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CONDITION SURVEY, GLASGOW AIR FORCE BASE, MONTANA.(U)
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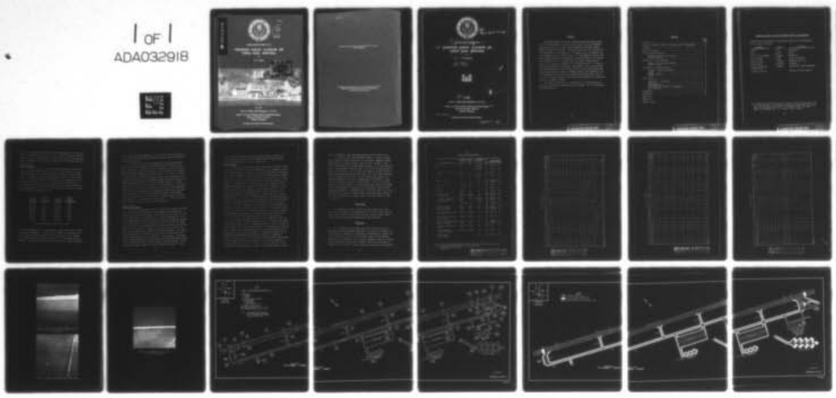

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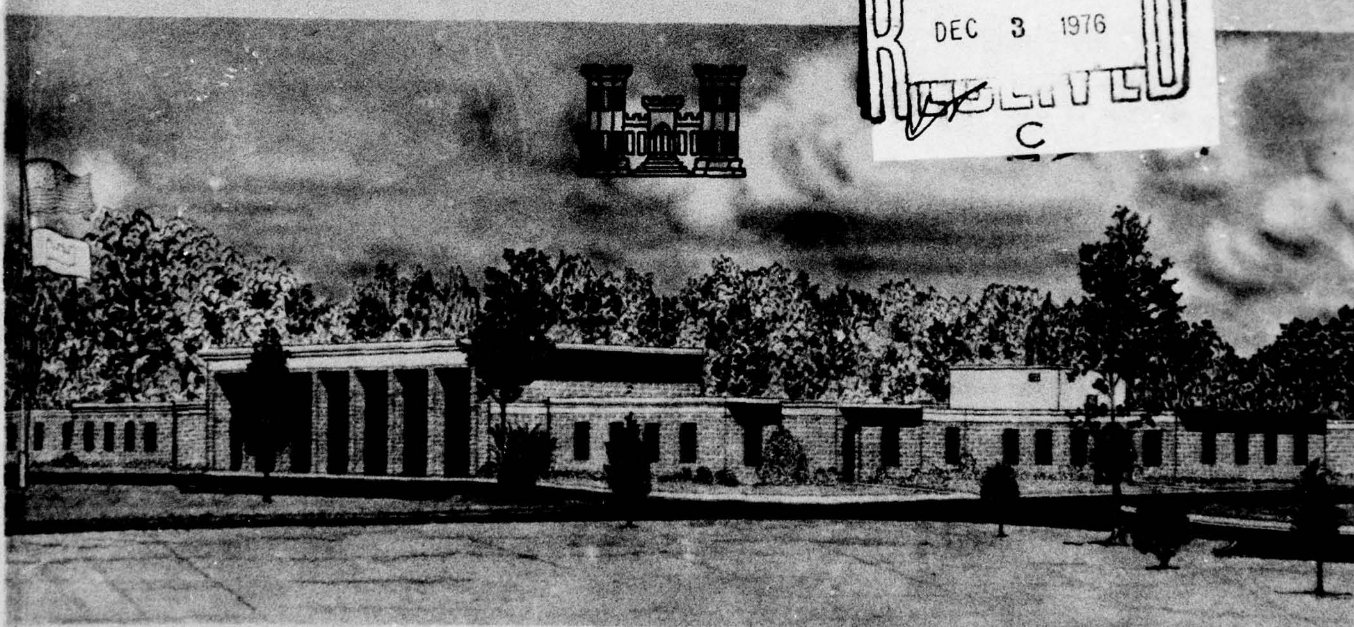
MISCELLANEOUS PAPER S-73-33

CONDITION SURVEY, GLASGOW AIR FORCE BASE, MONTANA

by

R. D. Jackson



May 1973

Sponsored by Office, Chief of Engineers, U. S. Army

Conducted by U. S. Army Engineer Waterways Experiment Station
Soils and Pavements Laboratory
Vicksburg, Mississippi

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Foreword

The study reported herein was conducted under the general supervision of the Engineering Design Criteria Branch, Soils and Pavements Laboratory, of the U. S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Mississippi. Personnel involved in the condition survey were Messrs. S. L. Webster, K. A. O'Connor, and S. R. Rowland, Jr., of the WES and Mr. H. H. Baker of the U. S. Army Engineer Division, New England (NED), Waltham, Massachusetts. The main portion of this report was prepared by Mr. R. D. Jackson under the general supervision of Messrs. J. P. Sale, R. G. Ahlvin, R. L. Hutchinson, and P. J. Vedros of the Soils and Pavements Laboratory. That portion of the study pertaining to frost action was carried out by the U. S. Army Cold Regions Research and Engineering Laboratory (CRREL), Hanover, New Hampshire, with the assistance of the Foundations and Materials Branch, NED. The section of the report concerning frost action was prepared by Mr. Baker and by Mr. G. D. Gilman of CRREL.

COL Ernest D. Peixotto, CE, was Director of the WES during the conduct of the study and preparation of the report. Mr. F. R. Brown was Technical Director.

Contents

Conversion Factors, British to Metric Units of Measurement

British units of measurement used in this report can be converted to metric units as follows:

Multiply	By	To Obtain
inches	2.54	centimeters
feet	0.3048	meters
miles (U. S. statute)	1.609344	kilometers
square inches	6.4516	square centimeters
miles per hour	1.609344	kilometers per hour
pounds (mass)	0.45359237	kilograms
pounds (force) per square inch	0.6894757	newtons per square centimeter
Fahrenheit degrees	*	Celsius or Kelvin degrees

* To obtain Celsius (C) temperature readings from Fahrenheit (F) readings, use the following formula: $C = (5/9)(F - 32)$. To obtain Kelvin (K) readings, use: $K = (5/9)(F - 32) + 273.15$.

CONDITION SURVEY, GLASGOW AIR FORCE BASE, MONTANA

Authority

1. Authority for conducting condition surveys at selected airfields is contained in amendment to FY 1972 RDTE Funding Authorization (MFS-MC-5, 16 February 1972), subject: "Air Force Airfield Pavement Research Program," from the Office, Chief of Engineers, U. S. Army, Directorate of Military Construction, dated 18 February 1972.

Purpose and Scope

2. The purpose of this report is to present the results of a condition survey performed at Glasgow Air Force Base (GAFB), Montana, during 17-20 April 1972. The following three major areas of interest were considered in this condition survey:

(1) The structural condition of the primary airfield pavements.

(2) The condition of pavement repairs and the types of maintenance materials that have been used at this airfield.

(3) Any detrimental effects of frost to the pavement facilities.

3. This report is limited to a presentation of visual observations of the pavement conditions, discussion of these observations, and pertinent remarks with regard to the performance of the pavements. No physical tests of the pavements, foundations, or patching materials were performed during this survey.

Pertinent Background Data

General description of airfield

4. GAFB is located in Valley County, Montana, approximately 18 miles* north of Glasgow, Montana. A vicinity map is shown in plates 1 and 2.

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* A table of factors for converting British units of measurement to metric units is presented on page vii.

5. In April 1972, the airfield facilities consisted of a NW-SE (10-28) runway, a parallel taxiway, a SAC heavy-load parking apron, an ADC parking apron, alert facilities, two warm-up aprons, connecting taxiways to the runway and aprons, an aircraft weapons calibration facility, and a power check pad. The runway was 300 ft wide and 13,500 ft long; the SAC parking apron was 775 ft wide and 2,185 ft long; and the ADC parking apron was 500 ft wide and 1,320 ft long. The taxiways were 75 ft wide and were of various lengths. A layout of the airfield is shown in plate 1. A pavement plan indicating the type of pavement on each facility is shown in plate 2.

Previous reports

6. Previous reports concerning GAFB are listed below. Pertinent data were extracted from them for use in this condition survey.

7. Condition survey reports:

a. U. S. Army Engineer District, Walla Walla, CE, "Pavement Condition Survey Report, Glasgow AFB, Montana," July 1960, Walla Walla, Washington.

b. Ohio River Division Laboratories, CE, "Condition Survey Report, Glasgow AFB, Montana," March 1961, Cincinnati, Ohio.

c. _________, "Condition Survey Report, Glasgow AFB, Montana," October 1965, Cincinnati, Ohio.

8. Pavement evaluation reports:

a. U. S. Army Engineer District, Walla Walla, CE, "Pavement Evaluation Report, Glasgow AFB, Montana," July 1958, Walla Walla, Washington.

b. _________, "Airfield Pavement Failure Report, Glasgow AFB, Montana," June 1959, Walla Walla, Washington.

c. _________, "Pavement Evaluation Report, Glasgow AFB, Montana," May 1961, Walla Walla, Washington.

History of Airfield Pavements

Design and construction history

9. Details of the construction history of the airfield pavements (extracted from the reports referenced in paragraphs 7 and 8) are

presented in table 1. Pavement thicknesses, descriptions, and other details are presented in table 2.

10. The original pavements constructed during 1955-57 were designed to support (based on reduced subgrade strength design) a 100,000-lb gear load on twin wheels spaced 37.5 in. center to center, with a tire contact area of 267 sq in. for each tire, and to support a 25,000-lb, single-wheel load with a tire inflation pressure of 200 psi. Pavements constructed during 1958-60 and in 1964 were designed to support a load of 265,000 lb on a twin-twin wheel bicycle gear configuration having wheels spaced 37-62-37 in. and a tire contact area of 267 sq in. for each tire.

Traffic history

11. A complete traffic record was not available for this study; however, based on incomplete records, it is reasonable to assume that the pavements constructed before 1964 have received approximately 4600 cycles* of B-52 traffic. The pavements constructed during 1964 have received approximately 2500 cycles of B-52 traffic and approximately 1900 cycles of KC-135 traffic. Since the airfield was placed in an inactive status in June 1968, traffic has consisted of occasional operations of KC-135 aircraft and more frequent operations of light charter traffic.

Conditions of Pavement Surfaces

Pavement inspection procedure

12. The following procedure was used in conducting the inspection of the rigid pavements. Representative features were selected for detailed inspection. The features were then inspected slab** by slab, and the defects were recorded. The locations of the individual pavement features, the inspection starting points, and the directions in which the pavements were inspected (shown by arrows) are indicated in plate 1.

13. The results of the rigid pavement survey for those features that were inspected in detail are presented in table 3. This table

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* A cycle of traffic is one takeoff and one landing.

** A slab is the smallest unit, containing no joints, of a given pavement feature.

shows a quantitative breakdown of the various types of defects and a condition rating for each pavement feature inspected in detail. The procedures used for determining the condition rating of a pavement are given in Appendix III of Department of the Army Technical Manual TM 5-827-3, "Rigid Airfield Pavement Evaluation," dated September 1965.

Runway

14. The portland cement concrete (PCC) pavement of the runway was in very good condition (except for two areas), even though the number of defects had increased considerably since the 1960 survey. The 17-in.-thick pavement from sta 78+75 to 88+75 was rated as being in poor condition, because the number of major defects had more than doubled since the 1960 survey. The 14-in.-thick edges of the runway ends (features R5D and R6D) were considered to be in poor condition. The flexible pavement edges of the runway interior (feature R8D), however, were considered to be in good condition (see photo 1).

15. There was evidence of settlement of several slabs in the runway interior between sta 65+00 and 70+00 (feature R7C). It was reported that unsuccessful mud jacking had been performed in this area in 1966 and 1967. An epoxy surface patch approximately 115 ft long and 6 to 8 in. wide was installed to smooth out the transition area onto the settled slabs. There was no evidence that movement of these slabs had occurred since the installation of the patch. Photo 2 shows the condition of the patch. Numerous grouted drill holes (photo 2) were noted in runway features R3C and R4C, indicating that mud jacking had been performed at some previous time. Some settlement of slabs was noted near sta 45+00 (photo 3).

Primary taxiways

16. The conditions of the primary taxiways ranged from poor to very good. There was a significant increase in the number of defects since the 1960 survey in the reinforced PCC portion of taxiway A (sta 0+00 to 81+50). Although only 23 percent of the slabs in this area had no defects, the pavement was considered to be in good condition, because the reinforcement prevented movement along the cracks. The remainder of taxiway A was in very good condition, with only 17 major

defects recorded. The ADC parking apron access taxiway, which contained 30 longitudinal breaks that were mostly located in the two outer lanes, was in poor condition.

Aprons

17. The conditions of the aprons were fair to excellent. The ADC parking apron, which contained 201 structural breaks (146 of which were longitudinal cracks), was in fair condition. The SAC heavy-load parking apron (which in the 1960 survey contained 31 breaks), which contained 225 structural breaks, was in very good condition.

18. The remaining PCC pavements were generally in good condition. The load-carrying asphaltic-concrete (AC) pavements were considered to be in good structural condition, even though they had a considerable amount of contraction cracking.

Frost Action

Objectives of inspection

19. One member of the team inspected the pavement facilities for evidence of detrimental frost effects. The objectives of the inspection were to determine:

- a. Any adverse effects of frost heave to the pavements during the winter months.
- b. Any adverse effects of low-temperature contraction cracking to the flexible pavements.
- c. Any traffic-induced failures that might be related to thaw weakening of the subgrades or base courses.

Frost heave

20. The airfield pavements were inspected for surface irregularities indicative of differential frost heaving. The time of this inspection, which was 18 and 19 April 1972, is believed to have been within or shortly subsequent to the period of thawing of frozen base courses and subgrades, when the effects of any nonuniform heave would be most apparent.

21. Inquiries were made of the base personnel regarding the development of undesirable surface unevenness during the winter. Pilot

testimony regarding runway roughness was not available, since this base has been inactive since 1968. The consensus of the survey team, however, was that the runway did not exhibit roughness detectable in an automobile at speeds of up to 60 mph.

22. Despite the occurrence of low-temperature contraction cracks (as described below in paragraph 26), the flexible pavement edges of the runway interior were as smooth as the rigid pavement keel, with no vertical displacement along the junctions of the two pavement types. Some minor transverse unevenness was noted near sta 70+00 due to settlement of some of the PCC slabs of the keel. Correction of this settlement was attempted (without success) by mud jacking in 1966 or 1967. Installation of an epoxy patch finally eliminated the resulting roughness. There is no evidence, however, that this problem resulted from frost heaving. The large number of longitudinal cracks in the rigid pavement edge lanes of the runway ends (features R5D and R6D) could be indicative of differential frost heaving in the past. This explanation seems doubtful, however, in view of the good performance of adjacent rigid pavement features of the same combined thickness. A more likely explanation is structural failure of the 14-in. slabs, caused by heavy aircraft traffic that may have been permitted inadvertently on these thin pavements.

23. The taxiways and aprons were smooth at the time of this inspection. The runway overruns (65-in. combined thickness compared with 52-in. combined thickness of the adjoining runway pavements) also were smooth. The taxiway and apron shoulder surfaces were generally smooth longitudinally but were noticeably uneven transversely. The surfaces of the taxiway shoulders for the most part were as much as 1/2 in. lower than the adjacent taxiway pavement at the junction but rose evenly up to 2 or 3 in. above the taxiway grade at the outer shoulder edge. The small contrawise vertical displacement at the pavement junctions is considered to be the consequence of slightly greater frost heave under the concrete pavement, resulting from the deeper frost penetration. This greater penetration would result because of the higher surface reflectance and lower heat capacity of the PCC. However, the shoulders

of the SAC heavy-load parking apron exhibited heaving of 3 or 4 in. at or near the shoulder-apron junction, with no apparent relation to the combined thickness of the shoulder. It is believed that this heaving was frost related only in part and that expansion of the concrete apron was also involved.

Freezing indices

24. A design freezing index of 3000 degree-days was cited in a condition survey report prepared by the Walla Walla District in 1960 (see paragraph 7a). This value was based on temperature data from the Glasgow International Airport Weather Station for the 3 coldest years in 30. By utilizing temperature data from the same station up to and including the 1971-72 season, a recomputed design freezing index of 3097 degree-days can be obtained representing the average index for the 3 coldest seasons of the past 30. Seasonal freezing indices since the 1957-58 season are tabulated below:

Freezing Season	Freezing Index degree-days	Freezing Season	Freezing Index degree-days
1958-59	2334	1965-66	2151
1959-60	2008	1966-67	2043
1960-61	1169	1967-68	1577
1961-62	2356	1968-69	2985
1962-63	1366	1969-70	1677
1963-64	1100	1970-71	2335
1964-65	3141	1971-72	2192

Mean Freezing Index 1900 (1944 to 1971)

The indices tabulated above were determined solely on the basis of average monthly temperatures. Indices thus determined are generally somewhat lower than those determined with consideration given to average daily temperatures for the transition months. The tabulated indices, however, do indicate the relative severity of winters during the period of heavy-load aircraft operations. In this respect, two seasons of design freezing index magnitude occurred during the period tabulated above (1964-65 and 1968-69).

25. In view of the fact that experienced freezing indices have been of the design magnitude at least twice since the pavements have been constructed, the general absence of differential frost heaving of the heavy-load pavement is significant. For the design index, combined pavement and base thicknesses of about 140 and 85 in. would be required for the prevention of subgrade freezing and for limited subgrade frost penetration, respectively. Substantial subgrade freezing, therefore, is indicated beneath all of the heavy-load pavements during the colder winters, since the combined thicknesses of the pavements and bases range from only 34 to 70 in. The resulting frost heaving has been remarkably uniform, and the conditions of the pavements indicate that it has been only a minor factor in pavement cracking. Although the groundwater table is reportedly 20 ft or more below the pavement grade, it is probable that there is a perched water table within 5 or 6 ft of the pavement surface, as ponding was noted in several areas.

Low-temperature contraction cracking

26. Annual temperatures at the base vary over a range of at least 160 F, and all flexible pavements have experienced significant low-temperature contraction cracking. These cracks are not induced by traffic or frost heaving but result from a stiffness characteristic of AC at low temperatures and its inability to withstand or adjust to thermal contraction stresses. Most of these cracks are transverse, but there are also numerous longitudinal cracks generally coinciding with the longitudinal paving joints. Raveling is not yet severe at these cracks, but, as the pavements age, progression should be expected. The contraction cracking does not appear to have adversely affected either the load-carrying capacity or the smoothness of the pavements. The runway overrun pavements appear to be the least affected by this type of cracking. Apparently the thin, double bituminous surface treatment is more tolerant of thermal contraction stresses than the thicker AC. This

fact may reflect a greater tolerance of such stresses by these low-stability surface courses but more probably results from the lower temperature susceptibility of the bitumen used.

Thaw weakening

27. The extent of thaw weakening of the subgrade and base courses could not be readily determined by inspection of the pavements. Pavement failures usually are repaired or otherwise corrected (as with overlays) as they occur and usually are not easily examined during a condition survey. However, even where examination is possible, it is often impossible to establish by visual observations whether a failure is the result of thaw weakening or of deficiencies in the thickness of the pavement components with respect to "normal" period conditions. The depletion of the fatigue resistance of a pavement system in a frost area is progressive under repeated loadings and is related to thaw weakening in that the rate of depletion is greater during the frost-melting period. This rate of pavement weakening holds true whether the evidence of fatigue or failure becomes apparent during the melting period or at some other time. The degree of thaw weakening and its effects, if any, on the condition of the pavements at GAFB consequently could not be appraised solely by this inspection. Some limited perception of the severity of thaw weakening effects can be gained, however, by comparing the performance of certain pavement features with what might be expected in the light of current frost design criteria.

28. The only heavy-load flexible pavement features at this base are taxiway D, with a combined thickness of 55 in., and the outer edges of the runway interior, with a combined thickness of 59 in. In both of these features, the combined thicknesses are substantially less than the 72 in. required by current design criteria for limited subgrade frost penetration. Their combined thicknesses compare more closely with the medium-load pavement requirements for thicknesses on subgrades of reduced strength. Despite this overall weakness, however, both of the features appear to be in good condition. B-52 aircraft operated at this base for only a few years, although significant amounts of B-52 traffic did occur (paragraph 11). Both the pavements and the criteria

can be considered to have been only partially tested at this base.

29. The heavy-load rigid pavement features at this base generally conform to current design criteria for reduced subgrade strength during the frost-melting period. Three features, however, do not. These features are the SAC parking apron taxiway, with a base thickness 11 in. less than that required by the criteria; the SAC parking apron, with a base thickness 3 in. less than that required; and the portion of the runway interior between sta 78+75 and 88+75, with a base thickness 21 in. less than that required. The SAC parking apron taxiway is in excellent condition. The use of reinforcement undoubtedly is responsible for the good performance of this feature, despite a substantial deficiency in base thickness. The SAC parking apron also has performed well. This performance, however, is less surprising, since the base thickness deficiency is relatively minor. The cited portion of the runway interior, as might be expected, has not performed well, and there has been considerable load-related cracking and some evidence of slab subsidence.

Maintenance

30. Maintenance at the airfield has been minimal since 1964. Other than the repair of a longitudinal joint in 1966 or 1967, no maintenance was reported from 1964 until GAFB was closed in 1968. Since 1968, no airfield pavement maintenance has been performed.

Evaluation

31. A summary of the pavement evaluation is given in table 4. Previously published pavement evaluations were updated to eliminate aircraft that are no longer in the Air Force inventory and to include aircraft that have been added to the inventory since the last pavement evaluation. The evaluation is based on the pavement thickness, flexural strength (PCC), base and subbase thickness and strength, strength of subgrade (CBR or k value), and the structural condition of the pavement.

Table 1

Airfield Construction History

Designation	Dimensions: Length ft	Dimensions: Width ft	Pavement: Thickness in.	Pavement: Type	Construction: Year(s)	Construction: Agency
NW-SE runway	13,500	300	26, 23, 21, 17, and 14	PCC	1955-59	CE
			6, 4, and 3	AC	1955-59	CE
Inlay sta 9+75 to 78+75	6,900	75	21	PCC	1964	AF
Taxiway A	13,000±	75	26 and 23	PCC	1958-59	CE
			15*			
Taxiways B and F	937	75	26	PCC	1958-59	CE
	862	75	26	PCC	1958-59	CE
Taxiways C and E	862 each	75	21	PCC	1958-59	CE
Taxiway D	862	75	4	AC	1955-57	CE
Taxiway G	900±	75	23	PCC	1958-60	CE
NW warm-up apron	Varies	Varies	23	PCC	1958-60	CE
SE warm-up apron	Varies	Varies	23	PCC	1958-60	CE
SAC parking apron, apron taxiway, and access taxiways (2)	2,185	775	21 (Plain)	PCC	1958-60	CE
	2,835	75	21**	PCC	1958-60	CE
	250 each	75	21**	PCC	1958-60	CE
ADC parking apron	1,320	500	17	PCC	1955-57	CE
ADC access taxiway	560	75	19	PCC	1955-57	CE
ADC access taxiway	560	75	4	AC	1955-57	CE
Hangar access apron area 1 and taxiway	Varies	Varies	17	PCC	1959-61	CE
Hangar access apron area 2 and taxiways	Varies	Varies	15	PCC	1955-57	CE
ADC alert apron and taxiway	Varies	Varies	3	AC	1955-57	CE
Taxiway A extension	600	75	3	AC	1955-57	CE
SAC alert apron stubs and taxiway	Varies	Varies	23	PCC	1959	CE
Aircraft weapons calibration facility	Varies	Varies	10	PCC	1960	CE
Power check pad, 50-ft radius			10	PCC	1963	AF

Note: CE denotes Corps of Engineers; AF denotes Air Force.
* Reinforced overlay on 4-in. AC.
** Reinforced.

Table 2

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY (Glasgow AFB, Montana)			OVERLAY PAVEMENT			PAVEMENT			BASE			SUBGRADE		GENERAL CONDITION OF AREA CONSIDERED
FACILITY NUMBER AND IDENTIFICATION	LENGTH FT	WIDTH FT	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	CLASSIFICATION	CBR OR K	CLASSIFICATION*	CBR OR K	
PRIMARY RUNWAY														
NW-SE runway, SE end; sta -5+25 to 4+75	1,000	225				26	Portland cement concrete	760	26	Select gravel (GW) NFS	160	Clay (CL) F3		Very good
NW-SE runway, NW end; sta 124+75 to 129+75 R1A	500	225				26	Portland cement concrete	760	26	Select gravel (GW) NFS	160 K_r150	Clay (CL) F3		Very good
NW-SE runway, SE end; sta 4+75 to 9+75	500	150				23	Portland cement concrete	760	29	Select gravel (GW) NFS	160	Clay (CL) F3		Very good
NW-SE runway, NW end; sta 119+75 to 124+75 R2B	500 500	150				23	Portland cement concrete	760	29	Select gravel (GW) NFS	160	Clay (CL) F3		Very good
NW-SE runway interior; sta 88+85 to 119+75 R3C	3,100	150				21	Portland cement concrete	760	23	Select gravel (GW) NFS	160 K_r135	Clay (CL) F3		Very good
NW-SE runway interior; sta 78+75 to 88+75 R4C	1,000	150				17	Portland cement concrete	690	17	Select gravel (GW) NFS	130 K_r100	Clay (CL) F3		Poor
NW-SE runway ends; sta 119+75 to 129+75 and sta -5+25 to 9+75 R5D	1,000 1,500	75 75				14	Portland cement concrete (1 lane transition to 23- 26-in. thickness)	760	38	Select gravel (GW) NFS	220	Clay (CL) F3		Poor
NW-SE runway ends; sta 119+75 to 124+75 and sta 4+75 to 9+75 R6D	500 500	75 75				14	Portland cement concrete (1 lane transition to 23-in. thickness)	760	38	Select gravel (GW) NFS	220	Clay (CL) F3		Poor
NW-SE runway interior (inlay); sta 9+75 to 78+75 R7C	6,900	75				21	Portland cement concrete	770	28	Select gravel (GW) NFS	160	Clay (CL) F3		Very good
NW-SE runway interior, sta 9+75 to 119+75, each side R8D	11,000	75				3	Asphaltic concrete		8 48	Base-crushed gravel (GW) Subbase-select gravel (GW)	100 80	Clay (CL) F3	5	Good
NW-SE runway interior; sta 9+75 to 78+75 each side R8D	6,900	37.5				4	Asphaltic concrete		6 39	Base-crushed gravel (GW) Subbase-select gravel (GW)	100 80	Clay (CL) F3	5	Good
TAXIWAYS														
Taxiway A, sta 0+00 to 81+50 T1A	8,150	75	15 h_E = 18	Portland cement concrete reinforced #5 bars, 12 in. c-c, 0.17 percent steel each way	810	4	Asphaltic concrete K = 500		51	Select gravel (GW) NFS	K_r320	Clay (CL) F3		Good

* Lenses of fat clay (CH) are also present throughout the airfield.

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Table 2 (Continued)

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY (Glasgow AFB, Montana)			OVERLAY PAVEMENT			PAVEMENT			BASE			SUBGRADE		GENERAL CONDITION OF AREA CONSIDERED
FACILITY NUMBER AND IDENTIFICATION	LENGTH FT	WIDTH FT	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	CLASSIFICATION	CBR OR K	CLASSIFICATION	CBR OR K	
							TAXIWAYS (Continued)							
Taxiway A, sta 81+0 to 125+77 T2A	4,427	75				23-26-23	Portland cement concrete	810	26	Select gravel (GW) NFS	160 K_r150	Clay (CL) F3		Very good
Taxiway F	937	75					Portland cement concrete			Select gravel (GW) NFS	160 K_r150	Clay (CL) F3		Excellent
Taxiways A and F, connection T3A	275	75				26		740	26					
Taxiway B T4A	862	75				26	Portland cement concrete	750	26	Select gravel (GW) NFS	160 K_r150	Clay (CL) F3		Very good
SAC apron taxiway and	2,835	75				21	Portland cement concrete	745	23	Select gravel (GW) NFS	160	Clay (CL) F3		Excellent
apron access taxiways (2) T5A	250 250						Reinforced #5 bars, 7 in. c-c, 0.21 percent of steel each way				K_r135			
ADC apron access taxiway T6A	562	75				17-19-17	Portland cement concrete	645	17	Select gravel (GW) NFS	130 K_r100	Clay (CL) F3		Poor
ADC apron access taxiway T7A	562	75				4	Asphaltic cement concrete		25	6 in. crushed gravel (GW) 19 in. crushed gravel (GW)	80+ 80+	Clay (CL) F3	6	
Taxiway G T8B	900 Approximate	75				23	Portland cement concrete	760	29	Select gravel (GW) NFS	160	Clay (CL) F3		Very good
SAC alert facilities	Irregular	75				23	Portland cement concrete	775	29	Select gravel (GW) NFS	160	Clay (CL) F3		Very good
Taxiway and stubs T9B		150												
Hangar access apron	Irregular	Irregular				17	Portland cement concrete	665	17	Select gravel (GW) NFS	130	Clay (CL) F3		Fair
Area 1 and taxiways T10B		75					(Steel reinforcement in some slabs)				K_r100			
Hangar access apron		Irregular				15	Portland cement concrete	665	17	Select gravel (GW) NFS	130	Clay (CL) F3		Fair
Area 2 and taxiways T11B	Irregular	75									K_r100			
Aircraft weapons calibration facility	103	100				10	Portland cement concrete	700	12	Select gravel (GW) NFS	130	Clay (CL) F3		Excellent
Power check pad (50-ft radius) and taxiway T12C	330±	50									K_r100			

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(2 of 3 sheets)

Table 2 (Continued)

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY (Glasgow AFB, Montana)			OVERLAY PAVEMENT			PAVEMENT			BASE			SUBGRADE		GENERAL CONDITION OF AREA CONSIDERED
FACILITY NUMBER AND IDENTIFICATION	LENGTH FT	WIDTH FT	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	DESCRIPTION	FLEX. STR PSI	THICK. IN.	CLASSIFICATION	CBR OR K	CLASSIFICATION	CBR OR K	
							TAXIWAYS (Continued)							
Taxiway C Taxiway E T13C	862 862	75 75				21	Portland cement concrete	730	23	Select gravel (GW) NFS	160 K_r 135	Clay (CL) F3		Excellent Very good
							APRONS							
ADC alert facilities and taxiways T14C	Irregu-lar	Irregu-lar				3	Asphaltic concrete		 25	6 in. crushed gravel (GW) 19 in. crushed gravel (GW)	80+ 80+	Clay (CL) F3	6	
Taxiway D T15C	862	75				4	Asphaltic concrete		6 45	Crushed gravel (GW) Select gravel (GW)	100+ 80+	Clay (CL) F3	5 Frost 3	
							APRONS							
NW warm-up apron SE warm-up apron A1B	900 Irregu-lar 750	300				23	Portland cement concrete	750	29	Select gravel (GW) NFS	160	Clay (CL) F3		Excellent Very good
SAC heavy-load parking apron A2B	775	2185				21	Portland cement concrete	745	23	Select gravel (GW) NFS	160 K_r 135	Clay (CL) F3		Very good
ADC parking apron A3B	500	1320				17	Portland cement concrete	630	17	Select gravel (GW) NFS	130 K_r 100	Clay (CL) F3		Fair
NW-SE runway overruns -5+25 to -6+75 129+75 to 131+25 R1X	 150 150	 300 300				2	Asphaltic concrete		63	6 in. crushed gravel (GW) on 57 in. select gravel (GW)	100+ 80+	Clay (CL) F3	5	Excellent
-6+75 to -15+25 131+25 to 139+75 R2X	850 850	300 300					Double bituminous surface treatment		65	6 in. crushed gravel (GW) on 59 in. select gravel (GW)	100+ 80+		5	

WES FORM 1000
MAR 1958

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Table 3

DATE: April 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Glasgow AFB, Montana

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	I	—	\	Δ	✱	K	~	S	J (transverse)	J (longitudinal)	J (corner)	⊕	M	P	O	C	D	% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
R1A	NW-SE runway, NW end; 225-ft-wide section, sta 124+75 to 129+75	25 by 25	180	26	3	4					3	2	3						4			89.4	96.1	Very good
R1A	NW-SE runway, SE end; 225-ft-wide section, sta -5+25 to 4+75	25 by 25	360	26	10		4	2			6			2	2				9			90.6	95.6	Very good
R2B	NW-SE runway, NW end; 150-ft center section, sta 119+75 to 124+75	25 by 25	120	23	4			1			6								2			89.2	95.8	Very good
R2B	NW-SE runway, SE end; 150-ft center section, sta 4+75 to 9+75	25 by 25	120	23	3		5	2					2	2	1				5			84.2	91.7	Very good
R3C	NW-SE runway interior; center 150 ft, sta 88+75 to 119+75	25 by 25	750	21	55	1	4				15		12						16			86.4	91.7	Very good
R4C	NW-SE runway interior; center 150 ft, sta 78+75 to 88+75	25 by 25	240	17	72	3	16	2	1		9		3	1					5	5		58.3	62.5	Poor
R7C	NW-SE runway interior; center 75 ft, sta 9+75 to 78+75	25 by 25	828	21	2	2		20			2	1	63	4	57	2			15	2		81.6	97.1	Very good
R5D	NW-SE runway, NW end; 75-ft-wide edge, sta 119+75 to 129+75	25 by 25	120	14	63		5	1	1		17	4							1			35.0	42.5	Poor
R5D	NW-SE runway, SE end; 75-ft-wide edge, sta -5+25 to 9+75	25 by 25	180	14	98	4	8	4			12		1	1	3				4			33.3	40.0	Poor
R6D	NW-SE runway, NW end; 75-ft-wide edge, sta 119+75 to 124+75	25 by 25	60	14	42						13											28.3	30.0	Poor

REMARKS:

LEGEND:

- I LONGITUDINAL CRACK
- — TRANSVERSE CRACK
- \ DIAGONAL CRACK
- Δ CORNER BREAK
- ✱ SHATTERED SLAB
- K KEYED JOINT FAILURE
- ~ SHRINKAGE CRACK
- S SCALING
- J SPALL ON TRANSVERSE JOINT
- J SPALL ON LONGITUDINAL JOINT
- J CORNER SPALL
- ⊕ SETTLEMENT
- M MAP CRACKING
- P PUMPING JOINT
- O POP-OUT
- C UNCONTROLLED CONTRACTION CRACK
- D "D" CRACKING

WES FORM NO. 2004
JUN 1972

(1 of 3 sheets)

Table 3 (Continued)

DATE: April 1972

SUMMARY OF DATA – RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Glasgow AFB, Montana

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE THICK IN.	I	—	\	Δ	*	K	~	S	J	↓	J	⊕	M	P	O	C	D	% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
R6D	NW-SE runway, SE end; 75-ft-wide edge, sta 4+75 to 9+75	25 by 25	60	14	22			1			2				2							56.7	61.7	Poor
T1A	Taxiway A, sta 0+00 to 81+50	25 by 50	489	15 rein-forced OL/AC	43	332	9	2	24		107	1	24	7	1				15	1		13.1	22.9	Good
T2A	Taxiway A, sta 81+50 to 125+77	25 by 25 Variable	567	23-26-23	8	1	3	5			7	1	4		2				32			91.5	97.8	Very good
T3A	Taxiway F	25 by 25 Variable	187	26	2		1				10		1		2				7			87.7	98.4	Excellent
T4A	Taxiway B	25 by 25 Variable	173	26	14			1			2		8		2	2			5			81.5	90.8	Very good
T5A	SAC parking apron taxiway and apron access taxiways (2)	25 by 25 Variable	458	21 rein-forced				8			3		18	7	8				59	12		74.9	98.3	Excellent
T6A	ADC parking apron access taxiway	25 by 25 Variable	92	17-19-17	30	1	1	1			11		3		1				8	2		42.4	64.1	Poor
T8B	Taxiway G	25 by 25 Variable	122	23		2	4	2					2	4					4			86.1	93.4	Very good
T9B	SAC alert taxi-way and stubs	20 by 20 25 by 25 25 by 20	1406	23	54	4	4	9			9	10	10	3	17				43			90.0	95.0	Very good
T13C T13C	Taxiway C Taxiway E	25 by 25 Variable	131 131	21 21	2 9	2	1	2			1 2	8	6	2					2 3			88.5 83.2	98.5 90.1	Excellent Very good

REMARKS: Features T10B, T11B, and T12C were not surveyed in detail.

LEGEND:

- I LONGITUDINAL CRACK
- — TRANSVERSE CRACK
- \ DIAGONAL CRACK
- Δ CORNER BREAK
- * SHATTERED SLAB
- K KEYED JOINT FAILURE
- ~ SHRINKAGE CRACK
- S SCALING
- J SPALL ON TRANSVERSE JOINT
- ↓ SPALL ON LONGITUDINAL JOINT
- J CORNER SPALL
- ⊕ SETTLEMENT
- M MAP CRACKING
- P PUMPING JOINT
- O POP-OUT
- C UNCONTROLLED CONTRACTION CRACK
- D "D" CRACKING

WES FORM NO. 2004
JUN 1972

(2 of 3 sheets)

Table 3 (Continued)

DATE: April 1972

SUMMARY OF DATA – RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Glasgow AFB, Montana

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	I	—	\	Δ	*	K	~	S	J	↓J	J	⊕	M	P	O	C	D	% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
A1B	NW warm-up apron	25 by 25	374	23		3	1				10		3						19	1		90.9	98.9	Excellent
A1B	SE warm-up apron	25 by 25	294	23	6	2	3	2			2		2	1					35			88.1	95.6	Very good
A2B	SAC heavy-load parking apron	25 by 25	2336	21	208	2	1	10			44	5	87	38	8				264	29		72.7	90.4	Very good
A3B	ADC parking apron	25 by 25	972	17	146	12	6	30	1		63		66	15	15	6			105	103		61.0	79.3	Fair

REMARKS:

LEGEND:

- I LONGITUDINAL CRACK
- — TRANSVERSE CRACK
- \ DIAGONAL CRACK
- Δ CORNER BREAK
- * SHATTERED SLAB
- K KEYED JOINT FAILURE
- ~ SHRINKAGE CRACK
- S SCALING
- J SPALL ON TRANSVERSE JOINT
- ↓J SPALL ON LONGITUDINAL JOINT
- J CORNER SPALL
- ⊕ SETTLEMENT
- M MAP CRACKING
- P PUMPING JOINT
- O POP-OUT
- C UNCONTROLLED CONTRACTION CRACK
- D "D" CRACKING

WES FORM NO. 2004
JUN 1972

(3 of 3 sheets)

Table 4

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Glasgow AFB

DATE OF EVALUATION MONTH: April YR: 1972

FEATURE NO.	FEATURE DESIGNATION	PAVEMENT OPERATIONAL USE	LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS — TRICYCLE ARRANGEMENT: SINGLE 100-PSI TIRE PRESSURE (1)	TRICYCLE: SINGLE 100-SQ-IN. CONTACT AREA (2)	TRICYCLE: SINGLE 241-SQ-IN. CONTACT AREA (3)	TRICYCLE: TW 28-IN. C-C 226-SQ-IN. CONTACT AREA EACH TIRE (4)	TRICYCLE: SINGLE TANDEM 60-IN. SPACING 400-SQ-IN. CONTACT AREA (5)	TRICYCLE: TW 37-IN. C-C 267-SQ-IN CONTACT AREA EACH TIRE (6)	TRICYCLE: TW 44-IN. C-C 630-SQ-IN. CONTACT AREA EACH TIRE (7)	TRICYCLE: TWIN TANDEM 33 IN. × 48 IN. 208-SQ-IN. CONTACT AREA EACH TIRE (8)	TRICYCLE: C-5A GEAR CONFIGURATION (9)	BICYCLE: TWIN TWIN SPCG 37-62-37 267-SQ-IN. CONTACT AREA EACH TIRE (10)	REMARKS
R1A	NW-SE runway, SE end; sta -5+25 to 4+75	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
	NW-SE runway, NW end; sta 124+75 to 129+75	Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	590,000	
R2B	NW-SE runway, SE end; sta 4+75 to 9+75	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
	NW-SE runway, NW end; sta 119+75 to 124+75	Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
R3C	NW-SE runway interior; sta 88+75 to 119+75	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
R4C	NW-SE runway interior; sta 78+75 to 88+75	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	440,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	320,000	230,000+	380,000+	800,000+	420,000	
R7C	NW-SE runway interior (inlay); sta 9+75 to 78+75	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
T1A	Taxiway A, sta 0+00 to 81+50	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	550,000	
T2A	Taxiway A, sta 81+50 to 125+77	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	570,000	

Note: + sign denotes allowable gross loading greater than maximum gross weight of any existing aircraft having indicated gear configuration.
(a) denotes allowable gross loading less than minimum gross weight of any existing aircraft having indicated gear configuration.

WES FORM NO. 999 JUNE 1972 EDITION OF AUG 1960 IS OBSOLETE.

Table 4 (Continued)

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Glasgow AFB

DATE OF EVALUATION MONTH: April YR: 1972

LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS (Columns 1–9: TRICYCLE ARRANGEMENT; Column 10: BICYCLE)

FEATURE NO.	FEATURE DESIGNATION	PAVEMENT OPERATIONAL USE	1 SINGLE 100-PSI TIRE PRESSURE	2 SINGLE 100-SQ-IN. CONTACT AREA	3 SINGLE 241-SQ-IN. CONTACT AREA	4 TW 28-IN. C-C 226-SQ-IN. CONTACT AREA EACH TIRE	5 SINGLE TANDEM 60-IN. SPACING 400-SQ-IN. CONTACT AREA	6 TW 37-IN. C-C 267-SQ-IN. CONTACT AREA EACH TIRE	7 TW 44-IN. C-C 630-SQ-IN. CONTACT AREA EACH TIRE	8 TWIN TANDEM 33 IN. × 48 IN. 206-SQ-IN. CONTACT AREA EACH TIRE	9 C-5A GEAR CONFIGURATION	10 TWIN TWIN SPCG 37-62-37 267-SQ-IN. CONTACT AREA EACH TIRE	REMARKS
T3A	Taxiway F	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
	Taxiways A and F connection	Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
T4A	Taxiway B	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
T5A	SAC apron taxi-way and two apron access taxiways	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
T6A	ADC apron access taxiway	Capacity	150,000	85,000+	155,000+	205,000	200,000+	190,000	230,000+	330,000	800,000+	285,000	
		Frost capacity	145,000	85,000+	155,000+	198,000	200,000+	185,000	230,000+	310,000	800,000+	270,000	
T7A	ADC apron access taxiway	Capacity	105,000	60,000	100,000	120,000	125,000	100,000	120,000	130,000	390,000	(a)	
		Frost capacity	60,000	60,000		65,000	95,000	65,000	(a)	(a)	(a)	(a)	
T8B	Taxiway G	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
T9B	SAC alert facil-ities, taxi-way, and stubs	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	590,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	590,000	
T10B	Hangar access apron area 1 and taxiways	Capacity	155,000+	85,000+	155,000+	215,000	200,000+	240,000	230,000+	380,000+	800,000+	320,000	
		Frost capacity	150,000	85,000+	155,000+	205,000	200,000+	225,000	230,000+	370,000	800,000+	295,000	
T11B	Hangar access apron area 2 and taxiways	Capacity	125,000	85,000+	155,000+	175,000	200,000+	200,000	230,000+	340,000	800,000+	265,000	
		Frost capacity	120,000	85,000+	155,000+	165,000	200,000+	185,000	230,000+	310,000	800,000+	250,000	
T12C	Aircraft weapons calibration shelter, apron, and taxiway	Capacity	95,000	75,000	130,000	140,000	200,000+	160,000	210,000	300,000	800,000+	(a)	
	Power check pad	Frost capacity	90,000	70,000	125,000	130,000	200,000	145,000	190,000	270,000	790,000	(a)	

WES FORM NO. 999 JUNE 1972 EDITION OF AUG 1960 IS OBSOLETE.

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Table 4 (Continued)

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Glasgow AFB

DATE OF EVALUATION MONTH: April YR: 1972

FEATURE NO.	FEATURE DESIGNATION	PAVEMENT OPERATIONAL USE	LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS — TRICYCLE ARRANGEMENT: SINGLE 100-PSI TIRE PRESSURE (1)	SINGLE 100-SQ-IN. CONTACT AREA (2)	SINGLE 241-SQ-IN. CONTACT AREA (3)	TW 28-IN. C-C 226-SQ-IN. CONTACT AREA EACH TIRE (4)	SINGLE TANDEM 60-IN. SPACING 400-SQ-IN. CONTACT AREA (5)	TW 37-IN. C-C 267-SQ-IN. CONTACT AREA EACH TIRE (6)	TW 44-IN. C-C 630-SQ-IN. CONTACT AREA EACH TIRE (7)	TWIN TANDEM 33 IN. × 48 IN. 238-SQ-IN. CONTACT AREA EACH TIRE (8)	C-5A GEAR CONFIGURATION (9)	BICYCLE: TWIN TWIN SPCG 37-62-37 267-SQ-IN. CONTACT AREA EACH TIRE (10)	REMARKS
T13C	Taxiways C and E	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
T14B	ADC alert facilities and taxiways	Capacity	100,000	45,000	95,000	100,000	150,000	125,000	145,000	165,000	480,000	(a)	
		Frost capacity	55,000	45,000	95,000	65,000	90,000	65,000	(a)	(a)	(a)	(a)	
T15C	Taxiway D	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	440,000	
		Frost capacity	155,000+	85,000+	155,000+	210,000	200,000+	210,000	210,000	270,000	780,000	230,000	
A1B	NW warm-up apron	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
	SE warm-up apron	Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	580,000	
A2B	SAC heavy-load parking apron	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	230,000+	380,000+	800,000+	600,000+	
A3B	ADC parking apron	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	300,000	230,000+	380,000+	800,000+	400,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	290,000	230,000+	380,000+	800,000+	370,000	

WES FORM NO. 999 JUNE 1972 EDITION OF AUG 1960 IS OBSOLETE.

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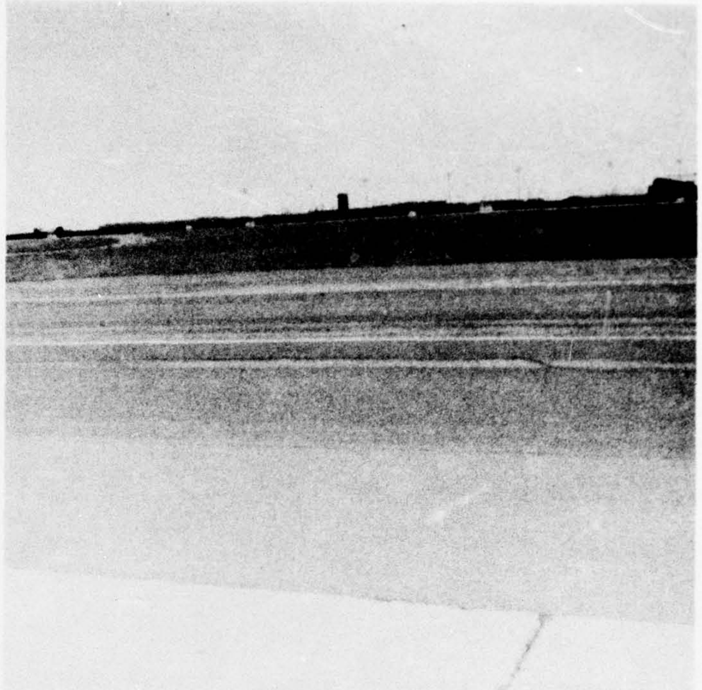


Photo 1. General view of AC pavement of outer edge of runway interior (feature R8D) near sta 45+00

Photo 2. Epoxy patch and grouted drill holes

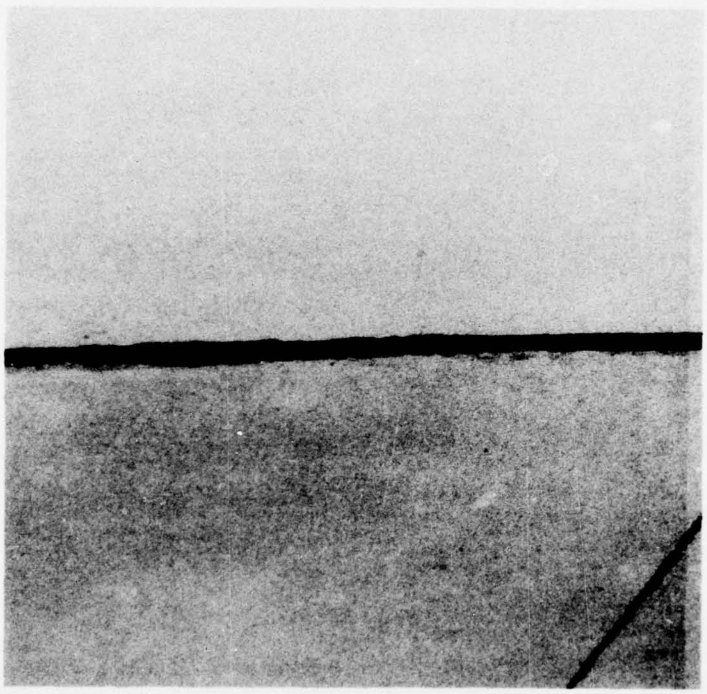
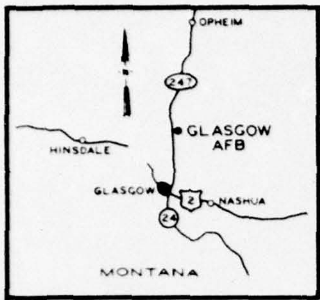


Photo 3. Settlement of slab near sta 45+00 of runway



VICINITY MAP

SCALE IN FEET

LEGEND

(R1X / 2" AC) ← FEATURE DESIGNATION (SEE NOTE 1)
← SURFACE PAVEMENT THICKNESS AND TYPE

TYPE OF FEATURE

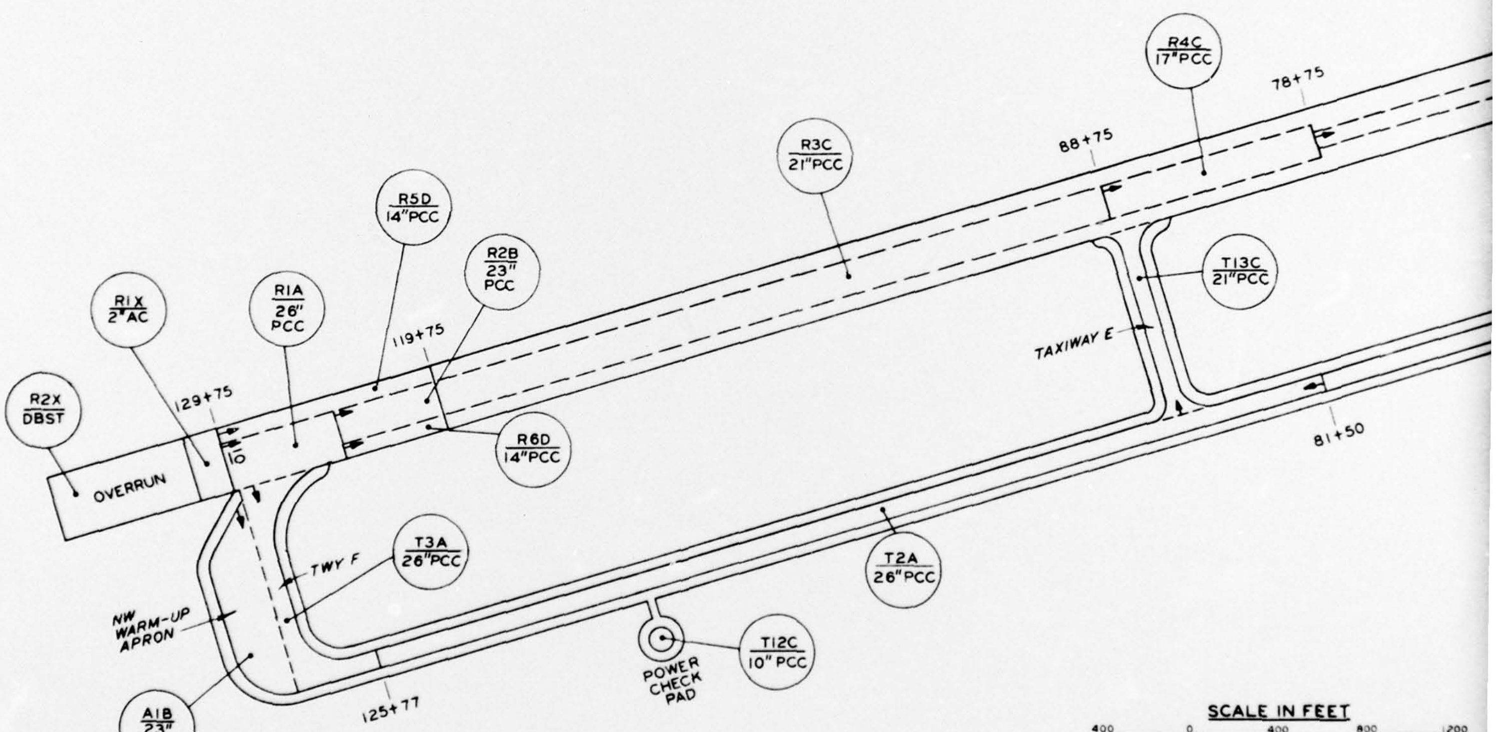
- R ~ RUNWAY
- T ~ TAXIWAY
- A ~ APRON

TYPE OF TRAFFIC AREA (SEE NOTE 2)

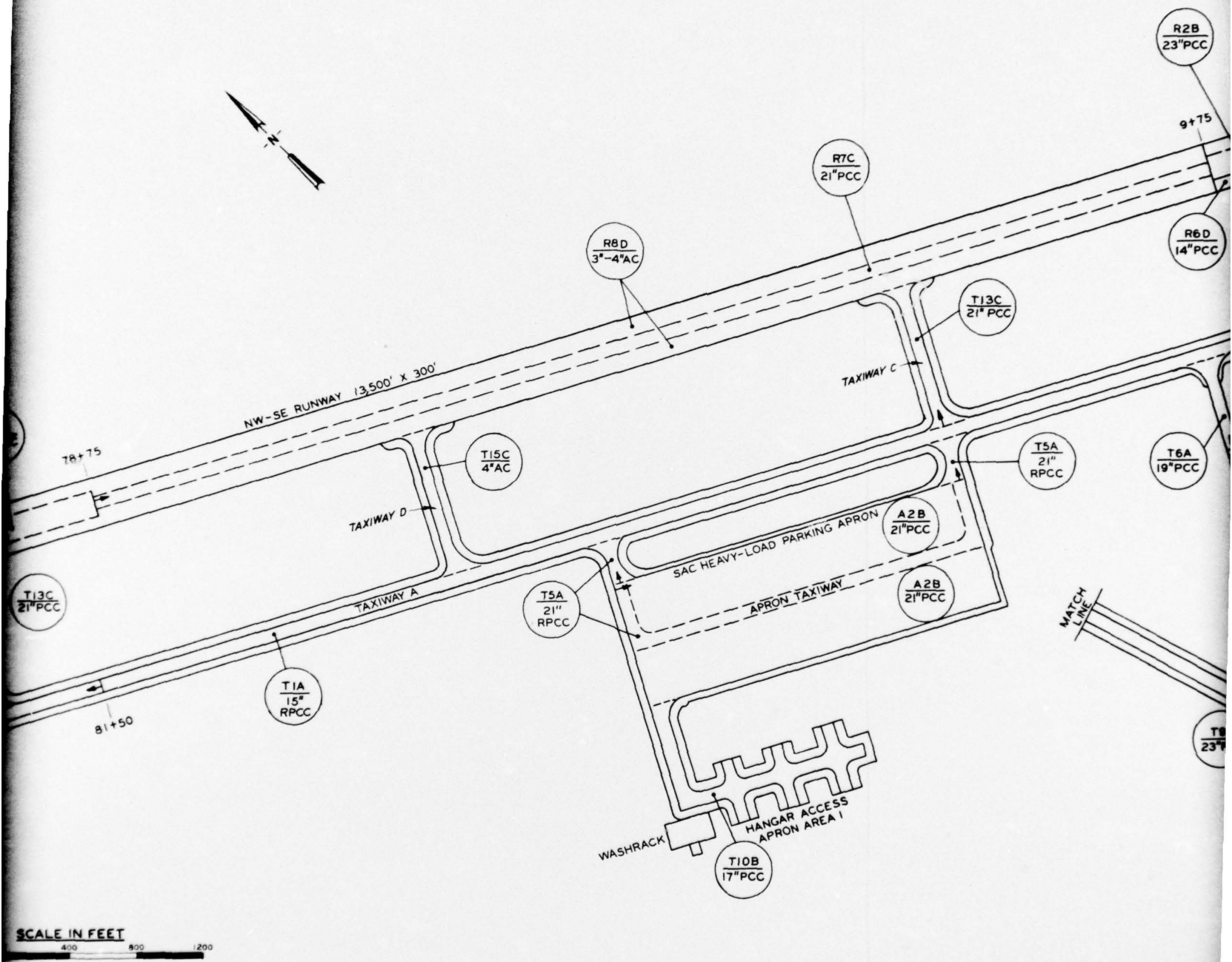
- A ~ A TYPE TRAFFIC
- B ~ B TYPE TRAFFIC
- C ~ C TYPE TRAFFIC
- D ~ D TYPE TRAFFIC
- X ~ NO TRAFFIC TYPE ASSIGNED

AC - ASPHALTIC CONCRETE
PCC - PORTLAND CEMENT CONCRETE
DBST - DOUBLE BITUMINOUS SURFACE TREATMENT
⟶ - DIRECTION OF SURVEY
RPCC - REINFORCED PORTLAND CEMENT CONCRETE

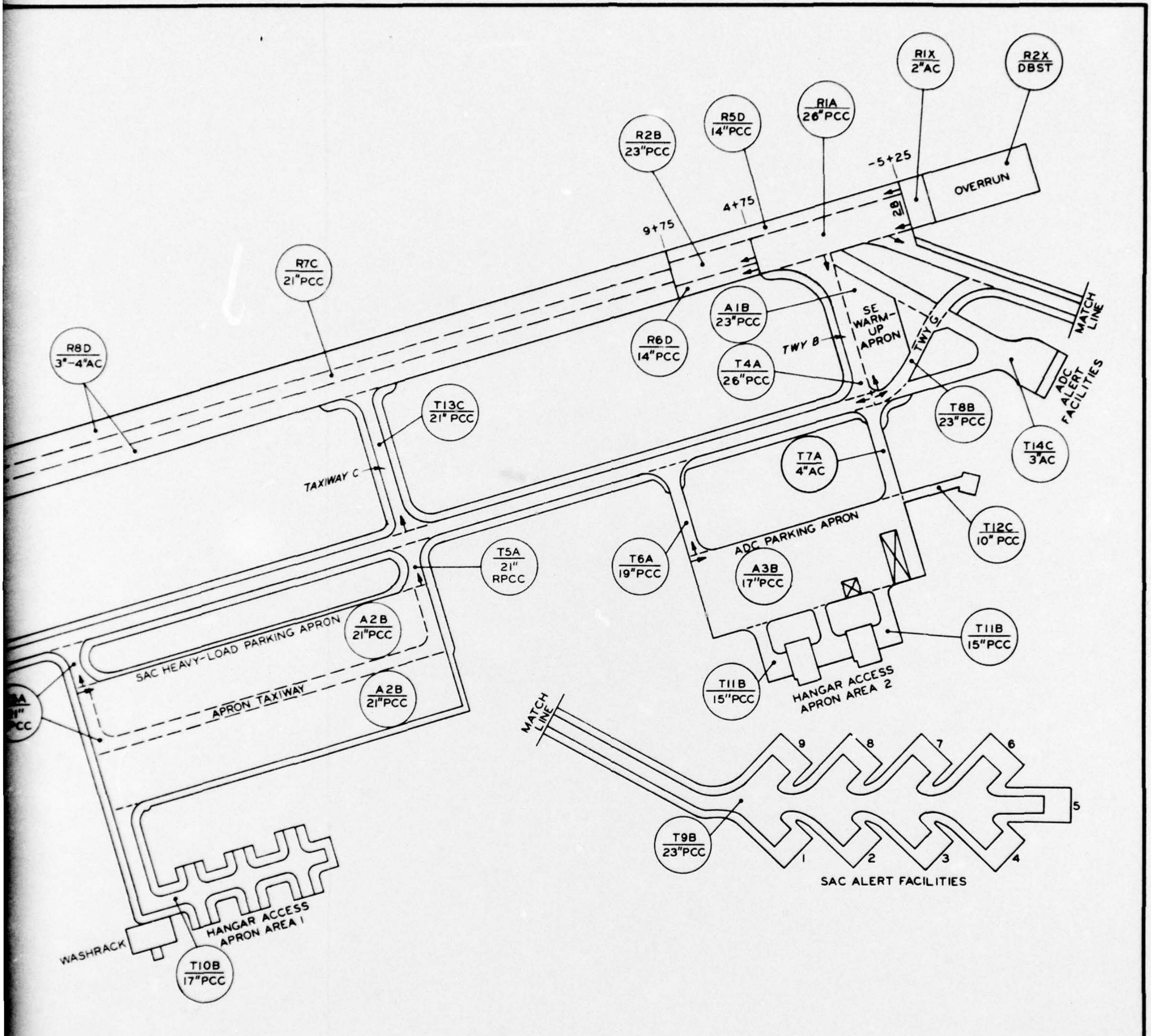
NOTES: 1. FEATURE DESIGNATION DENOTES TYPE OF FEATURE, NUMBER OF FEATURE FOR GIVEN TYPE, AND TYPE TRAFFIC AREA.
2. TRAFFIC AREA DESIGNATIONS ARE BASED ON HEAVY-LOAD CRITERIA.



SCALE IN FEET



R2B
23"PCC
9+75
R7C
21"PCC
R6D
14"PCC
R8D
3"-4"AC
T13C
21" PCC
TAXIWAY C
NW-SE RUNWAY 13,500' X 300'
78+75
T15C
4"AC
T5A
21"
RPCC
T6A
19"PCC
TAXIWAY D
A2B
21"PCC
SAC HEAVY-LOAD PARKING APRON
T13C
21"PCC
TAXIWAY A
T5A
21"
RPCC
APRON TAXIWAY
A2B
21"PCC
MATCH LINE
T1A
15"
RPCC
81+50
HANGAR ACCESS
APRON AREA 1
WASHRACK
T10B
17"PCC
SCALE IN FEET
400
800
1200

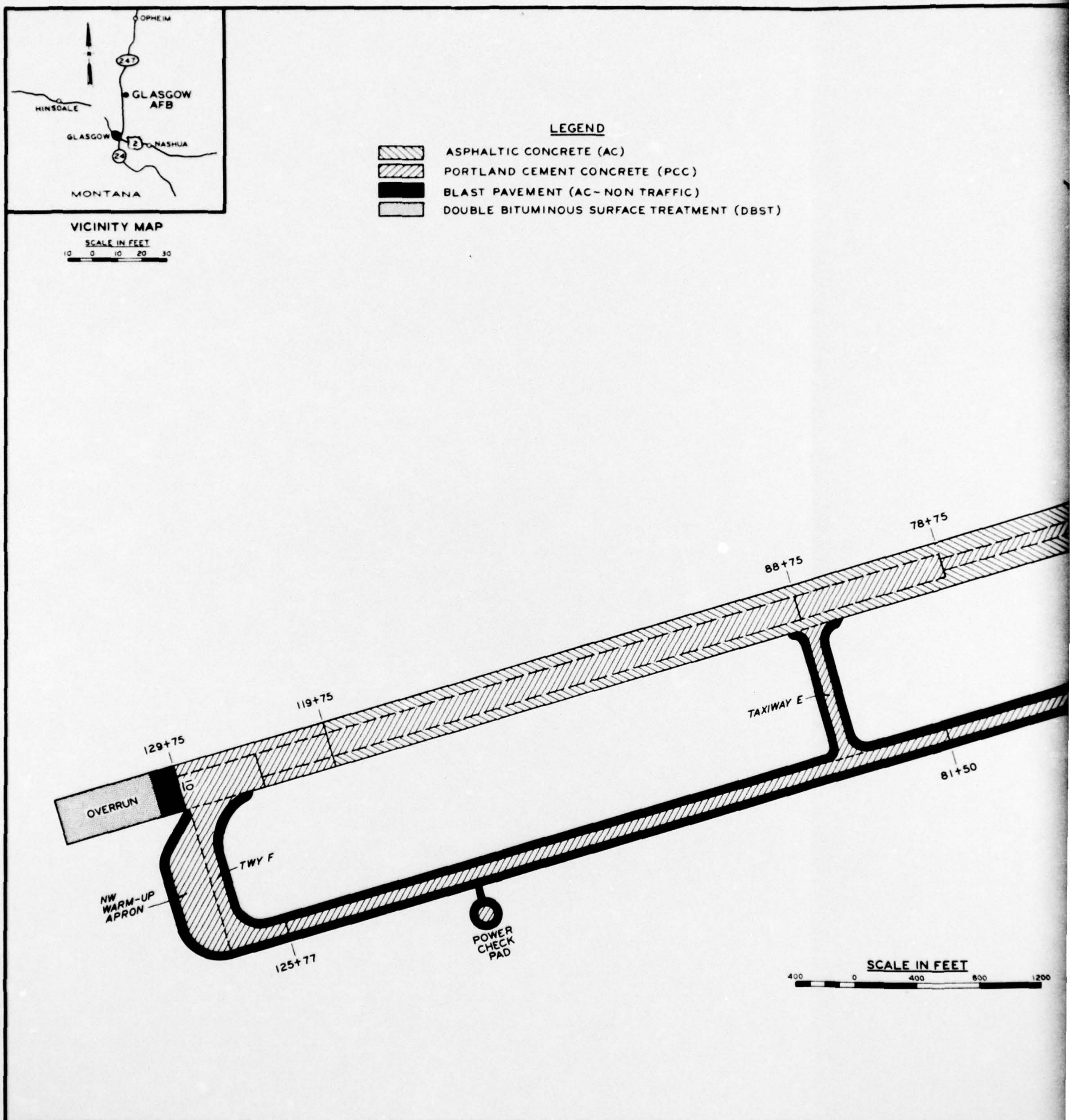


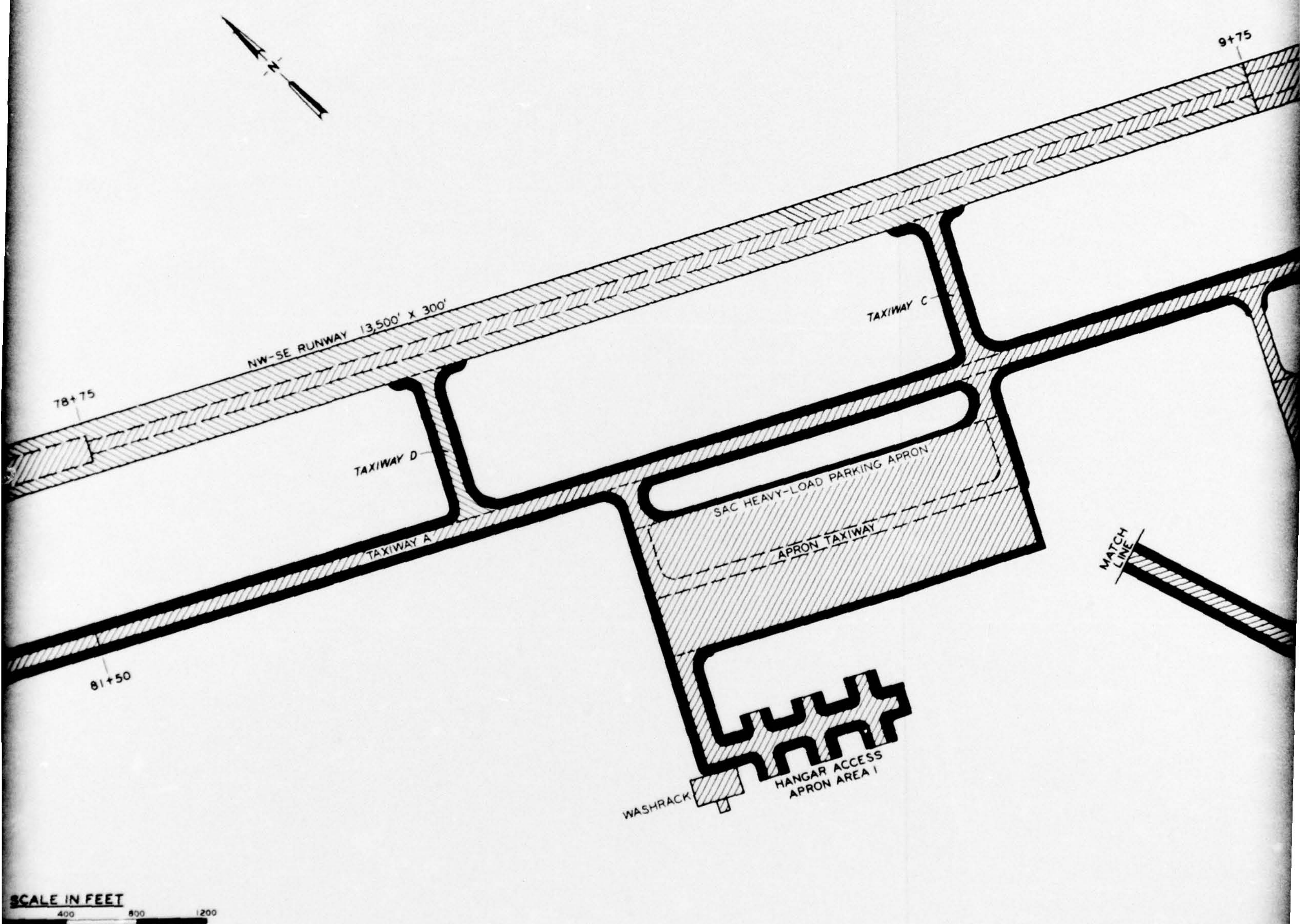
GLASGOW AFB

AIRFIELD LAYOUT

PLATE 1

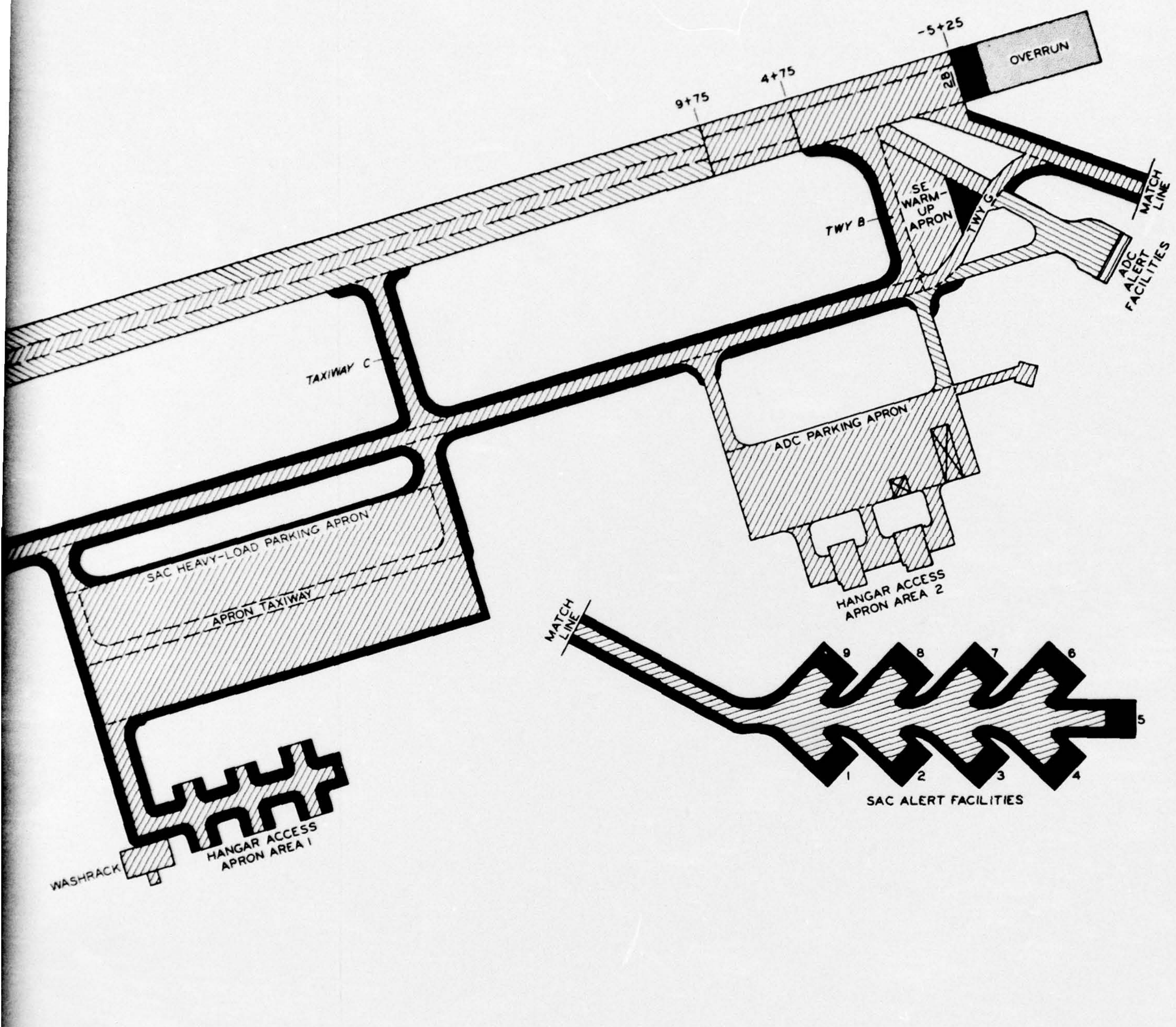
3


OPHEIM
247
GLASGOW AFB
HINSDALE
GLASGOW
2
NASHUA
24
MONTANA
VICINITY MAP
SCALE IN FEET
10 0 10 20 30
LEGEND
ASPHALTIC CONCRETE (AC)
PORTLAND CEMENT CONCRETE (PCC)
BLAST PAVEMENT (AC-NON TRAFFIC)
DOUBLE BITUMINOUS SURFACE TREATMENT (DBST)
78+75
88+75
119+75
129+75
10
OVERRUN
TAXIWAY E
81+50
TWY F
NW WARM-UP APRON
125+77
POWER CHECK PAD
SCALE IN FEET
400 0 400 800 1200



N
9+75
NW-SE RUNWAY 13,500' X 300'
78+75
TAXIWAY C
TAXIWAY D
SAC HEAVY-LOAD PARKING APRON
APRON TAXIWAY
TAXIWAY A
MATCH LINE
81+50
HANGAR ACCESS
APRON AREA 1
WASHRACK
SCALE IN FEET
400
800
1200

2



PAVEMENT PLAN

PLATE 2

3