of Georgia and Oglethorpe Electric Membership Corporation.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Secondary.
Flow capacity PD	:	5.7 million liters (1.5 million gal).
Actual flow PD	:	2.3 million liters (0.6 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Georgia Natural Gas Company. Oil on local delivery.

Water Supply

Source	:	6 deep wells with pumping capacity of 6814 liters (1800 gal) per minute. Storage 2.3 million liters (0.6 million gal) in elevated and ground tanks.
Capacity PD	:	Treatment plant 7.6 million liters (2 million gal).
Consumption	:	3.8 million liters (1 million gal).

(1979 data)

Thomson, GA (McDuffie County) 33° 28′ N 82° 30′ W

POPULATION

1970 census	:	6503
1979	:	8390
1984 projection	:	9720

HOUSING AVAILABILITY

Houses

Total units	:	1990
Renter-occupied	:	706
Average monthly rent	:	$200
Vacancy rate	:	2.8%
New house starts	:	46
Number of sales	:	30
Average sale price	:	$45,000

Apartments

Total units	:	207
Average monthly rent	:	$165
Vacancy rate	:	3%

(1978/79 data)

EDUCATION FACILITIES

Thomson Public Schools

Elementary Schools

Number of schools	:	3
Enrollment capacity	:	1425
1979 Enrollment	:	1425
1984 Projection	:	1400

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	1049
1979 Enrollment	:	1049
1984 Projection	:	1060

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	1226
1979 Enrollment	:	1226
1984 Projection	:	1250

Vocational Schools

Augusta Vocational/Technical School is at 59.5 km (37 mi).

1979 Enrollment	:	2341

Private Schools

There are no private schools in Thomson.

Higher Education

Augusta 59.5 km (37 mi)

Augusta College

1979 Enrollment	:	3883

Paine College

1979 Enrollment	:	840

Medical College of Georgia

1979 Enrollment	:	2114

MEDICAL FACILITIES

Doctors

Total number	:	6
Doctor/population ratio	:	1/1398

Dentists

Total number	:	5
Dentist/population ratio	:	1/1678

Hospitals

Total number	:	1
Total beds	:	47

Nursing Homes

Total number	:	1
Total beds	:	150

(1978 data)

RECREATION FACILITIES

Parks:

Mistletoe State Park at 21 km (13 mi)

Athletic Fields	:	4
Tennis Facilities	:	4
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary and secondary.
Flow capacity PD	:	3.8 million liters (1 million gal).
Actual flow PD	:	3 million liters (0.8 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Gas distributed by Thomson City. Oil on local delivery.

Water Supply

Source	:	3 deep wells with pumping capacity of 22,711 liters (6000 gal) per minute. Storage 2.3 million liters (0.6 million gal) in elevated and ground tanks.
Capacity PD	:	Treatment plant 7.6 million liters (2 million gal).
Consumption PD	:	3.4 million liters (0.9 million gal) average; 4.9 million liters (1.3 million gal) maximum.

(1979 data)

Washington, GA (Wilkes County) 33° 44′ N 82° 45′ W

POPULATION

1970 census	:	4094
1979	:	4154
1984 projection	:	4280

HOUSING AVAILABILITY

Houses

Total units	:	1516
Renter-occupied	:	545
Average monthly rent	:	$195
Vacancy rate	:	1.5%
New house starts	:	11
Number of sales	:	20
Average sale price	:	$35,250

Apartments

Total units	:	80
Average monthly rent	:	$190
Vacancy rate	:	2%

(1978/79 data)

EDUCATION FACILITIES

Washington Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	770
1979 Enrollment	:	643
1984 Projection	:	650

Junior High School

Number of schools	:	1
Enrollment capacity	:	600
1979 Enrollment	:	505
1984 Projection	:	505

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	1010
1979 Enrollment	:	990
1984 Projection	:	1000

Public schools include the Wilkes-Lincoln Training Center for physically handicapped children.

Vocational Schools

Area Vocational/Technical School is at Athens 67.6 km (42 mi).

1979 Enrollment	:	1462

Private Schools

Number of schools	:	2
1979 Enrollment	:	235

Higher Education

Athens 67.6 km (42 mi)

University of Georgia

1979 Enrollment	:	21,657

MEDICAL FACILITIES

Doctors

Total number	:	5
Doctor/population ratio	:	1/831

Dentists

Total number	:	4
Dentist/population ratio	:	1/1039

Hospitals

Total number	:	1
Total beds	:	60

Nursing Homes

Total number	:	1
Total beds	:	47

(1978 data)

RECREATION FACILITIES

Parks	:	2

also Stephens Memorial at 21 km (13 mi)

Athletic Fields	:	2
Tennis Facilities	:	2
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Municipal Electric Authority.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary.
Flow capacity PD	:	15 million liters (4 million gal).
Actual flow PD	:	5.7 million liters (1.5 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Gas distributed by Georgia Natural Gas Company. Oil on local delivery.

Water Supply

Source	:	Clark Hill Lake Reservoir and Beaverdam Creek. Storage 3 million liters (0.8 million gal) in elevated tanks.
Capacity PD	:	Treatment plant 15 million liters (4 million gal).
Consumption PD	:	3.8 million liters (1 million gal) average; 5.7 million liters (1.5 million gal). maximum.

(1979 data)

B. URBAN AREAS (Continued)

Waynesboro, GA (Burke County) 33° 06′ N 82° 01′ W

POPULATION

1970 census	:	5530
1979	:	5310
1984 projection	:	5400

HOUSING AVAILABILITY

Houses

Total units	:	1444
Renter-occupied	:	690
Average monthly rent	:	$185
Vacancy rate	:	2%
New house starts	:	27
Number of sales	:	19
Average sale price	:	$35,000

Apartments

Total units	:	214
Average monthly rent	:	$185
Vacancy rate	:	2%

(1978/79 data)

EDUCATION FACILITIES

Waynesboro Public Schools

Elementary Schools

Number of schools	:	2
Enrollment capacity	:	1285
1979 Enrollment	:	1285
1984 Projection	:	1150

Junior High Schools

Number of schools	:	1
Enrollment capacity	:	900
1979 Enrollment	:	853
1984 Projection	:	800

Secondary Schools

Number of schools	:	1
Enrollment capacity	:	687
1979 Enrollment	:	687
1984 Projection	:	680

Vocational Schools

Augusta Vocational/Technical School is at 49.9 km (31 mi).

1979 Enrollment	:	2341

Private Schools

Number of schools	:	3
1979 Enrollment	:	789

Higher Education

Augusta 49.9 km (31 mi)

Augusta College

1979 Enrollment	:	3883

Paine College

1979 Enrollment	:	840

Medical College of Georgia

1979 Enrollment	:	2114

MEDICAL FACILITIES

Doctors

Total number	:	6
Doctor/population ratio	:	1/885

Dentists

Total number	:	3
Dentist/population ratio	:	1/1770

Hospitals

Total number	:	1
Total beds	:	54

Nursing Homes

Total number	:	1
Total beds	:	103

(1978 data)

RECREATION FACILITIES

Parks	:	3
Athletic Fields	:	3
Tennis Facilities	:	7
Golf Courses	:	1

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	Georgia Power Company through Oglethorpe Electric Membership Corporation.
Type	:	Coal, nuclear and hydro.
Future plants	:	Georgia Power Company development.

Sewage Disposal

Number of plants	:	1
Type of treatment	:	Primary.
Flow capacity PD	:	3.4 million liters (0.9 million gal).
Actual flow PD	:	2.3 million liters (0.6 million gal).

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Gas distributed by Waynesboro City. Oil on local delivery.

Water Supply

Source	:	Brier Creek, average daily flow 7.6 m^3/sec (269 ft^3/sec), minimum 3 m^3/sec (108 ft^3/sec), and 1 deep well of pumping capacity 3028 liters/min (800 gal/min). Storage 3.4 million liters (0.9 million gal) in elevated and ground tanks.
Capacity PD	:	Treatment plant 4.5 million liters (1.2 million gal).
Consumption PD	:	3.8 million liters (1 million gal) average; 4.2 million liters (1.1 million gal) maximum.

(1979 data)

Williston, SC (Barnwell County) 33° 24′ N 81° 25′ W

POPULATION

1970 census	:	2594
1979	:	2862
1984 projection	:	2943

HOUSING AVAILABILITY

Houses

Total units	:	696
Renter-occupied	:	175
Average monthly rent	:	$195
Vacancy rate	:	3%
New house starts (including government housing)	:	48
Number of sales	:	5
Average sale price	:	$30,000

Apartments

Total units	:	20
Average monthly rent	:	$175
Vacancy rate	:	10%

(1978/79 data)

EDUCATION FACILITIES

Williston Public Schools

Elementary Schools

Number of schools	:	1
Enrollment capacity	:	308
1979 Enrollment	:	308
1984 Projection	:	326

Combined Junior High and Secondary Schools

Number of schools	:	1
Enrollment capacity	:	549
1979 Enrollment	:	349
1984 Projection	:	356

Private Schools

There are no private schools in Williston

Higher Education

Aiken 33.8 km (21 mi)

University of South Carolina, Aiken campus, offers full range of 4 year courses.

1979 Enrollment	:	1539

Aiken Technical College

1979 Enrollment	:	1103

MEDICAL FACILITIES

Doctors

Total number	:	3
Doctor/population ratio	:	1/954

Dentists

Barnwell County

Total number	:	6
Dentist/population ratio	:	1/477

Hospitals

There are no hospitals in Williston. Nearest hospital at Barnwell 21 km (13 mi).

Nursing Homes

Total number	:	1
Total beds	:	20

(1978 data)

RECREATION FACILITIES

Barnwell County facilities

Parks	:	9
Athletic Fields	:	6
Tennis Facilities	:	5
Golf Courses	:	3

(1979 data)

PUBLIC UTILITIES

Electric Power

Source	:	South Carolina Electric and Gas Company.
Type	:	Coal, oil and hydro.
Future plants	:	SC Electric and Gas Company development.

Sewage Disposal

Number of plants	:	1 plus an oxidation lagoon.
Type of treatment	:	Secondary.
Flow capacity PD	:	3 million liters (0.8 million gal).
Actual flow PD	:	3 million liters (0.8 million gal).

New enlarged treatment plant is planned.

Heating Fuels

Types available	:	Natural gas and oil.
Service available	:	Gas through SC Electric and Gas Company. Oil on local delivery.

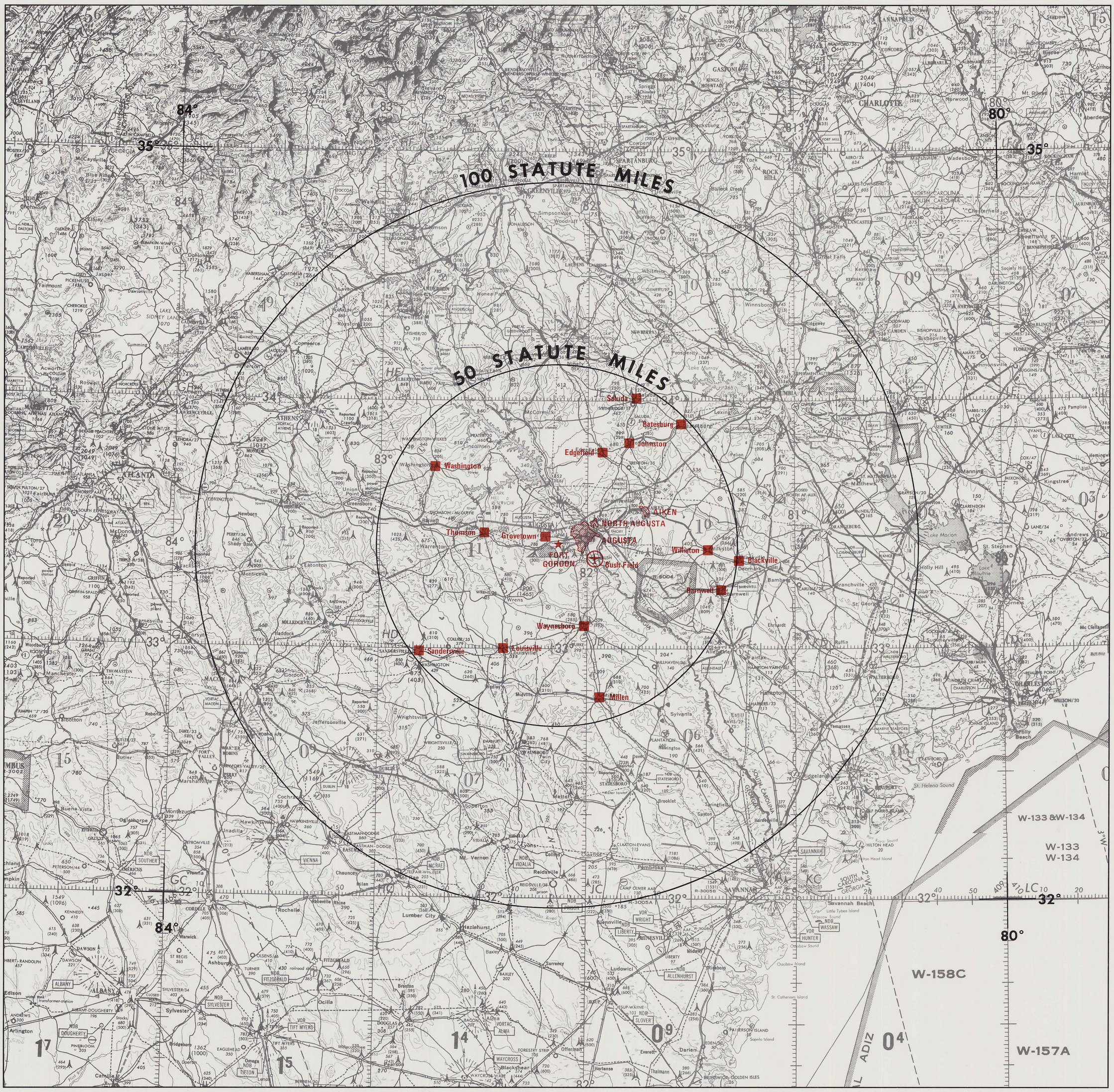
Water Supply

Source	:	5 deep wells. Storage 1.9 million liters (0.5 million gal) in elevated tanks.
Capacity PD	:	10.9 million liters (2.9 million gal).
Consumption PD	:	1.5 million liters (0.4 million gal).

(1979 data)

[1] PD: per day

FORT GORDON, GEORGIA
TERRAIN ANALYSIS



Scale 1:1,000,000

20 0 20 40 60 80 Kilometers

20 0 20 40 60 Statute Miles

OFF-POST FEATURES

- Urban Area
- Airfield
- Cantonment Area

Prepared by Michael Baker, Jr., Inc., Jackson, Mississippi, under the direction of the Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Fort Belvoir, Virginia, November 1979.

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96. Mr. John P. Blanchard, Superintendent, Columbia County Public Schools, Appling, GA. Telephone conversation June 1979. Public schools information on Grovetown.

97. Mr. Kenneth C. Kelly, Associate Superintendent, Jefferson County Public Schools, Louisville, GA. Telephone conversation June 1979. Public schools information.

98. Mrs. Polly Gladin, Secretary, Washington County Public Schools, Sandersville, GA. Telephone conversation June 1979. Public schools information.

99. Mr. James D. Smith, Superintendent, Burke County Public Schools, Waynesboro, GA. Telephone conversation June 1979. Public schools information.

100. Mr. Fred Dorminy, Assistant Superintendent, Wilkes County Public Schools, Washington, GA. Telephone conversation June 1979. Public schools information.