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CONDITION SURVEY, MATHER AIR FORCE BASE, CALIFORNIA.(U)
MAY 73 P J VEDROS

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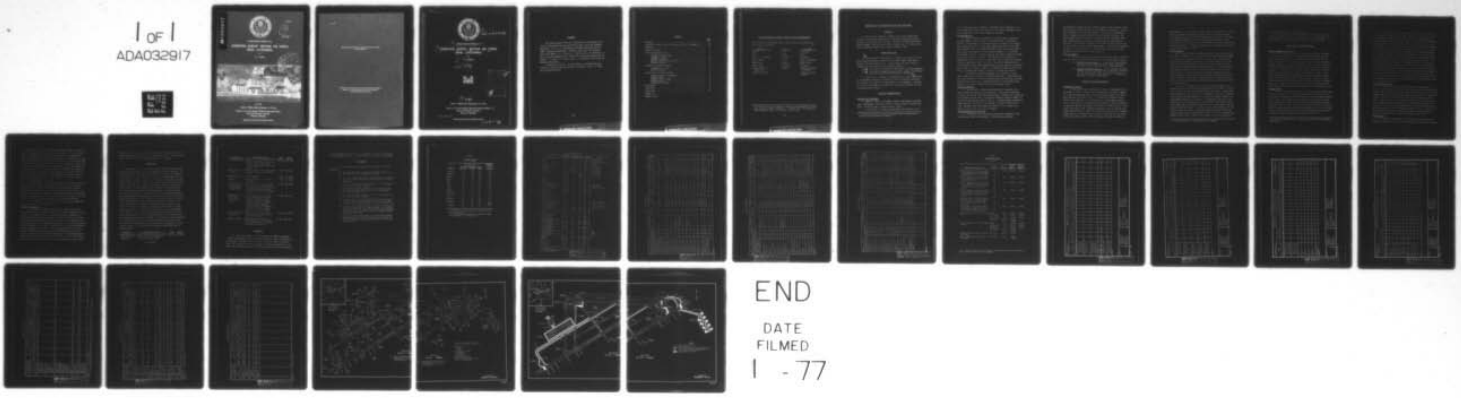

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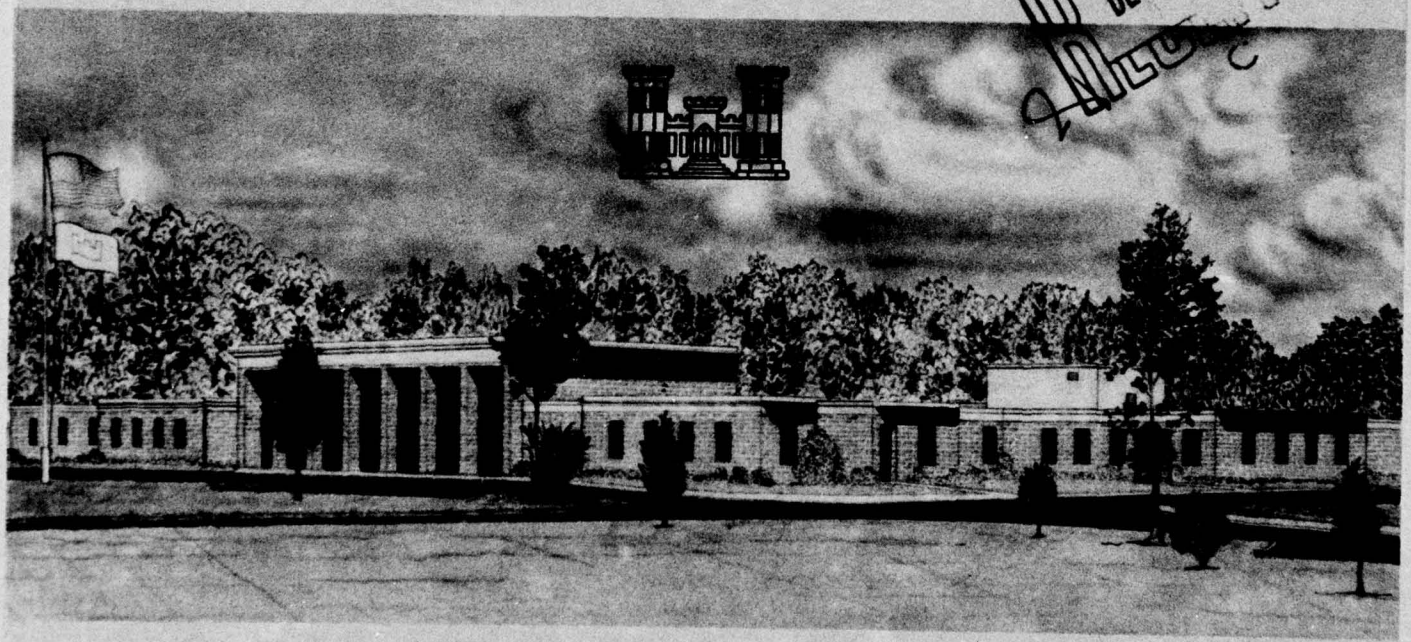

May 1973

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

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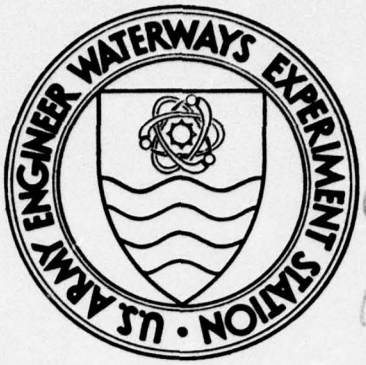

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Foreword

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. P. J. Vedros, S. J. Alford, and P. S. McCaffrey, Jr. This report was prepared by Mr. Vedros under the general supervision of Messrs. J. P. Sale, R. G. Ahlvin, and R. L. Hutchinson of the Soils and Pavements Laboratory.

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
square feet	0.092903	square meters
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, MATHER AIR FORCE BASE, CALIFORNIA

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 Mather Air Force Base (MAFB), California, during 31 October-3 November 1972. The following two major areas of interest were considered in this condition survey:

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

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

3. This report is limited to a presentation of visual observations of the pavement conditions, discussion of the 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

Location and topography

4. MAFB is located in Sacramento County, approximately 10 miles* east of Sacramento, California, and 2 to 4 miles south of the American River. A vicinity map is shown in plates 1 and 2.

5. The airfield is located on practically flat terrain on the

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

floor of the Great Central Valley of California at an elevation of between 76 and 100 ft above mean sea level. The natural drainage is poor, and the area has a slight slope toward the southwest.

Geology and soils

6. MAFB is located on a portion of a long, linear, northwest-southeast trending alluvial plain of Pleistocene age. The plain is formed by the American River from ejections of the mouth of the canyon near Folsom and is about 5 miles wide between the bluffs of the older river deposits north of the American River and the low rolling hills of these older river deposits at the southern boundary of the airfield. The materials consist of cobbles, gravels, and sands in deposits varying from about 15 to 35 ft in depth. These materials are overlain or separated by strata of sand, silt, and clay, some of which are cemented, varying in depth from about 1 to 10 ft. The soil is reddish brown in color and each winter season becomes swampy in some areas due to perched water tables. The depth to water in the underlying gravels varies from about 15 ft during wet winters to about 45 ft during dry summers.

7. In general, the native subgrade soils consist of a silty, clayey, sandy type of material containing some gravel. Undulating hardpan, which consists of a closely cemented sandy clay material, generally underlies the surface soil. Plasticity indices of the subgrade range from 3 to 16, with the average values being between 6 and 7.

Climatic conditions

8. The area has a climate characterized by hot summers, mild winters, and light amounts of precipitation. Frost occurs frequently but rarely penetrates below the ground surface. Climatic data (extracted from records obtained from the Air Weather Squadron located at MAFB) for the period 1941-1967 are shown in table 1. The mean monthly temperatures range from a low of about 46 F in January to a high of about 76 F in July. Average annual precipitation is about 17.1 in., varying from about 0.1 in. in July to 3.1 in. in January.

General description of airfield

9. In November 1972, the airfield facilities consisted of both heavy-load and light-load pavements. The heavy-load pavements

consisted of a primary runway, a primary taxiway, warm-up aprons, a SAC parking apron, a SAC alert facility, and hangar access aprons. The primary runway was 300 ft wide and 11,300 ft long, and the SAC parking apron (including extension) was 675 ft wide and 2,772 ft long. The light-load pavements consisted of a parallel runway, connecting taxiways, parking aprons, warm-up aprons, washracks, and miscellaneous pavements. The parallel runway was 150 ft wide and 6,100 ft long, and the aprons were of various widths and lengths. A layout of the airfield pavements is shown in plate 1. A pavement plan indicating the type pavement on each facility is shown in plate 2.

Previous reports

10. Previous reports concerning MAFB are listed below. Pertinent data were extracted from them for use in this condition survey report.

a. Condition survey report: U. S. Army Ohio River Division Laboratories, CE, "Condition Survey Report, Mather Air Force Base, California," May 1963, Cincinnati, Ohio.

b. Pavement evaluation reports: It was reported that eight pavement evaluation reports have been prepared concerning the facilities at MAFB under the auspices of the U. S. Army Engineer District, Sacramento, CE. The latest was Report No. 8, dated February 1959.

History of Airfield Pavements

Construction history

11. Mather Field was established by the U. S. Government in the early part of 1918. At this time, the facilities consisted of hangars and a natural sodded airfield. The airfield was inactive from 1922 to April 1930 and from 1932 to 1941. In January 1941, extensive reconstruction was begun under the supervision of the Sacramento District office. This phase of construction was completed in 1944 and consisted of taxiways; aprons; and runways that were 150 ft wide and 6,115, 6,100, 5,000, and 5,060 ft long. Further construction began in 1952 and continued intermittently to 1958. This construction consisted of strengthening some of the original facilities and constructing new facilities. Pavement construction after 1957 was designed according to heavy-load

requirements; i.e., to support a landing gear load of 240,000 lb carried on a single landing gear having twin-twin wheels abreast, with each wheel having a tire contact area of approximately 267 sq in. The spacing between twin wheels is 37 in. No new pavements have been constructed since 1958. Details of the design and construction history are presented in table 2. Pavement thicknesses and descriptions, and other details are presented in table 3.

Traffic history

12. A detailed traffic record was available for the period from July 1960 to December 1971. The B-52 aircraft began operations at MAFB in October 1958. However, at the time of this survey, there were no B-52 aircraft stationed at the base. The traffic record for 1971 indicates that there were about 75 cycles* per month by B-52 aircraft and about 85 cycles per month by KC-135 aircraft. It was reported that light trainer aircraft (T-29's) have averaged about 50 to 55 flights per school day. The heavy bombers and trainer aircraft, as well as aircraft located at other bases, use the runway considerably for touch-and-go landings. These types of operation tend to build up rubber deposits on the pavement surfaces, requiring a yearly maintenance project for rubber removal.

13. It is estimated that the total B-52 traffic applied on the pavement since the B-52 aircraft started operations at MAFB to the present (November 1972) has been approximately 9,000 cycles. (Touch-and-go operations are not considered in the computation of cycles of traffic.) These 9,000 cycles were applied at aircraft gross weights ranging from approximately 400,000 to 430,000 lb. An estimated 85 percent of the takeoffs by heavy aircraft are from the northeast (22L) end of the primary runway, and an estimated 25 percent of the light aircraft use the parallel (04L-22R) runway. In addition to the above traffic, B-52 aircraft on alert are taxied or towed over various pavement features at aircraft gross loads of approximately 480,000 lb. It is estimated that there have been between 100 and 150 movements of this type per year.

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

Selected traffic data are presented in table 4.

14. It was reported that new T43A trainer jets (Boeing 737's) will begin replacing the propeller-driven T-29 aircraft at MAFB. The initial delivery of these trainer aircraft is due in June 1973.

Conditions of Pavement Surfaces

Pavement inspection procedure

15. 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. The results of the rigid pavement survey for those features that were inspected in detail are presented in table 5. This table 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.

Primary runway

16. The primary runway (04R-22L) has been extended several times at each of its ends. The original runway was 6115 ft long and 150 ft wide and was constructed of 10-1/2-7-10-1/2 in. portland cement concrete (PCC). Later, this runway was strengthened by an asphaltic concrete (AC) overlay, except at the ends, which were overlaid with a minimum thickness of 12 in. of PCC and were extended 1890 ft with 15-in. pavements. In 1957 and 1958, the runway was extended 2200 ft at the SW end and 1600 ft at the NE end using the heavy-load pavement design, which resulted in pavement thicknesses ranging from 18 to 22 in.

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

17. The results of the runway inspection are shown in table 5. The heavy-load pavements constructed of 18- to 22-in.-thick PCC were all in excellent structural condition, with less than 1 percent of the slabs containing a major structural defect. The rigid overlay pavements from sta 150+60 to 154+00 and sta 205+00 to 206+70 were also in excellent condition, with only a small number of structural defects observed in the surfaces. The 15-in.-thick pavement from sta 140+00 to 150+60 was in very good condition, with 19 percent of the slabs containing a major defect. The other portion of the runway with 15-in.-thick pavement (from sta 206+70 to 215+00) was in poor to failed condition, with approximately 41 percent of the slabs containing major defects. This feature is located at the end of the runway from which 85 percent of the takeoffs and landings occur. The interior of the runway (feature R6C), which is of flexible overlay design, was in excellent condition at the time of this survey. This area had developed a rough and uneven surface. The center section of the runway was heater-planed in 1970 to a depth of about 3/4 to 1 in., and a new AC overlay was placed. The outside edges that had not been heater-planed were sand sealed and were also in excellent condition.

Primary taxiway system

18. The heavy-load taxiway system consists of taxiways 1, 7, 8, and 9, the primary taxiway, the SAC alert taxiway, the SAC parking apron taxiway, and the SAC nose dock access taxiway. Taxiways 1, 7, and 8, the primary taxiway, and the SAC parking apron taxiway were all in excellent condition, with less than 1 percent of the slabs containing a major defect. Taxiway 9 was also in excellent condition, with about 5 percent of the slabs containing a major defect. The SAC alert taxiway, which consists of 21-in.-thick PCC pavement, was in very good condition, with about 5 percent of the slabs containing a major defect. The 15-in. PCC of the SAC nose dock access taxiway was in poor to failed condition, with about 75 percent of the slabs containing a major defect.

Primary aprons

19. The heavy-load aprons consist of the SAC parking apron and extension, warm-up aprons 1 and 5, and the SAC alert stubs. At the time

of this survey, no heavy aircraft were stationed at MAFB, so it was possible to survey all of the slabs in the apron areas. The survey indicated that approximately 16 percent of the slabs in the SAC parking apron and extension area contained major defects. The majority of these defects were observed to occur in the slabs over which the aircraft taxi to reach the individual parking slots. The taxi stripes for these parking positions were observed to be painted along joints, just adjacent to the joints (i.e., 2 to 4 ft from the edge of the slab), and in the centers of the slabs. (The taxi stripe for parking positions 103 and 125 was in the center of the slab.) Approximately the same percentage of the slabs contained cracking whether the taxi stripe was at or near a joint or in the middle of the slab.

20. Warm-up aprons 1 and 5 were in excellent condition, with less than 4 percent of the slabs containing major defects. The SAC alert stubs, which are only 100 ft wide, were also in excellent condition, with only about 5 percent of the slabs containing a major defect. It was reported that due to damage from engine blast and from the outrigger wheels an additional lane of PCC was placed adjacent to each side of the stubs in 1968. This addition appears to have solved the problem.

21. The SAC nose dock access aprons, which are 15-in.-thick PCC, were in a poor to failed condition.

Light-load facilities

22. The parallel runway (04L-22R) was in excellent condition. This runway had also been heater-planed, and a new AC overlay was placed in 1970. The taxiways leading to the parallel runway (taxiways 2, 3, and 5) were in fair to good condition. Portions of taxiway 5 have been overlaid with AC. Except for reflection cracks from the underlying PCC, the taxiways seem to be performing satisfactorily. The large operational apron and extension were in fair condition, with a considerable amount of cracking apparent in the surface. The cracking appears to be from reflection from the underlying PCC and from shrinkage cracking in the asphaltic material rather than from overloading. The maintenance apron (feature A4B), which consists of 16-in.-thick PCC, was in excellent condition, with less than 5 percent of the slabs containing a major defect.

The 12-in. PCC of the washrack, which is used by all aircraft except the bombers and tankers, was in a poor to failed condition. Plans for overlaying or rebuilding the washrack pavement are in progress.

Maintenance

23. Maintenance of the rigid pavements by Base Civil Engineering personnel has consisted of spot joint sealing and spall repairing. The spall repairs have been made using epoxy resin materials. The patches that were placed using a saw cut to provide a vertical bonding face and a joint sawed to separate the patch in adjoining slabs seemed to be performing satisfactorily. Patches that had been placed by contract and in which no vertical face was sawed were spalling along the outside edges of the patch. Oil and hydraulic fluid spillage on the asphalt apron area has created a maintenance problem where the T-29 aircraft park. Due to poor housekeeping, a large amount of oil and hydraulic fluid is spilled during engine maintenance, and areas of the asphalt have become quite soft and have had to be replaced. Tar emulsions have been used in some of these areas but have not solved the problem. Another of the yearly maintenance jobs involves removing the rubber deposits on the runway. This type of maintenance usually costs about $3000 to $4000 yearly and consists of cleaning the rubber deposits from approximately 1600 to 1800 ft of the runway. Chemicals are usually used to dissolve and remove the rubber, but it was reported that the last rubber removal was accomplished by the use of grinders. This method of removal appeared to do a good job, but some of the pavement surface was ground down to the extent that the aggregate in the concrete mix was exposed. A maintenance history of the work performed during the period 1965-1970 is tabulated below.

Facility	Work Accomplished	Cost	Date
Operational apron and south apron extension	Removed and replaced deteriorated spots, placed rubberized tar slurry on parking areas	$27,941	Jul 1966

(Continued)

Facility	Work Accomplished	Cost	Date
SAC parking apron	Sawed out spalled areas and replaced them with epoxy concrete. Removed joint seal, widened joints, and replaced seal over breaker strip	$93,000	Sep 1966
SAC alert apron stubs (9)	Replaced spalled AC in areas under outboard engines of B-52 aircraft	12,000	Jun 1968
Warm-up apron 2	Placed sand seal	2,100	Jul 1968
Overruns	Placed chip seal on all runway overruns	7,666	Jul 1968
Primary taxiway, warm-up apron 1, and primary runway edges	Placed seal coat of AC on shoulders and runway interior edges. Removed and replaced 6,250 sq ft of AC pavements at junction of AC and PCC pavements on primary runway	10,000	Sep 1968
Taxiways 2, 3, and 5 and former NW-SE runway	Placed 1-1/4-in. AC overlay on former NW-SE runway, primary taxiway to primary runway. Placed 1-1/2-in. AC overlay on taxiway 5, from maintenance apron to primary taxiway. Placed sand seal on taxiways 2, 3, and 5 (on 5 from primary taxiway to primary runway)	20,036	Aug 1968
Operational parking apron	Placed 1-1/2-in. AC overlay on fire lane along north edge of apron, 80,000 sq ft	35,341	Aug 1968
Parallel runway	Heater-planed the center 75-ft-wide area to depth of 3/4 in. and installed 1-in. AC overlay. Sand sealed remainder	40,318	May 1970

Evaluation

24. The latest pavement evaluation report for MAFB was prepared in 1959 (see paragraph 10b). Because some changes in gear configurations and methods of evaluation have been made since that time, a new evaluation table (table 6) has been prepared. The physical properties of the materials as determined in previous evaluations were used for determining

the load-carrying capabilities of the pavements. Where the conditions of the pavements indicated, the load-carrying capacities were adjusted.

Conclusions

25. The following remarks summarize the findings of the 1972 inspection:

a. The rigid pavements of thicknesses greater than 15 in. are in very good to excellent condition.

b. The 15-in. rigid pavements in the runway interior and the nose dock taxiway and apron area are in poor to failed condition.

c. The rigid overlay of the rigid pavement in the runway interior is in excellent condition.

d. The light-load taxiway pavements, which are 6-in. PCC with some portions overlaid with AC, are generally in poor to fair condition.

e. The washrack, which consists of 12-in. PCC pavement, is in a poor to failed condition.

f. The majority of the cracking in the SAC parking apron is in slabs near the landing gears of the parked aircraft and along the taxi stripe leading into the parking slots.

g. The use of joint seal material to retard the displacement of small spalls along the joints appears to be working satisfactorily, since there were very few spalls observed during this survey as compared with the number observed during the 1962 survey.

h. The epoxy resin mortar patches of spalls have performed satisfactorily only when the spalls have been sawed out and a vertical face has been provided as a bond for the epoxy material.

Table 1

Climatic Data*

Month	Average Daily Temperatures, F			Average Rainfall in.**
	Maximum	Minimum	Mean	
January	53	38	46	3.1
February	59	41	50	2.6
March	63	43	53	2.5
April	71	47	59	1.8
May	78	51	65	0.6
June	86	56	71	0.1
July	92	60	76	0.1
August	91	59	75	0.1
September	87	57	72	0.2
October	77	52	65	1.1
November	64	44	54	2.2
December	54	40	47	3.0
Annual	73	49	61	17.4

* From MAFB Air Weather Squadron records for the period 1941-1967.

** The average annual amount of snowfall at MAFB is considered to be negligible.

Table 2

Airfield Construction History

Designation	Dimensions: Length, ft	Dimensions: Width, ft	Pavement: Thickness, in.	Pavement: Type	Construction: Year(s)	Construction: Agency	Remarks
N-S taxiway	2060	100	8-6-8	PCC	1941-42	CE*	Now is taxiway 4
E-W taxiway	730	100	8-6-8	PCC	1941-42	CE	Has been removed
N-S runway	5000	150	8-6-8	PCC	1941-42	CE	Has been closed and part is now taxiway 5
NW-SE runway	5000	150	8-6-8	PCC	1941-42	CE	Closed
NE-SW (Parallel) runway	6100	150	8-6-8	PCC	1941-42	CE	Has been overlaid
NE-SW taxiway	3590	75	8-6-8	PCC	1941-42	CE	Has been closed
NW-SE taxiway	345	100	8-6-8	PCC	1941-42	CE	Now is taxiway 3
NE-SW runway (Primary)	6115	150	10-1/2-7-10-1/2	PCC	1943	CE	Has been overlaid
Connecting taxiway	1020	75	10-1/2-7-10-1/2	PCC	1943	CE	Has been overlaid
Apron	3600±	400±	6	Class C concrete	1941	CE	Has been overlaid
Apron extension	4200±	275±	6	Class C concrete	1942	CE	Has been overlaid
Taxiway 6	1850±	75	4	AC	1944	CE	
Warm-up aprons 4 and 3A	Varies	Varies	4	AC	1944	CE	
Taxiway 2	513	75	4	AC	1944	CE	
Maintenance access apron	Varies	Varies	4	AC	1944	CE	
Primary instrument runway							
SW extension, sta 140+00 to 150+60	1060	150	4	AC	1944	CE	Has been removed
NE extension, sta 206+70 to 215+00	830	150	4	AC	1944	CE	Has been removed
Parking apron and extension	7200±	765	4	AC	1945	CE	Overlay of class C concrete
Parking apron, south extension	Varies	Varies	3	AC	1952	CE	
Maintenance docks	Varies	Varies	3	AC	1952-53	CE	
Warm-up aprons 2 and 3	Varies	Varies	10	PCC	1953	CE	
Washrack	150	150	12	PCC	1953	BCE**	
Taxiway 5 (overlay of portion of old N-S runway)	900	75	3	AC	1954	CE	
Parallel runway (overlay of old NE-SW runway)	6100	150	3	AC	1954	CE	
Maintenance apron	742	715	16	PCC	1954	CE	
Primary instrument runway							
SW extension, sta 140+00 to 150+60	1060	150	15	PCC	1955	CE	Replaced 4-in. AC pavement constructed in 1944
NE extension, sta 206+70 to 215+00	830	150	15	PCC	1955	CE	
Primary instrument runway							
Center, sta 154+00 to 205+00	5100	150	4	AC	1955	CE	Overlay of 10-1/2-7-10-1/2 PCC
Primary instrument runway							
Sta 150+60 to 154+00	340	150	12 (minimum)	PCC	1955	CE	Overlay of 10-1/2-7-10-1/2 PCC
Sta 205+00 to 206+70	170	150		PCC	1955	CE	
Calibration hardstand (circular)			15	PCC	1956	CE	
Hangar apron	220	170	14	PCC	1956	CE	
Apron taxiway	1850±	75	3	AC	1956	CE	
Calibration hardstand taxiway	300	75	3	AC	1956	CE	
Primary instrument runway							
Sta 128+00 to 140+00	1200	300	18	PCC	1957-58	CE	
Sta 215+00 to 221+00	600	300	18	PCC	1957-58	CE	
Primary instrument runway							
100-ft S edge, sta 118+00 to 123+00	500	100	20	PCC	1957-58	CE	
100-ft N edge, sta 122+00 to 123+00	100	100	20	PCC	1957-58	CE	
Sta 123+00 to 128+00	500	300	20	PCC	1957-58	CE	
Sta 221+00 to 226+00	500	300	20	PCC	1957-58	CE	
100-ft N and S edges, sta 226+00 to 227+00	100	100	20	PCC	1957-58	CE	
Primary instrument runway							
Sta 118+00 to 122+00	400	200	22	PCC	1957-58	CE	
Sta 122+00 to 123+00, center	100	100	22	PCC	1957-58	CE	
Sta 226+00 to 227+00, center	100	100	22	PCC	1957-58	CE	
Sta 227+00 to 231+00	400	300	22	PCC	1958	CE	
Primary instrument runway, 75 ft each side							
Sta 140+00 to 154+00	1400	75	23 to 18	PCC	1957-58	CE	Widening
Sta 205+00 to 215+00	1000	75	23 to 18	PCC	1957-58	CE	Widening
Primary instrument runway; 75 ft each side, sta 154+00 to 205+00	5100	75	5	AC	1957-58	CE	Widening
Primary taxiway	9570±	75	20-22-20	PCC	1957-58	CE	
Taxiway 1	2344±	75	22	PCC	1957-58	CE	
Taxiway 7	1896±	75	22	PCC	1958	CE	
Warm-up aprons 1 and 5	Varies	Varies	20	PCC	1957-58	CE	
SAC apron	1765	675	18	PCC	1957-58	CE	
SAC apron extension	1007	675	18	PCC	1957-58	CE	
SAC apron taxiway	2772	75	20-22-20	PCC	1957-58	CE	
T and B apron	400	565	19	PCC	1958	CE	
SAC nose docks, access apron, and taxiway	Varies	Varies	15	PCC	1958	CE	
SAC alert facility	Varies	Varies	21	PCC	1958	CE	

* CE denotes Corps of Engineers.
** BCE denotes Base Civil Engineer.

Table 3

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY Mather AFB				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	
R1A	Primary runway, 04 R end; 100-ft center, sta 118+00 to 123+00, and 100-ft N edge, sta 118+00 to 122+00	500 to 400	100 to 200				22	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to silty sand	200	Excellent
R2B	Primary runway; 100-ft N edge, sta 122+00 to 128+00, and center and S edge, sta 123+00 to 128+00	500	300				20	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to sandy clayey gravel	200	Excellent
R16D	Primary runway, 04 R end; 100-ft S edge, sta 118+00 to 123+00	500	100												
R3C	Primary runway interior; sta 128+00 to 140+00	1200	300				18	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to sandy clayey gravel	200	Excellent
R4C	Primary runway interior; 150-ft center, sta 140+00 to 150+60	1060	150				15	Portland cement concrete	680	6	Select fill	320	Sandy clay to sandy clayey gravel		Very good
R17D	Primary runway interior; 75-ft edges, sta 140+00 to 154+00	1400	75				18 to 23	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to sandy clayey gravel	200	Excellent
R5C	Primary runway interior; 150-ft center, sta 150+60 to 154+00	340	150	12 min	Portland cement concrete	679	7	Portland cement concrete	880	3.5	Select fill		Sandy clay to sandy clayey gravel	200	Excellent
R6C	Primary runway interior; 150-ft center, sta 154+00 to 205+00	5100	150	4 10	Asphaltic concrete stabilized aggregate		7	Portland cement concrete	880	3.5	Select fill		Sandy clay to sandy clayey gravel	200	Excellent
R18D	Primary runway interior; 75-ft edges, sta 154+00 to 205+00	5100	75				5	Asphaltic		8 34	Graded crushed stone subbase	100 40	Sandy clay to sandy clayey gravel	6	Excellent
R7C	Primary runway interior; 150-ft center, sta 205+00 to 206+70	170	150	12 min	Portland cement concrete	679	7	Portland cement concrete	880	3.5	Select fill		Sandy clay to sandy clayey gravel	200	Excellent
R19D	Primary runway interior; 75-ft edges, sta 205+00 to 215+00	1000	75				18 to 23	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to clayey gravel	200	Excellent
R8C	Primary runway interior; 150-ft center, sta 206+70 to 211+50	480	150				15	Portland cement concrete	679	6	Select fill	320	Sandy clay to sandy clayey gravel		Poor to failed
R9C	Primary runway interior; 150-ft center, sta 211+50 to 215+00	350 350	100 50				15 15	Portland cement concrete Portland cement concrete	640 680	6 6	Crushed sandy gravel Select fill	 320	Sandy clay to sandy clayey gravel	200	Poor to failed
R10C	Primary runway interior; sta 215+00 to 221+00	600	300				18	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to sandy clayey gravel	200	Excellent
R11B	Primary runway, 22L end; 100-ft N and S edges, sta 221+00 to 227+00, and 100-ft center, sta 221+00 to 226+00	500 to 600	300 to 200				20	Portland cement concrete	640	6	Crushed sandy gravel		Sandy clay to sandy clayey gravel	200	Excellent

RES FORM 1000
MAR 1958

(1 of 3 sheets)

Table 3 (Continued)

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY				OVERLAY PAVEMENT			PAVEMENT			BASE			SUBGRADE		GENERAL CONDITION OF AREA CONSIDERED
Mather AFB															
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	
R12A	Primary runway, 22L end; 100-ft N and S edges, sta 227+00 to 231+00, and 100-ft center, sta 226+00 to 231+00	500 to 400	300 to 100				22	Portland cement concrete	640	6	Crushed sandy gravel		Clayey sandy gravel to clayey sand	200	Excellent
R13B R14B R15C	Parallel runway 04L-22R	6100	150	3 6 min	Asphaltic concrete Silty sandy gravel		6	Portland cement concrete	650	2 min	Sandy gravel		Gravel	250	Excellent
T1A	Primary taxiway	9570±	75				20-22-20	Portland cement concrete	640	6	Crushed gravel		Sandy gravel to gravelly clayey sand	200	Excellent
T2A	Taxiway 7	1896±	75				22	Portland cement concrete	640	6	Crushed gravel		Sandy clay to sand silt	200	Excellent
T3A	Taxiway 1	2344	75				22	Portland cement concrete	640	6	Crushed gravel		Clayey sandy gravel	200	Excellent
T4B	SAC alert taxiway	3650	75 and 100				21	Portland cement concrete	610	6	Base course (GW-GM)		Gravelly sandy clay	200	Very good
T5B	Taxiway 3	545	100	1.5	Asphaltic concrete		6	Portland cement concrete	650	2	Stabilized gravel		Gravel sandy clay	125	Fair
T6C	Taxiway 4	650	100				6	Portland cement concrete	650	2	Gravel		Gravel sandy clay	125	Fair
T7B	Taxiway 5	900	75	3 6 min	Asphaltic concrete Silty sandy gravel		6	Portland cement concrete	650	Variable	Sandy gravel		Clayey sandy gravel	250	Fair
T15C	N-S runway (closed) taxiway 5		150	1.5	Asphaltic concrete (East 75 ft)		6	Portland cement concrete	650	2-6	Gravel		Sandy clay	125	Fair to poor
T8A	Taxiway 8	550	75				18 to 22	Portland cement concrete	640	6	Crushed gravel		Gravelly clayey sand to gravelly sandy clay	200	Excellent
T9A	Taxiway 9	850	75				18 to 22	Portland cement concrete	640	6	Crushed gravel		Gravelly clayey sand to gravelly sandy clay	200	Excellent
T10A	SAC apron and extension taxiway	2272	75				20-22-20	Portland cement concrete	640	6	Crushed gravel		Gravelly clayey sand to gravelly sandy clay	200	Excellent
T11B	Nose dock access taxiway		75				15	Portland cement concrete	630	6	Base course (GW-GM)		Sandy clay	200	Poor to failed
T18B	Fuel cell taxiway		75				15	Portland cement concrete	680				Sandy clay	200	Excellent
T12B	Taxiway 2	513	75				4	Asphaltic concrete		2 17	Stabilized gravel Pit-run gravel	80 65	Gravelly sandy clay	4	Good
T13B	Taxiway 6	1850±	75				4	Asphaltic concrete		2 23-29	Stabilized gravel Pit-run gravel	80 50	Silty clay	10	Fair
T14B	Connecting taxiway	1020	75				7	Portland cement concrete	650	6 11	Gravel Select fill		Gravelly sandy clay	150	Fair
A1B	SAC parking apron and extension	2772	675				18	Portland cement concrete	640	6	Crushed gravel		Gravelly clayey sand to gravelly sandy clay	200	Very good
A2B	Operational apron (original parking apron)	Varies	675	4 2	Asphaltic concrete Stabilized gravel	CBR 80	6	Class C portland cement concrete (rolled)	50				Sandy clay	13	Fair

WES FORM 1000
MAR 1958

(2 of 3 sheets)

Table 3 (Continued)

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY Mather AFB				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		
A14B	South operational apron extension	Varies	Varies				3	Asphaltic concrete		6 32	Stabilized gravel Select gravel	70 21	Sandy clay	3		Fair
A3B	T and B apron	400	565				19	Portland cement concrete	620	6	Base course (GW-GM)		Sandy clay	200		Good
A4B	Maintenance apron	742	715				16	Portland cement concrete	740	6	Select gravel		Sandy clay	340		Excellent
A17B	Maintenance apron access	Varies	75				4	Asphaltic concrete		2 23-29	Stabilized gravel Pit-run gravel	80 65	Sandy clay	4		Fair
A18B	Maintenance docks	Varies	Varies				3	Asphaltic concrete		6 20	Stabilized gravel Select gravel	70 22	Sandy clay	4		Fair
A5B	Hangar apron	220	170				14	Portland cement concrete	720	6	Sandy gravel		Lean clay	250		Good
A6B	SAC nose dock access aprons (2)	839	155				15	Portland cement concrete	630	6	Base course (GW-GM)		Sandy clay	200		Poor to failed
A7B A8B	Warm-up apron No. 2 and 3	Varies	Varies				10	Portland cement concrete	650	6	Select gravel		Clayey sand	225		Very good Excellent
A15B	Warm-up apron No. 3A	Varies	Varies				4	Asphaltic concrete		2 17-29	Stabilized gravel Pit-run gravel	80 65	Sandy clay	4		Good
A16B	Warm-up apron No. 4	Varies	Varies				4	Asphaltic concrete		2	Stabilized gravel	80	Sandy clay to sandy silt	9		Fair
A9B A10B	Warm-up sprons No. 1 and 5	Varies	Varies				20	Portland cement concrete	640	6	Crushed gravel		Sandy clay to clayey sandy gravel	200		Excellent
A11B	SAC alert stubs (9)	Varies	Veries				21	Portland cement concrete	610	6	Base course (GW-GM)		Gravelly sandy clay	200		Excellent
T16C	NW-SE runway (closed)		150	1.25	Asphaltic concrete (East 75 ft)		6	Portland cement concrete	650	8-12	Gravel		Sandy clay	150		Fair to poor
	Transverse taxiway (closed)		75				6	Portland cement concrete	650	4-9	Gravel		Gravelly sandy clay	150		Poor
A12B	Washrack	150	150				12	Portland cement concrete		6	Sandy gravel		Sandy clay	250		Poor to failed
A13C	Calibration hardstand (100-ft radius)						15	Portland cement concrete	780	6	Clayey sandy gravel		Sandy clayey gravel	185		Fair
T17C	Calibration hardstand taxiway	300	75				3	Asphaltic concrete		6	Sand gravel	80	6 in. compact sandy clay	8		Fair

ES FORM 1000

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Table 4

Aircraft Traffic Data

1960-1971

Type of Movement Involved	Type of Aircraft	No. of Operations	Average Takeoff Weight, lb	Average Landing Weight, lb
Takeoff starting from 22L end of primary runway; approach via SAC parking apron or extension, taxiway 8 or 9, primary taxiway, taxiway 1, and warm-up apron 1	B-52	2,358	≤400,000	230,000
Takeoff starting from 22L end of primary runway; approach via SAC alert stubs and SAC alert taxiway		5,206	430,000	230,000
Takeoff starting from 04R end of primary runway; approach via SAC parking apron or extension, taxiway 8 or 9, primary taxiway, taxiway 7, and warm-up apron 5		420	≤400,000	230,000
Takeoff starting from 04R end of primary runway; approach via SAC alert stubs, SAC alert taxiway, taxiway 1, primary taxiway, taxiway 7, and warm-up apron 5		909	430,000	230,000
Alert movement; from SAC alert stubs to SAC alert taxiway, taxiway 1, primary taxiway, taxiway 7, primary runway, SAC alert taxiway, and back to SAC alert stubs		1,144	480,000	230,000
Alert movement; from SAC parking apron or extension to taxiway 8 or 9, primary taxiway, taxiway 1, primary runway, and back to SAC parking apron		1,232	480,000	230,000
Takeoff starting from 22L end of primary runway	Tanker	7,926	255,000	115,000
	Heavy cargo	602	275,000	190,000
	Medium cargo	378	195,000	145,000
	All others	99,228	15,000-40,000	--
Takeoff starting from 04R end of primary runway	Tanker	1,399	255,000	115,000
	Heavy cargo	106	275,000	190,000
	Medium cargo	67	195,000	145,000
	All others	17,511	15,000-40,000	--
Takeoff starting from 22R end of parallel runway	All others	33,076	15,000-	--
Takeoff starting from 04L end of parallel runway	All others	5,837	15,000-40,000	--

Note: Portions of traffic data are estimated.

Table 5

DATE: November 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Mather AFB

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	NO. OF SLABS CONTAINING INDICATED DEFECTS																		% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
					I	—	\	Δ	*	K	~	S	J	↓	J	⊕	M	P	O	C	D				
R1A	Primary runway, 04R end; 100-ft center, sta 118+00 to 123+00, and 100-ft N edge, sta 118+00 to 122+00	25 by 25	144	22															1				99	100	Excellent
R16D	Primary runway, 04R end; 100-ft S edge, sta 118+00 to 123+00	25 by 25	96	20																			100	100	Excellent
R2B	Primary runway; 100-ft N edge, sta 122+00 to 128+00, and center and S edge, sta 123+00 to 128+00	25 by 25	240	20																			100	100	Excellent
R3C	Primary runway interior; sta 128+00 to 140+00	25 by 25	576	18																			100	100	Excellent
R17D	Primary runway interior; 75-ft edges, sta 140+00 to 154+00	20 by 25 25 by 25	360	18-23	1																		99	99	Excellent
R4C	Primary runway interior; 150-ft center, sta 140+00 to 150+60	10 by 25 25 by 25	288	15	6	48	3	3	1		15						1			2			77	81	Very good

REMARKS:

LEGEND:

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

WES FORM NO. 2004
JUN 1972

(1 of 4 sheets)

Table 5 (Continued)

DATE: November 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Mather AFB

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	NO. OF SLABS CONTAINING INDICATED DEFECTS																	% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
					I	—	\	Δ	✳	K	∿	S	J	⌐	J	⊕	M	P	O	C	D			
R5C	Primary runway interior; 150-ft center, sta 150+60 to 154+00	12.5 by 20 20 by 25	136	12 min/ 17	3	3	2	2			5									1		91	94	Excel-lent
R7C	Primary runway interior; 150-ft center, sta 205+00 to 206+70	10 by 12.5 12.5 by20	108	12 min/ 17		1																99	99	Excel-lent
R8C R9C	Primary runway interior; 150-ft center, sta 206+70 to 215+00	25 by 25	204	15	52	62	13	2	6		8		3						1			54	59	Poor to fsiled
R19D	Primary runway interior; 75-ft edges, sta 205+00 to 215+00	20 by 25 25 by 25	258	18-23	1	1																99	99	Excel-lent
R10C	Primary runway interior; sta 215+00 to 221+00	25 by 25	288	18	2			1					1		1							98	99	Excel-lent

REMARKS:

LEGEND:

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

WES FORM NO. 2004
JUN 1972

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Table 5 (Continued)

DATE: November 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Mather AFB

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	NO. OF SLABS CONTAINING INDICATED DEFECTS																	% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
					I	—	\	Δ	*	K	~	S	J	↓	J	⊕	M	P	O	C	D			
R11B	Primary runway, 22L end; 100-ft N and S edges, sta 221+00 to 227+00, and 100-ft center, sta 221+00 to 226+00	25 by 25	272	20		1							1						1			99	99	Excellent
R12A	Primary runway, 22L end; 100-ft N and S edges, sta 227+00 to 231+00, and 100-ft center, sta 226+00 to 231+00	25 by 25	208	22										1								99	100	Excellent
T1A	Primary taxiway	25 by 25	1149	20-22-20	9		1				3				1							99	99	Excellent
T2A	Taxiway 7	25 by 25	234	22	3						2											98	99	Excellent
T3A	Taxiway 1	25 by 25	291	22	1						1											99	99	Excellent
T8A	Taxiway 8	25 by 25	109	18-22			1															99	99	Excellent
T9A	Taxiway 9	25 by 25	147	18-22	2	6																95	95	Excellent
T10A	SAC parking apron and extension taxiway	25 by 25	333	20-22-20		1																99	99	Excellent

REMARKS:

LEGEND:

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

WES FORM NO. 2004
JUN 1972

(3 of 4 sheets)

Table 5 (Continued)

DATE: November 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Mather AFB

FEATURE NO.	FEATURE DESIGNATION	SLAB SIZE FT	APPROX NO. OF SLABS	PAVE. THICK. IN.	NO. OF SLABS CONTAINING INDICATED DEFECTS																	% OF SLABS NO DEFECTS	% OF SLABS NO MAJOR DEFECTS	CONDITION
					I	—	\	Δ	*	K	~	S	J	↓	J	⊕	M	P	O	C	D			
T4B	SAC alert taxiway	25 by 25	520	21	24	1					37			4			15		1			84	95	Very good
T11B T18B	SAC nose dock taxiway	25 by 25	141	15	95	26	1	3			6		1	3			30					19	25	Poor to failed
A1B	SAC parking apron and extension	25 by 25	2664	18	405	16	4	1	3		153		6		1		34		3	5		81	84	Very good
A11B	SAC alert stubs (201-209)	25 by 25	449	21	18	9	1				30						*		1			87	94	Excellent
A6B	SAC nose dock access aprons	25 by 25	334	15	135	10	1		6		31						25					46	56	Poor to failed
A9B	Warm-up apron 1	25 by 25	183	20	4	2		1											2			96	96	Excellent
A10B	Warm-up apron 5	25 by 25	244	20		1									1				1			99	99	Excellent
A7B	Warm-up apron 2		65	10	7	3	1	1			2				1				1			78	82	Very good
A8B	Warm-up apron 3		199	10	6	6		1					1									93	93	Excellent

REMARKS: * A majority of the slabs in the stub area had light map cracking.

LEGEND:

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

WES FORM NO. 2004
JUN 1972

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Table 6

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Mather AFB DATE OF EVALUATION MONTH: February YR: 1973			LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS										
			TRICYCLE ARRANGEMENT									BICYCLE	
FEATURE		PAVEMENT OPERATIONAL USE	SINGLE 100-PSI TIRE PRESSURE	SINGLE 100-SQ-IN. CONTACT AREA	SINGLE 241-SQ-IN. CONTACT AREA	TW 28-IN. C-C 226-SQ-IN. CONTACT AREA EACH TIRE	SINGLE TANDEM 60-IN. SPACING 400-SQ-IN. CONTACT AREA	TW 37-IN. C-C 267-SQ-IN. CONTACT AREA EACH TIRE	TW 44-IN. C-C 630-SQ-IN. CONTACT AREA EACH TIRE	TWIN TANDEM 33 IN. × 48 IN. 208-SQ-IN. CONTACT AREA EACH TIRE	C-5A GEAR CONFIGURATION	TWIN TWIN SPCG 37-62-37 267-SQ-IN. CONTACT AREA EACH TIRE	REMARKS
NO.	DESIGNATION		1	2	3	4	5	6	7	8	9	10	
R1A R12A	Primary runway, 04R end; 100-ft center, sta 118+00 to 123+00, and 100-ft N edge, sta 118+00 to 122+00 Primary runway, 22L end; 100-ft N and S edges, sta 227+00 to 231+00, and 100-ft center, sta 226+00 to 231+00	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	310,000	330,000+	380,000+	800,000+	460,000	
R2B R11B	Primary runway, 04R end; 100-ft N edge, sta 122+00 to 128+00, and center and S edge, sta 123+00 to 128+00 Primary runway, 22L end; 100-ft N and S edges, sta 221+00 to 227+00, and 100-ft center, sta 221+00 to 226+00	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	320,000	330,000+	380,000+	800,000+	420,000	
R3C R10C	Primary runway interior; sta 128+00 to 140+00, sta 215+00 to 221+00	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	490,000	
R4C R8C R9C	Primary runway interior; 100-ft center, sta 140+00 to 150+60, sta 206+70 to 211+50, and sta 211+50 to 215+00	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	500,000	

WES FORM NO. 999 EDITION OF AUG 1960 IS OBSOLETE. (1 of 3 sheets)
JUNE 1972

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.

Table 6 (Continued)

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Mather AFB DATE OF EVALUATION MONTH: February YR: 1973			LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS										
			TRICYCLE ARRANGEMENT									BICYCLE	
FEATURE		PAVEMENT OPERATIONAL USE	SINGLE 100-PSI TIRE PRESSURE	SINGLE 100-SQ-IN. CONTACT AREA	SINGLE 241-SQ-IN. CONTACT AREA	TW 28-IN. C-C 226-SQ-IN. CONTACT AREA EACH TIRE	SINGLE TANDEM 60-IN. SPACING 400-SQ-IN. CONTACT AREA	TW 37-IN. C-C 267-SQ-IN. CONTACT AREA EACH TIRE	TW 44-IN. C-C 630-SQ-IN. CONTACT AREA EACH TIRE	TWIN TANDEM 33 IN. × 48 IN. 208-SQ-IN. CONTACT AREA EACH TIRE	C-5A GEAR CONFIGURATION	TWIN TWIN SPCG 37-62-37 267-SQ-IN. CONTACT AREA EACH TIRE	REMARKS
NO.	DESIGNATION		1	2	3	4	5	6	7	8	9	10	
R5C R7C	Primary runway interior; 100-ft center, sta 150+60 to 154+00, sta 205+00 to 206+70	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	300,000	330,000+	380,000+	800,000+	400,000	
R6C	Primary runway interior; 100-ft center, sta 154+00 to 205+00	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	520,000	
T1A T2A T3A T10A	Primary taxiway Taxiway 7 Taxiway 1 SAC parking apron and extension taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	310,000	330,000+	380,000+	800,000+	460,000	
T8A T9A	Taxiway 8 Taxiway 9	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	230,000	295,000	380,000+	800,000+	340,000	
T4B	SAC alert taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000	330,000+	380,000+	800,000+	430,000	
A1B	SAC parking apron and extension	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	275,000	330,000+	380,000+	800,000+	360,000	
A11B	SAC alert stubs (9)	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000	330,000+	380,000+	800,000+	430,000	
A9B A10B	Warm-up aprons No. 1 and 5	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	320,000	330,000+	380,000+	800,000+	420,000	
R13B R14B	Parallel runway 1st 1000 ft, 04L end 1st 1000 ft, 22R end	Capacity	35,000	30,000	55,000	65,000	105,000	110,000	145,000	170,000	430,000	(a)	
R15B	Parallel runway interior 04L-22R	Capacity	50,000	35,000	80,000	85,000	135,000	145,000	165,000	220,000	580,000	(a)	
T12B	Taxiway 2	Capacity	43,000	41,000	(a)	58,000	76,000	62,000	(a)	(a)	(a)	(a)	

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

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Table 6 (Continued)

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Mather AFB DATE OF EVALUATION MONTH: February YR: 1973			LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS										
			TRICYCLE ARRANGEMENT									BICYCLE	
FEATURE		PAVEMENT OPERATIONAL USE	SINGLE 100-PSI TIRE PRESSURE	SINGLE 100-SQ-IN. CONTACT AREA	SINGLE 241-SQ-IN. CONTACT AREA	TW 28-IN. C-C 226-SQ-IN. CONTACT AREA EACH TIRE	SINGLE TANDEM 60-IN. SPACING 400-SQ-IN. CONTACT AREA	TW 37-IN. C-C 267-SQ-IN. CONTACT AREA EACH TIRE	TW 44-IN. C-C 630-SQ-IN. CONTACT AREA EACH TIRE	TWIN TANDEM 33 IN. × 46 IN. 208-SQ-IN. CONTACT AREA EACH TIRE	C-5A GEAR CONFIGURATION	TWIN TWIN SPCG 37-62-37 267-SQ-IN. CONTACT AREA EACH TIRE	REMARKS
NO.	DESIGNATION		1	2	3	4	5	6	7	8	9	10	
T7B	Taxiway 5	Capacity	35,000	30,000	55,000	65,000	105,000	110,000	145,000	170,000	430,000	(a)	
A2B	Operational apron (original parking)	Capacity	45,000	40,000	55,000	80,000	110,000	90,000	130,000	130,000	370,000	(a)	
A14B	South operational apron extension	Capacity	55,000	40,000	60,000	85,000	105,000	85,000	(a)	(a)	(a)	(a)	
A3B	T and B apron	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	290,000	330,000+	380,000+	800,000+	380,000	
A4B	Maintenance apron	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	460,000	

WES FORM NO. 999
JUNE 1972

EDITION OF AUG 1960 IS OBSOLETE.

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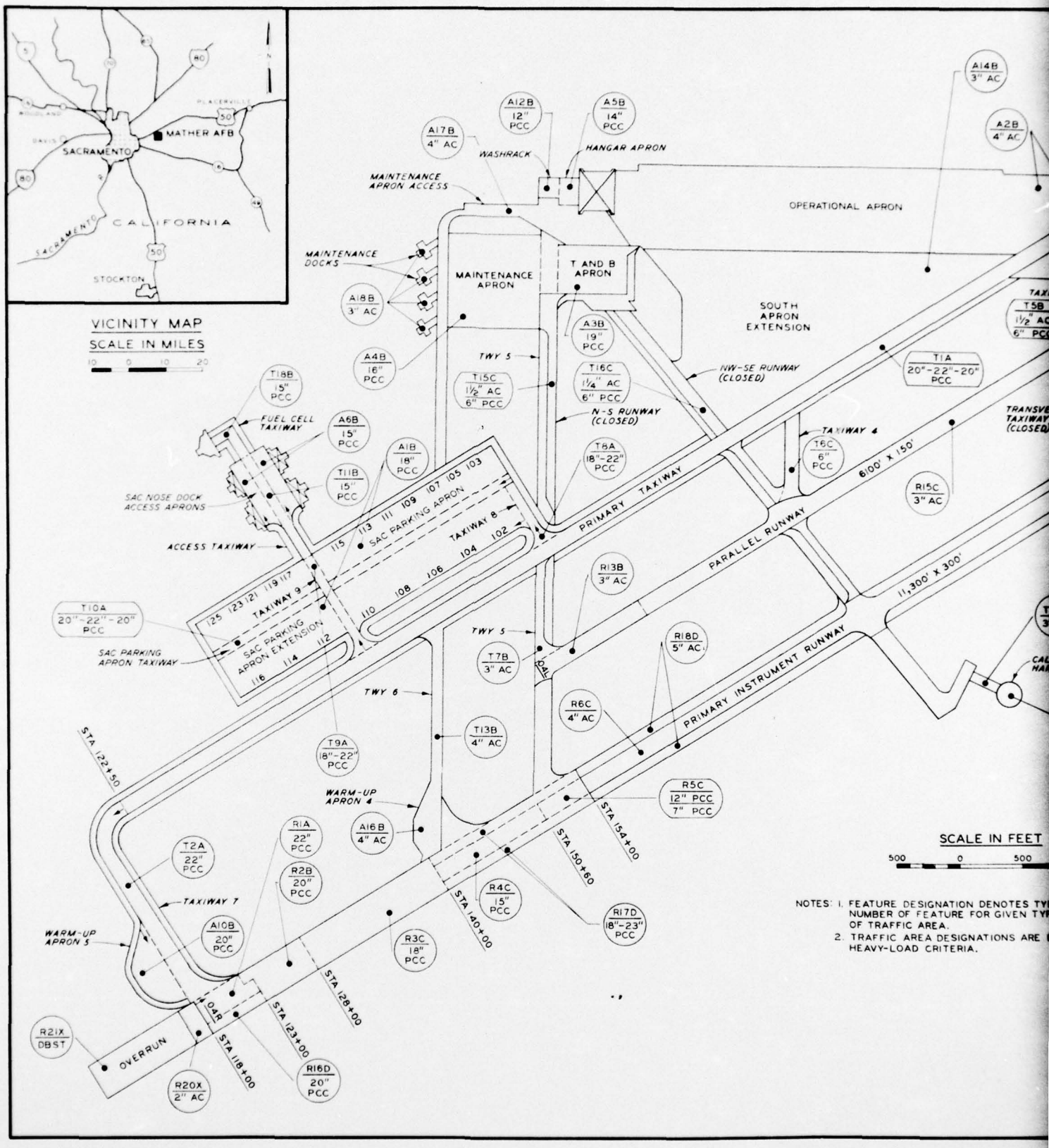
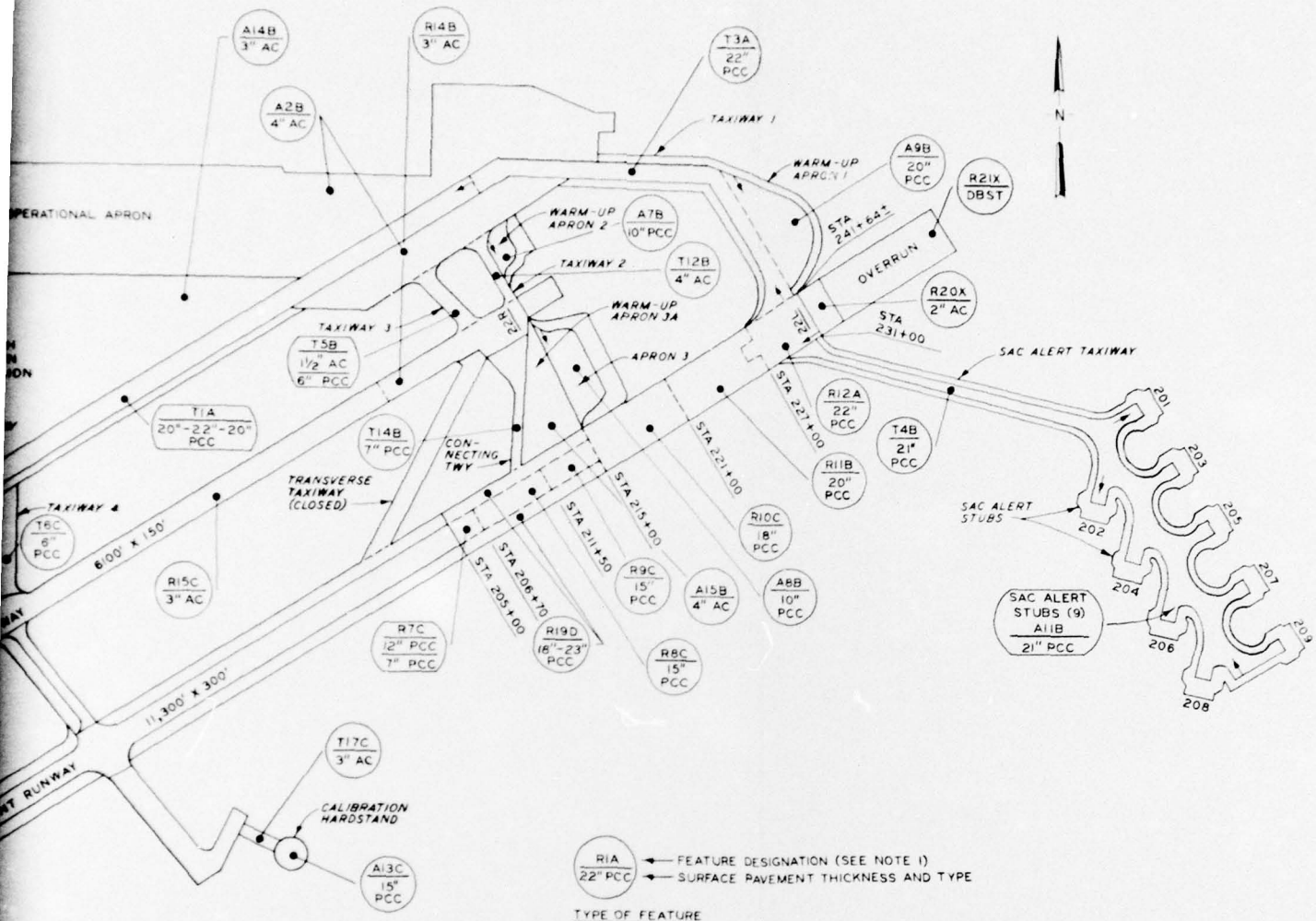

VICINITY MAP
SCALE IN MILES
10 0 10 20
SACRAMENTO
MATHER AFB
CALIFORNIA
STOCKTON
PLACERVILLE
DAVIS
WOODLAND
SACRAMENTO
A14B 3" AC
A12B 12" PCC
A5B 14" PCC
A17B 4" AC
WASHRACK
HANGAR APRON
A2B 4" AC
MAINTENANCE APRON ACCESS
OPERATIONAL APRON
MAINTENANCE DOCKS
MAINTENANCE APRON
T AND B APRON
SOUTH APRON EXTENSION
A18B 3" AC
A3B 19" PCC
A4B 16" PCC
TWY 5
T15C 1½" AC 6" PCC
T16C 1¼" AC 6" PCC
NW-SE RUNWAY (CLOSED)
N-S RUNWAY (CLOSED)
T1A 20"-22"-20" PCC
T18B 15" PCC
FUEL CELL TAXIWAY
A6B 15" PCC
A1B 18" PCC
T11B 15" PCC
T8A 18"-22" PCC
SAC NOSE DOCK ACCESS APRONS
TAXIWAY 4
T6C 6" PCC
6100' X 150'
R15C 3" AC
ACCESS TAXIWAY
SAC PARKING APRON
TAXIWAY B
PRIMARY TAXIWAY
PARALLEL RUNWAY
R13B 3" AC
11,300' X 300'
T10A 20"-22"-20" PCC
TAXIWAY 9
SAC PARKING APRON EXTENSION
SAC PARKING APRON TAXIWAY
T7B 3" AC
R18D 5" AC
PRIMARY INSTRUMENT RUNWAY
TWY 6
R6C 4" AC
T13B 4" AC
T9A 18"-22" PCC
STA 122+50
WARM-UP APRON 4
R5C 12" PCC 7" PCC
A16B 4" AC
R1A 22" PCC
T2A 22" PCC
R2B 20" PCC
STA 154+00
STA 150+60
R4C 15" PCC
TAXIWAY 7
WARM-UP APRON 5
A10B 20" PCC
R17D 18"-23" PCC
R3C 18" PCC
STA 140+00
STA 128+00
STA 123+00
STA 118+00
04R
R21X DBST
OVERRUN
R20X 2" AC
R16D 20" PCC
SCALE IN FEET
500 0 500
NOTES: 1. FEATURE DESIGNATION DENOTES TY
NUMBER OF FEATURE FOR GIVEN TY
OF TRAFFIC AREA.
2. TRAFFIC AREA DESIGNATIONS ARE
HEAVY-LOAD CRITERIA.



R1A / 22" PCC ← FEATURE DESIGNATION (SEE NOTE 1)
← SURFACE PAVEMENT THICKNESS AND TYPE

TYPE OF FEATURE
- R - RUNWAY
- T - TAXIWAY
- A - APRON

TYPE 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

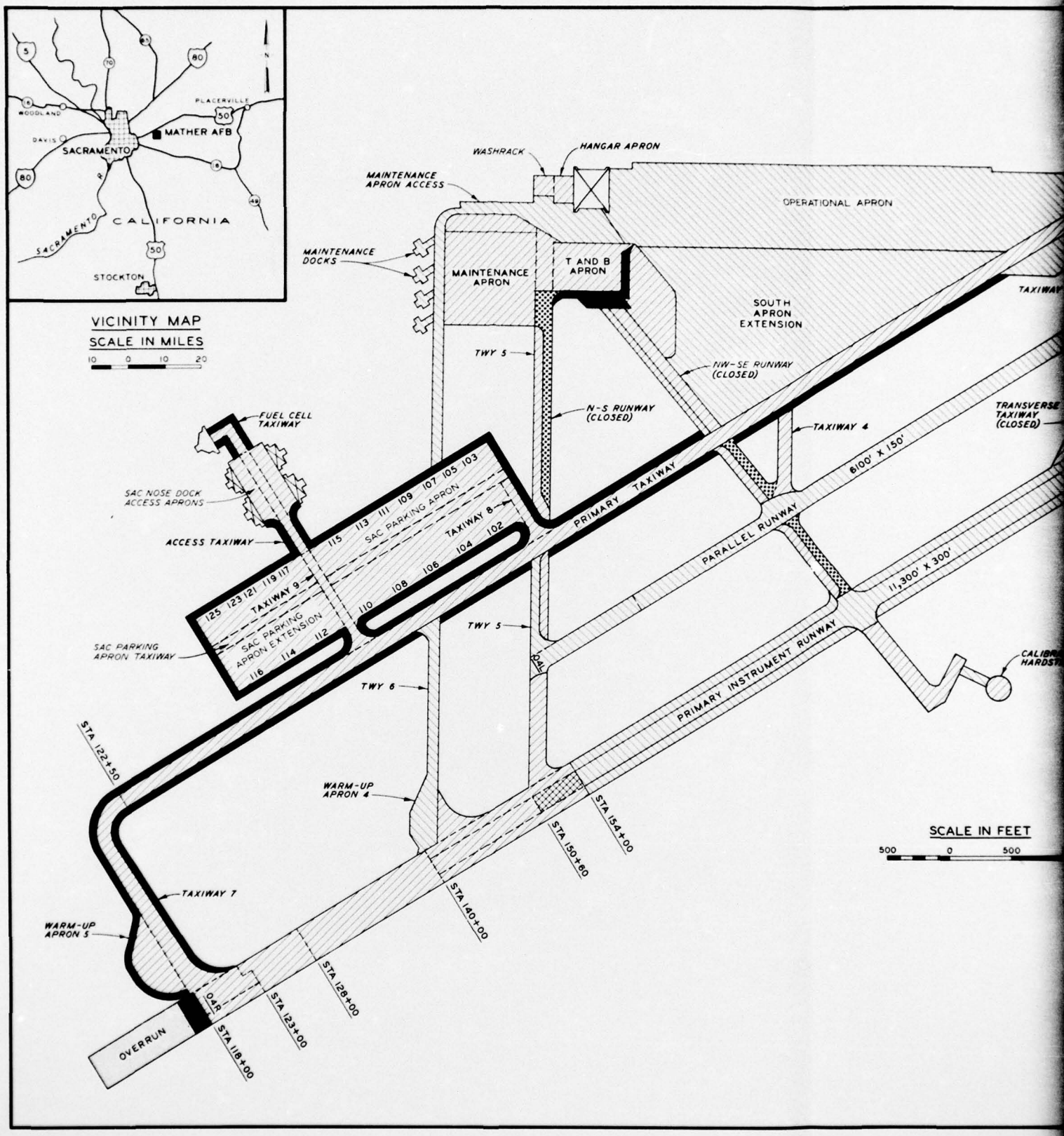
SCALE IN FEET

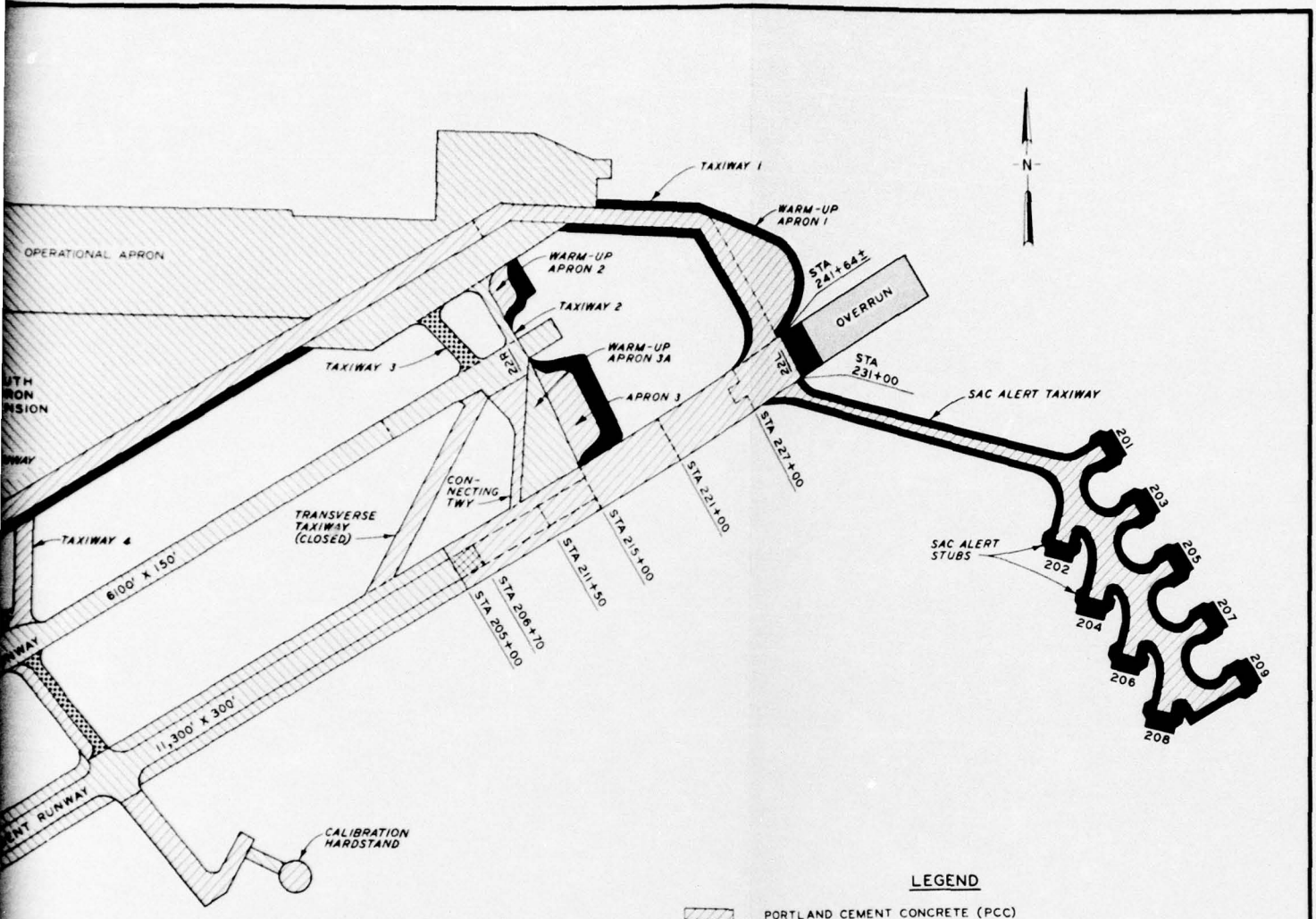
500 0 500 1000

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

MATHER AFB
AIRFIELD LAYOUT

PLATE 1


VICINITY MAP
SCALE IN MILES
10 0 10 20
WOODLAND
DAVIS
SACRAMENTO
PLACERVILLE
MATHER AFB
CALIFORNIA
STOCKTON
WASHRACK
HANGAR APRON
MAINTENANCE APRON ACCESS
OPERATIONAL APRON
MAINTENANCE DOCKS
MAINTENANCE APRON
T AND B APRON
SOUTH APRON EXTENSION
TWY 5
NW-SE RUNWAY (CLOSED)
N-S RUNWAY (CLOSED)
FUEL CELL TAXIWAY
SAC NOSE DOCK ACCESS APRONS
ACCESS TAXIWAY
SAC PARKING APRON
TAXIWAY 8
TAXIWAY 9
SAC PARKING APRON EXTENSION
SAC PARKING APRON TAXIWAY
PRIMARY TAXIWAY
TAXIWAY 4
6100' X 150'
PARALLEL RUNWAY
11,300' X 300'
PRIMARY INSTRUMENT RUNWAY
TWY 6
WARM-UP APRON 4
WARM-UP APRON 5
TAXIWAY 7
OVERRUN
STA 122+50
STA 118+00
STA 123+00
STA 128+00
STA 140+00
STA 150+80
STA 154+00
SCALE IN FEET
500 0 500



LEGEND

- PORTLAND CEMENT CONCRETE (PCC)
- ASPHALTIC CONCRETE (AC)
- ASPHALTIC CONCRETE OVER PORTLAND CEMENT CONCRETE
- PORTLAND CEMENT CONCRETE OVER PORTLAND CEMENT CONCRETE
- DOUBLE BITUMINOUS SURFACE TREATMENT (DBST)
- BLAST PAVEMENT (AC-NON TRAFFIC)

SCALE IN FEET

500 0 500 1000

MATHER AFB

PAVEMENT PLAN

PLATE 2