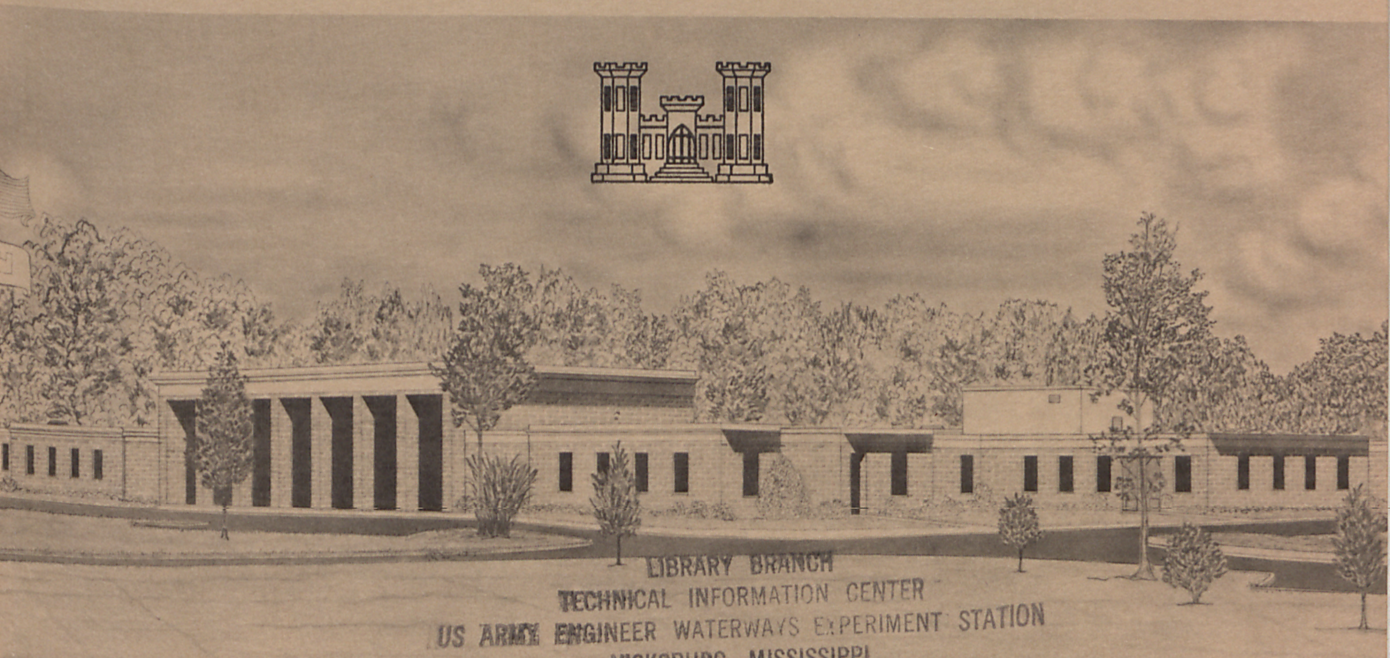
MISCELLANEOUS PAPER S-73-51

CONDITION SURVEY, LORING AIR FORCE BASE, MAINE

by

R. D. Jackson



June 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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ARMY-MRC VICKSBURG, MISS.

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. R. D. Jackson, P. S. McCaffrey, Jr., and W. J. McKay of the WES and Messrs. R. J. Strong, H. H. Baker, A. A. Downey, and W. C. Sayman of the U. S. Army Engineer Division, New England (NED), Waltham, Massachusetts. The main portion of this report was prepared by Mr. 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 this report concerning frost action was prepared by Mr. Baker and by Mr. G. D. Gilman of CRREL. Appendix A was obtained from the Air Force.

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.

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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 yards	0.8361274	square meters
pounds (mass)	0.45359237	kilograms
pounds (force) per square inch	0.6894757	newtons per square centimeter

CONDITION SURVEY, LORING AIR FORCE BASE, MAINE

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 Loring Air Force Base (LAFB), Maine, during 27 July-1 August 1972. The following three major areas of interest were considered in this condition survey:

- _a_. The structural condition of the primary airfield pavements.
- _b_. The condition of pavement repairs and the types of maintenance materials that have been used at this airfield.
- _c_. Any detrimental effects of frost action 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. The annual pavement maintenance plan for LAFB is presented in Appendix A.

Pertinent Background Data

General description of airfield

4. LAFB is located in Aroostook County, Maine, approximately 4 miles* northwest of the town of Limestone, on State Highway 89. A vicinity map is shown on plate 1.

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

5. In July 1972, the airfield facilities consisted of a N-S (19-01) runway, a parallel taxiway, a parking and maintenance apron, an ADC operational apron, SAC alert facilities, warm-up aprons, taxiways from the runway to the parallel taxiway, five parking aprons with stubs, a calibration hardstand, and hangar access aprons. The N-S runway was 12,100 ft long and 300 ft wide; the taxiways were 75 or 100 ft wide; the parking and maintenance apron was 300 ft wide and 3,300 ft long; the ADC operational apron was irregular in shape; and the warm-up aprons, hangar access aprons, parking aprons, and stubs were of various dimensions. A layout of the airfield and a pavement plan indicating the type pavement on each facility are shown in plate 1.

Previous reports

6. Previous reports concerning the airfield pavements at LAFB are listed below. Pertinent data were extracted from them for use in this condition survey report.

a. Condition survey reports:

(1) Ohio River Division Laboratories, CE, "Condition Survey Report, Loring Air Force Base, Maine," March 1962, Cincinnati, Ohio.

(2) U. S. Army Engineer Waterways Experiment Station, CE, "Condition Survey, Loring Air Force Base, Limestone, Maine," Miscellaneous Paper No. 4-898, May 1967, Vicksburg, Mississippi.

b. Pavement evaluation reports: These reports were prepared by the U. S. Army Engineer Division, New England, CE, Waltham, Massachusetts:

(1) "Airfield Pavement Evaluation Report, Limestone Air Force Base, Maine," October 1949.

(2) "Airfield Evaluation Report, Loring Air Force Base, Limestone, Maine," October 1959.

(3) "Airfield Evaluation Report, Loring Air Force Base, Limestone, Maine," March 1960.

History of Airfield Pavements

Design and construction history

7. Details of the design and construction history of the airfield

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

Traffic history

8. Complete traffic records were not available; however, partial records were available for the period 1957-71. Based on the records for this period, the following amounts of traffic per type of aircraft have been applied at the airfield: B-47's, 2,800 cycles;* B-52's, 24,700 cycles; KC-135's and KC-97's, 25,800 cycles; heavy cargo aircraft, C-135's, C-124's, C-141's, and C-133's, 11,000 cycles; C-5A's, 700 cycles; and all other aircraft, 81,000 cycles.

Conditions of Pavement Surfaces

Pavement inspection procedure

9. 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 3. 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.

Runway

10. The north (19) end of the N-S runway (features R1A and R2B) was structurally in a poor to failed condition. Of a total of 205 major defects in feature R1A, 76 (37 percent) were in the 100-ft-wide center

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

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

section. The remaining 129 defects were almost equally divided between the east and west 100-ft-wide edges. Feature R2B had a total of 137 major defects, of which 51 (37 percent) were in the 100-ft-wide center section. Thirty-four percent of the defects were in the east 100-ft-wide edge, and 29 percent were in the west 100-ft-wide edge. The south end of the runway (features R3A, R4B, and R5D) was structurally in a poor to fair condition. The number of major defects in feature R3A increased from 9 to 73 between 1961 and 1972. Feature R4B was in a poor or failed condition, and feature R5D, the outer 100 ft on each side, was in only fair condition. Even though the runway ends were in poor to fair condition, they were (at the time of this survey) adequately carrying the loads imposed on them. There was practically no displacement at the major structural cracks. The interior portion of the runway, which is asphaltic concrete (AC), contained numerous contraction cracks (both transverse and longitudinal) and had some small isolated areas that contained map cracking (photos 1 and 2). At the time of the survey, the area was being heater-planed to remove a series of slurry seals, and an AC overlay was being applied. Based on the quality of the overlay applied, the interior portion of the runway between the 1000-ft-long portland cement concrete (PCC) ends should now be in excellent condition.

Taxiways

11. Taxiway A from taxiway B to the dogleg (see plate 1) was in good condition, since a chip seal was applied during the time of the survey. The extension to taxiway A was in good condition (photo 3). The PCC portions of taxiways D, E, and F and taxiway G were in conditions ranging from poor to very good (photos 4 and 5). The predominate defects in these taxiways were longitudinal cracks, and more than 50 percent of the cracks were in the center lane. Taxiways B and C were in good condition. The AC portion of taxiway D was in excellent condition; it had recently been overlaid. The north connecting taxiway, which contained 111 major defects, was in a poor to failed condition; however, the facility was still serviceable since little or no movement was observed at the locations of the major defects. Photo 6 shows some of

the cracks in this feature. The AC portions of taxiways E and F were in good condition.

Aprons

12. The parking and maintenance apron west of the apron taxiway was in good condition. A tar rejuvenator that sealed the smaller cracks and partially filled the larger cracks was applied to this area in 1971 (photos 7 and 8). The area of the parking and maintenance apron east of the apron taxiway was in only fair condition; the tar rubber surface contained many cracks. The north warm-up apron (feature A1B) was in a poor to failed condition. A total of 179 major defects were observed in this feature, of which 120 were longitudinal cracks. Parking apron 1, which is essentially a taxiway with parking stubs, was in fair to good condition. The taxiway portion between taxiways D and F had a chip seal coat applied during the time of this survey. Photo 9 shows the relatively good condition of stub 8. All of the stubs of parking apron 1 had a tar rejuvenator applied in 1971. Parking apron 2 is the same type of facility as parking apron 1. The south portion of taxiing area had a chip seal coat applied during the time of this survey. The PCC taxiway portion of apron 2 was in poor condition structurally. The bituminous concrete parking stubs of this apron were in fair condition. Photo 10 shows the condition of stub 23, which was typical of the flexible pavement stubs in this apron. The PCC stubs were in poor to fair condition. The stubs of parking apron 3 were in fair to good condition, as were those of parking apron 4. The taxiway portion of parking apron 5 was in fair condition, and the stubs were in conditions ranging from poor to very good.

Alert facilities

13. The SAC alert facilities were in excellent condition. These facilities were not being utilized by alert aircraft; however, a portion of the parking and maintenance apron was being used for this purpose. The ADC alert facilities were in excellent condition.

14. All other pavement features not specifically mentioned in the preceding paragraphs were in conditions ranging from good to excellent, except for the calibration hardstand, which was in poor condition.

Frost Action

Objectives of inspection

15. The airfield pavements at LAFB were inspected for evidence of detrimental frost effects on 24 to 26 April 1972 by a team from the New England Division. The objectives of this inspection were to determine:

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

Frost heave

16. The airfield pavements were examined for surface irregularities indicative of differential frost heaving. This inspection is believed to have been within the spring thaw period when the effects of nonuniform frost heave would still be apparent.

17. Inquiries were made of base personnel regarding the development of undesirable surface roughness during the winter. The runway and taxiway pavements were found to be smooth, and base personnel reported experiencing no problems with respect to pavement surface roughness. Minor unevenness was noted in some of the shoulder pavements, but this was attributed to age and low-temperature contraction cracking. The only evidence of pronounced differential frost heaving was a 2- to 3-in. upheaval of some light bases along taxiway A. It was reported that a few other light bases had been replaced previously after heaving 3 or 4 in. Studies by the U. S. Army Cold Regions Research and Engineering Laboratory* of two rigid pavements (features T6B and A2B) having combined pavement and base course thicknesses of 72 in. indicated that with substantial subgrade frost penetration, which will occur even in the milder

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* G. D. Gilman, "Results of Instrumentation of 1958 Rigid Pavement Construction for Verification of Frost-Condition Design Criteria, Dow AFB, Bangor, Maine, and Loring AFB, Limestone, Maine," Instruction Report 45, December 1967, U. S. Army Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire.

winters, total (uniform) heave on the order of 1/2 in., with only slight differential slab movement, may be anticipated. Such heaving is generally considered representative of other pavements at LAFB with comparable combined thicknesses of pavement and base course.

Freezing indices

18. A freezing index of 2656 degree-days was used for the design of the newer heavy-load pavements. This index represents the average index for 1947-48 and 1958-59, which, at the time of pavement design, were the two coldest winters in the past 20 according to temperature data from the Caribou, Maine, Weather Station. On the basis of data from the same station, a design freezing index of 2740 degree-days is computed as representing the average of the three coldest winters in the past 30 yr. Average monthly temperatures for months entirely within the freezing seasons and average daily temperatures for the transition months at both ends of the freezing seasons were used in these design index determinations.

19. Seasonal freezing indices since the 1956-57 winter and the 30-yr mean index are tabulated below. These values are based entirely on average monthly temperatures.

Freezing Season	Freezing Index degree-days	Freezing Season	Freezing Index degree-days
1957-58	1302	1965-66	1766
1958-59	2585	1966-67	2048
1959-60	1685	1967-68	2013
1960-61	2244	1968-69	1668
1961-62	1718	1969-70	1890
1962-63	2235	1970-71	2194
1963-64	2011	1971-72	2757
1964-65	2044	30-yr mean	1994

Indices determined solely on the basis of average monthly temperatures generally reflect somewhat lower values than those computed with consideration given to average daily temperatures for the two transition months. The tabulated indices, however, do indicate the relative severity of winters during the period of heavy-load aircraft operations.

The two coldest winters during this period (1971-72 and 1958-59) were also the coldest and third coldest, respectively, in the past 30 yr.

20. In view of the fact that the freezing index for the winter preceding this inspection exceeded the design freezing index, the general absence of differential heaving of the heavy-load pavements is significant. The combined pavement and base thickness required for the prevention of subgrade freezing in the design year is about 140 in., and the thickness required in accordance with limited subgrade frost penetration design is about 101 to 106 in. The specific penetration is dependent on the moisture content and density of the base course and subbase and, to some extent, on the pavement thickness. Since the actual combined thicknesses of these pavements range from 67 to 74 in., substantial subgrade freezing would be expected even during the milder winters. (A 72-in. combined thickness is the maximum permitted solely for frost-condition design purposes without specific approval of the Chief of Engineers.) All evidence, however, indicates that frost heaving has been remarkably uniform and has had no significant effect upon development of surface roughness.

Groundwater

21. It is reported (see subparagraph 6a(1)) that the groundwater table is seasonally within 2 ft of the surface at LAFB. Beneath the airfield pavements, however, subsurface water levels are controlled by a system of underdrains designed to maintain these levels at or slightly below the subgrade surface. It is probable, however, that groundwater does reach a somewhat higher level and that the lower base courses become saturated, a condition which would result in shallower subgrade frost penetrations than would occur if the base courses had low moisture content.

Thaw weakening

22. The extent of thaw weakening of the subgrade and base courses could not be readily determined by inspection of the pavements. Pavement failures are usually repaired soon after they occur and are not easily examined during a condition survey. Also, it is often impossible to establish by inspection whether a failure is the result of thaw

weakening or of deficiencies in the quality or thickness of the various layers of the pavement structure. The degree of thaw weakening and its effects, if any, on the condition of the pavements at LAFB consequently could not be appraised solely by this inspection. Some limited perception of the severity of any 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. A 72-in. combined thickness of pavement and nonfrost-susceptible base course is the maximum permissible under Corps of Engineers criteria solely for frost-condition design without approval of the Chief of Engineers. At LAFB, some of the pavement features meet or slightly exceed this 72-in. limitation. Although substantial subgrade frost penetration has occurred under 72-in. pavement structures during most winters (see paragraph 20), the performance of these pavements indicates that, for the uniform subgrade soil and water conditions at LAFB, thaw weakening is not significant. Therefore, in table 4, the load-bearing capacities of features providing 72 in. or more combined thickness of pavement and nonfrost-susceptible base have not been reduced for frost-condition operations.

23. Flexible pavements. The principal heavy-load pavements consist of the parking and maintenance apron (feature A9B), the runway interior (features R6C, R8C, and R10C), taxiway A (features T7A and T8A), taxiways B and C (feature T11C), portions of taxiways D, E, and F (features T19A and T10A), parking apron 1 (feature T16A), and a portion of parking apron 2 (feature T17A). Cracks have developed, particularly in the area adjacent to the center lines of the runway interior, in taxiways A and E, in parking apron 1, and in hangar apron 1 (feature A12B). These pavements were designed for 150,000- and 180,000-lb gear loads. In terms of the current normal (nonfrost) heavy-load design criteria (265,000-lb gear loads), they are deficient by 1 to 4 in. of 100 CBR base course material; and, except for the runway interior (which has been strengthened with 3-in. AC, they are deficient by 1 to 2 in. in AC thickness. The runway interior (features R6C, R8C, and R10C) has experienced intensive traffic of B-52 aircraft, the loads of which are within

its evaluated capacity. The bearing capacities of these runway features were not reduced in table 4 for frost-condition operation, since their combined thickness of pavement and nonfrost-susceptible base course approaches or exceeds 72 in. The same aircraft overloads taxiways A, D, E, and F and parking aprons 1 and 2 (features T7A, T8A, T10A, T16A, T17A, and T19A) during the normal period and, to a greater extent, does so for frost-condition operations. Cracking in the flexible pavements is extensive, with the most general pattern being a system of transverse and longitudinal cracks. This pattern is typical of low-temperature contraction cracking, which is believed to represent the principal cracking mode at LAFB. Random cracking and a few areas having map cracking were also noted. The latter, as well as some of the longitudinal wheel-path cracks found in localized areas, may be attributed to repetitive (channelized) loadings, particularly during frost-melting periods. Differential frost heave, although not indicated to be pronounced, also may be a contributing cause of some of the random cracking observed on many pavement features.

24. Rigid pavements. The only principal rigid pavement features having slab thicknesses that conform with current criteria for current normal-period, heavy-load design (265,000-lb gear loads) are the 19-in. SAC alert facility (features T5B and A13B), the 18- and 19-in. south end of the runway (features R3A and R4B), and the 20-in. portion of the south approach taxiway extension (feature T3A). The other principal heavy-load pavements were designed for 100,000-lb gear loads and have 15-in. pavements. These features, which include the 1000-ft-long north end of the runway (features R1A and R2B), parking apron 3 (feature T15A), the north connecting taxiway (feature T2A), portions of taxiways D, E, F, and G (feature T1A), and part of parking apron 2 (feature T14A), are 2 to 5 in. deficient in pavement thickness for current normal-period, heavy-load design. All of the pavements mentioned above, except the SAC alert facility, are also deficient by 2 to 5 in. in combined pavement and nonfrost-susceptible base course thickness with respect to the 72-in. maximum thickness required for limited subgrade frost penetration design.

25. The SAC alert facility (features T5B and A13B) and the south warm-up apron extension and approach taxiway (feature T6B) (feature T6B is not part of the primary heavy-load pavement system) are not overloaded by B-52 aircraft traffic. The frost-condition bearing capacity was not reduced for these features, since they incorporate a 72-in. combined thickness of pavement and nonfrost-susceptible base course. These pavements were in very good to excellent condition.

26. Extensive longitudinal and random cracking and spalling of joints had developed in the 15-in. PCC pavement at the 1000-ft-long north end of the runway (features R1A and R2B) and in the 15-, 18-, and 19-in. PCC pavements at the south 1000-ft-long end of the runway (features R5D, R4B, and R3A, respectively). Deep, wide structural longitudinal cracks on either side of and parallel to the runway center line, many of which had been sealed, were particularly evident. Intermittent structural cracking was observed along the center line of the 15-in. PCC pavement of taxiways D, E, and F (feature T1A), in the north connecting taxiway (feature T2A), and along the center line of parking aprons 2 and 3 (features T14A and T15A). Random diagonal cracking with joint spalling was also noted. Random cracking, heavy scaling, and joint spalling were also observed in the 15-in. PCC DC hangar apron pavements (feature A6B). PCC transition slabs abutting the AC pavements were generally severely cracked, and the adjacent AC pavements were also severely damaged. This condition was especially evident at the junction of the DC hangar apron (feature A6B) and the parking and maintenance apron (feature A9B).

27. The 18- and 19-in. pavements of the 1000-ft-long south end of the runway (features R4B and R3A) would on the basis of the physical property data in table 2 be expected to perform better than the 15-in. pavements. The overall structural condition of features R3A and R4B, however, was only poor to fair (paragraph 10). These features were reconstructed by the Air Force to replace the previous 15-in. slabs. The flexural strength of 680 psi for features R3A and R4B in table 2 is the same value assigned to these features prior to reconstruction (15-in. PCC) in the 1960 evaluation (see subparagraph 6b(3)). Possibly the

actual flexural strength of the reconstructed slabs is lower; accordingly, the possibility exists that these features are deficient in pavement thickness for current heavy-load design.

28. The majority of the major structural defects observed in the rigid pavements were typical of load-induced rather than frost-related distress and are considered principally to be the result of channelized traffic. Acceleration of distress in the 15-in. pavements, and possibly in the 18- and 19-in. pavements of the south runway end, as a result of overloading is indicated.

Maintenance

29. The history of airfield pavement maintenance at LAFB through 30 June 1972 is presented in Appendix A. Costs of pavement maintenance for FY 1970, 1971, and 1972 were as follows:

Fiscal Year	Contract Maintenance	In-house Maintenance	Total
1970	$ 67,320	$54,193	$121,513
1971	261,854	59,210	321,064
1972	35,102	38,026	73,128

Maintenance performed since 1 July 1972 includes overlays of the interior of the runway and the flexible portion of taxiway D. Chip seal coats have been applied to a portion of taxiway A, part of parking apron 1 taxiway, and part of parking apron 2 taxiway.

Evaluation

30. A summary of the pavement evaluation is presented 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 the subgrade (CBR or k value), and the structural condition of the pavement.

Conclusions

31. The following statements summarize the findings of this investigation:

- a. The PCC pavements of the primary heavy-load system contained many structural defects. The majority of these defects were apparently caused by channelized traffic.
- b. The AC pavement of the runway should be in excellent condition, since a 3-in. overlay was being placed at the time of this survey.
- c. The tar rejuvenator applied to the parking and maintenance apron appeared to have filled the smaller cracks and partially filled the larger ones.
- d. Most of the AC pavements contained longitudinal and transverse cracks that are normally associated with cold temperatures. Some map cracking, which can be caused by channelized traffic, was noted.
- e. The majority of the major structural defects in the PCC pavements were load induced rather than frost related.

Table 1

Airfield Design and Construction History

	Pavement				Construction		
	Dimensions, ft			Thickness			
Pavement Facility	Length	Width	Type	in.	Year(s)	Agency	Design Criteria
N-S runway, sta 18+30 to 109+90	9,160	300	AC	3	1947-48	CE	150,000-lb, single-wheel load
Taxiway A	10,400	100	AC	3	1947-48	CE	
South connecting taxiway	1,000	100	AC	3	1947-48	CE	
South warm-up apron	Varies	Varies	AC	3	1947-48	CE	
North connecting taxiway A	700	100	AC	3	1947-48	CE	
Parking and maintenance apron	2,150	300	AC	3	1947-48	CE	
Hangar 1 access aprons	Varies	Varies	AC	3	1947-48	CE	
N-S runway extension, sta 109+90 to 118+30	840	300	AC	3	1951-52	CE	Tricycle arrangement: 180,000-lb gear load on twin-tandem wheels spaced 31-60-31 in. c-c with 267-sq-in. tire contact area
South warm-up apron extension	Varies	Varies	AC	3	1951-52	CE	
Parking apron south extension	1,200	300	AC	3	1951-52	CE	
Nose dock apron	2,000	300	AC	3	1951-52	CE	
Taxiway B	1,150	100	AC	3	1951-52	CE	
Taxiway C	1,150	100	AC	3	1951-52	CE	
Taxiway D	2,000	100	AC	3	1951-52	CE	
Taxiway E	500	100	AC	3	1951-52		
Taxiway F	1,800	100	AC	3	1951-52	CE	
Parking apron 1 taxiway	3,800	100	AC	3	1951-52	CE	
Parking apron 2 taxiway	2,300	100	AC	3	1951-52	CE	
Stubs 1-30	200	75	AC	3	1951-52	CE	
Maintenance areas adjacent to stubs	Varies	Varies	AC	2	1951-52	CE	Tricycle arrangement: 25,000-lb, single-wheel load with 200-psi tire pressure
Maintenance apron extensions	Varies	Varies	AC	2	1951-52	CE	
Parking apron 1	Varies	Varies	AC	2	1951-52	CE	
Parking apron 2	Varies	Varies	AC	2	1951-52	CE	
N-S runway reconstruction, sta 18+30 to 28+30	1,000	300	PCC	15	1954-55	CE	Tricycle arrangement: 100,000-lb gear load on dual wheels spaced 37.5 in. c-c with 267-sq-in. contact area per tire
Taxiway D extension	1,260	75	PCC	15	1954-55	CE	
Taxiway E extension	2,300	75	PCC	15	1954-55	CE	
Taxiway F extension	1,100	75	PCC	15	1954-55	CE	
Taxiway G	1,300	75	PCC	15	1954-55	CE	
Parking apron 2 taxiway extension	800	75	PCC	15	1954-55	CE	
Parking apron 3 taxiway	3,000	75	PCC	15	1954-55	CE	
Parking apron 4 taxiway	650	75	PCC	15	1954-55	CE	
Parking apron 5 taxiway	950	75	PCC	15	1954-55	CE	
Parking stubs 33, 34, 40, 41, 44, 45, 48, and 49	250	200	PCC	15	1954-55	CE	
Parking stubs 31, 32, 35-39, 42, 43, 47, and 50-60	200	75	PCC	15	1954-55	CE	
DC hangar access aprons	460	375	PCC	15	1954-55	CE	
DC hangar access taxiways	Varies	100	PCC	15	1954-55	CE	
Parking stubs 3, 4, 7, 10, 11, 14, 21, 22, 28, and 29 widened	200	100	AC	3	1954-55	CE	

(Continued)

Note: CE denotes Corps of Engineers; AF denotes Air Force.

Table 1 (Continued)

	Pavement						
	Dimensions, ft			Thickness	Construction		
Pavement Facility	Length	Width	Type	in.	Year(s)	Agency	Design Criteria
Maintenance areas adjacent to stubs	Varies	Varies	AC	3	1954-55	CE	Tricycle arrangement: 25,000-lb, single-wheel load with 200-psi tire pressure
Maintenance areas for parking aprons 2-5	Varies	Varies	AC	3	1954-55	CE	
Shoulders for stubs 31-60; taxiways D, E, F, and C; parking aprons 2-5; and hangar aprons	Varies	50	AC	3	1954-55	CE	Tricycle arrangement: 10,000-lb, single-wheel load with 100-psi tire pressure
N-S runway extension, sta 118+30 to 129+30	1,100	300	AC	4	1955-56	CE	Tricycle arrangement: 100,000-lb gear load on dual wheels spaced 37.5 in. c-c with 267-sq-in. contact area per tire
Taxiway A extension	2,250	75	AC	4	1955-56	CE	
Calibration hardstand taxiway	450	75	AC	4	1955-56	CE	
N-S runway extension, sta 129+30 to 139+30	1,100	300	AC	15	1955-56	CE	
North connecting taxiway	1,000±	75	PCC	15	1955-56	CE	
North warm-up apron	Varies	Varies	PCC	15	1955-56	CE	
Calibration hardstand (250-ft diam)			PCC	15	1955-56	CE	
Blast pads at N-S runway ends	150	300	AC	2	1955-56	CE	Tricycle arrangement: 10,000-lb, single-wheel load with 100-psi tire pressure
Shoulders of stubs 1-30; taxiways A, B, C, and parts of D, E, and F	Varies	37.5	AC	2	1955-56	CE	
Shoulders of parking apron 1 and part of 2, taxiway A extension, north warm-up apron, north connecting taxiway, and calibration hardstand and taxiway	Varies	50	AC	2	1955-56	CE	
ADC operational apron	Varies	Varies	PCC	9	1958	CE	Tricycle arrangement: 25,000-lb, single-wheel load with 200-psi tire pressure
South warm-up apron extension	Varies	Varies	PCC	19	1958	CE	Bicycle arrangement: 265,000-lb gear load on twin-twin wheels spaced 37-62-37 in. and 267-sq-in. contact area per tire
SAC alert facilities			PCC	19	1958	CE	
Taxiway	1,300	75	PCC	19	1958	CE	
Apron	850	100	PCC	19	1958	CE	
Stubs (1)	216	100	PCC	19	1958	CE	
Stubs (4)	233	150	PCC	19	1958	CE	
Nontraffic pavements							
ADC (Blast protective)	2,100	25	AC	2	1958	CE	None specified
SAC (shoulders and blast pads)	Varies	Varies	AC	2	1958	CE	Tricycle arrangement: 10,000-lb, single-wheel load with 100-psi tire pressure
Organizational and maintenance hangar aprons	Varies	Varies	PCC	14	1959	CE	Bicycle arrangement: 160,000-lb gear load
Organizational maintenance hangar access taxiway	135	75	PCC	9	1959	CE	Tricycle arrangement: 25,000-lb, single-wheel load with 200-psi tire pressure
ADC alert facilities	Varies	Varies	PCC	9	1959	CE	
Blast pads at runway ends	150	300	AC	2	1959	CE	Bicycle arrangement: 265,000-lb gear load on twin-twin wheels spaced 37-62-37 in. and 267-sq-in. contact area per tire
Overruns	850	300	DBST		1959	CE	
N-S runway reconstruction							
Sta 18+30 to 20+30	200	300	PCC	19	1959	AF	
Sta 20+30 to 23+30	300	100	PCC	19	1959	AF	
Sta 23+30 to 28+30	500	100	PCC	18	1959	AF	
Sta 28+30 to 118+30, center 75 ft	9,000	75	AC	4	1959	AF	
Sta 118+30 to 129+30, center 75 ft	1,100	75	AC	4	1959	AF	

Table 2

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY Loring AFB July 1972				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	N-S runway sta 134+30 to 139+30	500	300				15	Portland cement concrete	560	55	Sandy gravel (GW)	425 k_f = 320	Sandy, gravelly clay (CL) F3		Poor to failed
R2B	N-S runway sta 129+30 to 134+30	500	300				15	Portland cement concrete	560	55	Sandy gravel (GW)	425 k_f = 320	Sandy, gravelly clay (CL) F3		Poor to failed
R3A	N-S runway sta 18+30 to 23+30	Varies	Varies				19	Portland cement concrete	680	48	Sandy gravel (GW)	425 k_f = 300	Sandy, gravelly clay (CL) F3		Fair
R4B	N-S runway sta 23+30 to 28+30, center section	500	100				18	Portland cement concrete	680	49	Sandy gravel (GW)	425 k_f = 300	Sandy, gravelly clay (CL) F3		Poor to failed
R5D	N-S runway sta 20+30 to 28+30, 100 ft each side	800 800	100 100				15	Portland cement concrete	680	52	Sandy gravel (GW)	425 k_f = 310	Sandy, gravelly clay (CL) F3		Fair
R6C	N-S runway interior sta 28+30 to 109+90, center 75 ft	8,160	75	3	Asphaltic concrete		4	Bituminous concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL)F3	6	Excellent
R7D	N-S runway interior sta 28+30 to 109+90, outside edges	8,160	112.5	Tapered 3 in. to 1.5 in.	Asphaltic concrete		3	Bituminous concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Excellent
R8C	N-S runway interior sta 109+90 to 118+30, center 75 ft	840	75	3	Asphaltic concrete		4	Bituminous concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Excellent
R9D	N-S runway interior sta 109+90 to 118+30, outside edges	840	112.5	Tapered 3 in. to 1.5 in.	Asphaltic concrete		3	Bituminous concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Excellent
R10C	N-S runway interior sta 118+30 to 129+30, center 75 ft	1,100	75	3	Asphaltic concrete		5	Bituminous concrete		6 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Excellent
R11D	N-S runway interior sta 118+30 to 129+30, outside edges	1,100	112.5	Tapered 3 in. to 1.5 in.	Asphaltic concrete		4	Bituminous concrete		6 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Excellent
T1A T13A T14A T15A	Taxiways D, E, F, and G Twy for parking apron 5 Twy for parking apron 2 Twy for parking apron 3	Varies 1,050 940 3,100	75 75 75 75				15	Portland cement concrete	680	55	Sandy gravel (GW)	425 k_f = 320	Sandy, gravelly clay (CL) F3		Poor to very good Fair Poor to failed Fair
T2A	North connecting taxiway	1,000±	75				15	Portland cement concrete	620	55	Sandy gravel (GW)	425 k_f = 320	Sandy, gravelly clay (CL) F3		Poor to failed
T3A	South approach taxiway	Varies	Varies				20	Reinforced portland cement concrete	660	47	Sandy gravel (GW)	425 k_f = 275	Sandy, gravelly clay (CL) F3		Good
T4B	ADC alert facilities and taxiway	Varies	75				9	Portland cement concrete	660	63	Sandy gravel (GW)	425	Sandy, gravelly clay (CL) F3		Excellent

(1 of 3 sheets)

Table 2 (Continued)

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY Loring AFB July 1972				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	
T5B A13B	SAC alert taxiway SAC alert stubs (5)	Varies Varies	75 Varies				19	Portland cement concrete	740	53	Sandy gravel (GW)	425	Sandy, gravelly clay (CL) F3		Excellent Excellent
T6B	South warm-up apron extension and south approach taxiway	Varies 425±	Varies 75				19	Portland cement concrete	660	53	Sandy gravel (GW)	425	Sandy, gravelly clay (CL) F3		Good
T7A T18A	Taxiway A South connecting taxiway	10,400 Varies	100 Varies				3	Asphaltic concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
T8A T12C	Taxiway A extension Calibration hardstand twy	2,250 450	75 75				4	Asphaltic concrete		6 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
T9C	North connecting taxiway A	700	100				3	Asphaltic concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
T10A T16A T17A	AC portion of twys E and F Twy for parking apron 1 Twy for parking apron 2	Varies Varies Varies	100 100 100				3	Asphaltic concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
T19A	AC portion of taxiway D	2,000	75	1.5	Asphaltic concrete		3	Asphaltic concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Excellent
T11C	Taxiways B and C	1,150 1,150	100 100				3	Asphaltic concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
A1B	North warm-up apron	Varies	Varies				15	Portland cement concrete	620	55	Sandy gravel (GW)	425 k_f=320	Sandy, gravelly clay (CL) F3		Poor to failed
A2B	ADC operational apron and taxiway	Varies	Varies				9	Portland cement concrete	660	63	Sandy gravel (GW)	425	Sandy, gravelly clay (CL) F3		Excellent
A3B	Hangar access aprons (org and maintenance)	Varies	Varies				14	Portland cement concrete	660	58	Sandy gravel (GW)	425	Sandy, gravelly clay (CL) F3		Excellent
A4B	Parking stubs 31-60	Varies	Varies				15	Portland cement concrete	680	55	Sandy gravel (GW)	425 k_f=320	Sandy, gravelly clay (CL) F3		Poor to very good
A5C	Calibration hardstand (250-ft-diam)						15	Portland cement concrete	620	55	Sandy gravel (GW)	425 k_f=320	Sandy, gravelly clay (CL) F3		Fair
A6B	DC maintenance hangar access aprons and taxiway	460	375				15	Portland cement concrete	680	55	Sandy gravel (GW)	425 k_f=320	Sandy, gravelly clay (CL) F3		Very good
A7B	South warm-up apron	Varies	Varies				3	Asphaltic concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
A8B	South warm-up apron extension	Varies	Varies				3	Asphaltic concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Good
A9B	Parking and maintenance apron	3,350	300				3	Asphaltic concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Fair to good
A10B	Nose dock apron	Varies	Varies				3	Asphaltic concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Fair
A11B	Stubs 1-30	200	Varies				3	Asphaltic concrete		7 60	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Fair to good
A12B	Hangar No. 1 access aprons	Varies	Varies				3	Asphaltic concrete		9 55	Crushed stone Sandy gravel (GW)	100 50	Sandy, gravelly clay (CL) F3	6	Fair

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Table 2 (Continued)

SUMMARY OF PHYSICAL PROPERTY DATA

FACILITY Loring AFB July 1972				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	
R12X	N-S runway blast pads	150	300				2	Asphaltic concrete		6 30	Crushed stone Sandy gravel (GW)		Sandy gravel (GW-GM)		
R13X	N-S runway overruns	850	300					Double bituminous surface treatment		16	Sandy gravel (GW)		Sandy, gravelly clay (CL)		

Table 3

DATE: July 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Loring AFB, Maine

FEATURE		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
NO.	DESIGNATION				I	—	\	Δ	✱	K	〰	S	J	Ɉ	J	⊕	M	P	O	C	D			
R1A	N-S runway north end 1st 500 ft	25 by 25	240	15	152	17	31	5			42		4		5				7	2		17.9	26.2	Poor to failed
R2B	N-S runway north end 2nd 500 ft	25 by 25	240	15	113	12	11	1			20		2		1				11	1		40	49.6	Poor to failed
R3A	N-S runway south end 1st 500 ft	25 by 25	240	19 15	48	17	6	2			10	4	4	1			6		11	2		58.4	70.8	Fair
R4B	N-S runway south end 2nd 500 ft	25 by 25	80	18	18	10	16	5	1		5			2			2		9			41.3	53.8	Poor to failed
R5D			160	15	14	19	14	1	1		12		2	8	1		10		11	3		53.1	72.5	Fair
T1A	Taxiway D	25 by 25	140	15	8	10							2		1							85.8	87	Very good
T1A	Taxiway E	25 by 25	756	15	286	19	39	3			40	24	2	22	15		1		15	6		46.8	59.5	Poor
T1A	Taxiway F	25 by 25	143	15	19	13	2				7			8			1		3			67.8	79	Good
T1A	Taxiway G	25 by 25	285	15	54	6	4	1			5		2	4	4				1			74.9	78	Good
T2A	North connecting taxiway	25 by 25	146	15	82	12	14		3		22	1	4						2			34.9	35.5	Poor to failed
T3A	South approach taxiway	15 by var	54	20 reinf	0	35	1				3	1	2	1					1			22.2	39	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	Ɉ	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 3 (Continued)

DATE: July 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Loring AFB, Maine

FEATURE		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
NO.	DESIGNATION				I	—	\	Δ	✱	K	〰	S	J	ɟ	J	⌖	M	P	O	C	D			
T4B	ADC alert facilities and taxiway	15 by 15	847	9		1						4			3				7			98.4	99.9	Excellent
T5B	SAC alert taxiway	15 by 15	719	19		2	1	1						3	1				19			96.6	99.5	Excellent
A13B	SAC stub 1	15 by 15	150	19															3			98.1	100	Excellent
A13B	SAC stub 2	15 by 15	150	19			2												2			97.4	98.8	Excellent
A13B	SAC stub 3	15 by 15	100	19		1					2	1		1					7			89	99	Excellent
A13B	SAC stub 4	15 by 15	150	19		2	3				1								1			96.8	98	Excellent
A13B	SAC stub 5	15 by 15	150	19		1	1				1	4							1			94.7	98.8	Excellent
T13A	Twy for parking apron 5	25 by 25	181	15	64	1					1			4	1							62.6	64.7	Fair
T14A	Twy for parking apron 2	25 by 25	148	15	77	2	1	1			3	3		1	2							41.9	48.4	Poor to failed
A1B	North warm-up apron	25 by 25	246	15	120	31	26		2		47	1	2	1					1	7		26.8	36.1	Poor to failed

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	ɟ	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 3 (Continued)

DATE: July 1972

SUMMARY OF DATA – RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Loring AFB, Maine

FEATURE		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
NO.	DESIGNATION				I	—	\	Δ	✱	K	〰	S	J	Ɉ	J	⊕	M	P	O	C	D			
A2B	ADC operational apron	15 by 15	1476	9	18	6	32	7			11	1	12	4	5				48			91.4	96.7	Excel-lent
A3B	Hangar access apron (O&M)	15 by 15	265	14		6							2		1		1		1			95.8	97.7	Excel-lent
A4B	Parking stub 31	25 by 25	35	15	11	8			1		3				1							40	57.2	Poor
A4B	Parking stub 34	25 by 25	104	15	28	3	6				5			1			2		2			58.7	68.2	Fair
A4B	Parking stub 35	25 by 25	35	15	8	3	6		2		2			1								42.9	57.1	Poor
A4B	Parking stub 36	25 by 25	35	15	8	5	5		1		3											42.8	51.2	Poor
A4B	Parking stub 38	25 by 25	35	15	12	4	2	1			2	2		1								37.2	57.1	Poor
A4B	Parking stub 39	25 by 25	35	15	10	6	1				3	1		3	1							42.9	62.9	Fair
A4B	Parking stub 42	25 by 25	35	15	4	5	1	1	1		1			2	2							57.2	74.4	Good
A4B	Parking stub 43	25 by 25	35	15	7	2	2	1	1		1						4					51.5	68.7	Fair

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	Ɉ	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 3 (Continued)

DATE: July 1972

SUMMARY OF DATA - RIGID PAVEMENT CONDITION SURVEY

AIRFIELD: Loring AFB, Maine

FEATURE		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
NO.	DESIGNATION				│	—	╲	Δ	✱	K	〰	S	J	↲	J	⊕	M	P	O	C	D			
A4B	Parking stub 46	25 by 25	35	15	9	2					1						1					68.6	74.2	Good
A4B	Parking stub 52	25 by 25	35	15	10	3	4				2											45.7	62.9	Fair
A4B	Parking stub 54	25 by 25	35	15	9	1	2				1											62.9	66.7	Fair
A4B	Parking stub 55	25 by 25	35	15	13	7	3				2	1										31.2	51.4	Poor
A4B	Parking stub 56	25 by 25	35	15	12	2	2				4		1	2	1							51.4	60	Fair
A4B	Parking stub 57	25 by 25	35	15	9	4	2	1			1				1							51.4	68.5	Fair
A4B	Parking stub 58	25 by 25	35	15	6	1	2				1											71.4	80	Very good
A4B	Parking stub 59	25 by 25	35	15	6	1	2													1		71.4	77.1	Good
A4B	Parking stub 60	25 by 25	35	15	10	5	3		1		3											42.4	57.2	Good
A6B	DC maintenance hangar, access aprons and twys	25 by 25	739	15	59	23	52	4	1		24	31	4	22	18		3		7	4		66.4	82	Very good

REMARKS:

LEGEND:

│	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 4

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Loring AFB

DATE OF EVALUATION

MONTH: July 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. 208-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
R1A	N-S runway, sta 134+30 to 139+30	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	220,000	300,000	380,000+	800,000+	350,000	
		Frost capacity	130,000	85,000+	155,000+	190,000	200,000+	220,000	285,000	380,000	800,000+	300,000	
R2B	N-S runway, sta 129+30 to 134+30	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	265,000	330,000+	380,000+	800,000+	370,000	
		Frost capacity	130,000	85,000+	155,000+	190,000	200,000+	220,000	285,000	380,000+	800,000+	300,000	
R3A	N-S runway, sta 18+30 to 23+30	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	500,000	
R4B	N-S runway, sta 23+30 to 28+30, center 100 ft	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	560,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	310,000	330,000+	380,000+	800,000+	430,000	
R6C	N-S runway interior, sta 28+30 to 109+90	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
R8C	N-S runway interior, sta 109+90 to 118+30	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
R10C	N-S runway interior sta 118+30 to 129+30	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
T1A T13A T14A T15A	Taxiways D, E, F, and G Parking apron 5 Parking apron 2 Parking apron 3	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	265,000	330,000+	380,000+	800,000+	420,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	265,000	330,000+	380,000+	800,000+	370,000	
T2A	North connecting taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	240,000	330,000	380,000+	800,000+	380,000	
		Frost capacity	145,000	85,000+	155,000+	210,000	200,000+	200,000	270,000	380,000	800,000+	310,000	

Note: The features for which no frost capacity is shown are adequately protected against frost.
+ 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.

(1 of 3 sheets)

Table 4 (Continued)

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Loring AFB

DATE OF EVALUATION

MONTH: July YR: 1972

FEATURE		PAVEMENT OPERATIONAL USE	LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS										REMARKS
			TRICYCLE ARRANGEMENT									BICYCLE	
NO.	DESIGNATION		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	
			1	2	3	4	5	6	7	8	9	10	
T3A	South approach taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	530,000	
T4B	ADC alert facilities and taxiway	Capacity	70,000	50,000	105,000	105,000	170,000	125,000	180,000	235,000	660,000	(a)	
T5B A13B	SAC alert facilities and taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
T6B	South warm-up apron extension and approach taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
T7A T18A	Taxiway A South connecting taxiway	Capacity	155,000+	55,000	120,000	135,000	180,000	205,000	245,000	290,000	800,000+	360,000	
		Frost capacity	155,000+	55,000	120,000	135,000	180,000	205,000	245,000	290,000	800,000+	320,000	
T8A	Taxiway A extension	Capacity	155,000+	85,000+	140,000	180,000	200,000+	245,000	300,000	360,000	800,000+	430,000	
		Frost capacity	155,000+	85,000+	140,000	180,000	200,000+	245,000	300,000	360,000	800,000+	340,000	
T9C	North connecting taxiway A	Capacity	155,000+	85,000+	155,000+	185,000	200,000+	300,000	320,000	380,000+	800,000+	510,000	
		Frost capacity	155,000+	85,000+	155,000+	185,000	200,000+	300,000	320,000	380,000+	800,000+	510,000	
T10A T16A T17A	Taxiways E and F Taxiway for parking apron 1 Taxiway for parking apron 2	Capacity	155,000+	55,000	120,000	135,000	180,000	205,000	245,000	290,000	800,000+	360,000	
		Frost capacity	155,000+	55,000	120,000	135,000	180,000	205,000	245,000	290,000	800,000+	350,000	
T11C	Taxiways B and C	Capacity	155,000+	85,000+	155,000+	185,000	200,000+	300,000	320,000	380,000+	800,000+	510,000	
		Frost capacity	155,000+	85,000+	155,000+	185,000	200,000+	300,000	320,000	360,000	800,000+	340,000	
T12C	Calibration hardstand taxiway	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	380,000+	800,000+	600,000+	
		Frost capacity	155,000+	85,000+	155,000+	220,000+	200,000+	330,000+	330,000+	360,000	800,000+	340,000	
A1B	N warm-up apron	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	285,000	330,000+	380,000+	800,000+	400,000	
		Frost capacity	155,000+	85,000+	155,000+	210,000	200,000+	240,000	310,000	380,000+	800,000+	330,000	

WES FORM NO. 999
JUNE 1972

EDITION OF AUG 1960 IS OBSOLETE.

(2 of 3 sheets)

Table 4 (Continued)

SUMMARY OF PAVEMENT EVALUATION

NAME OF AIRFIELD: Loring AFB DATE OF EVALUATION MONTH: July YR: 1972			LOAD-CARRYING CAPACITY IN LB OF GROSS PLANE LOAD FOR INDICATED LANDING GEAR TYPES AND CONFIGURATIONS										
			TRICYCLE ARRANGEMENT									BICYCLE	REMARKS
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	
NO.	DESIGNATION		1	2	3	4	5	6	7	8	9	10	
A2B	ADC operational apron and taxiway	Capacity	85,000	65,000	130,000	130,000	200,000+	150,000	215,000	290,000	800,000	(a)	
A3B	Hangar access aprons (O and M)	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	280,000	330,000+	380,000+	800,000+	400,000	
A4B A6B	Parking stubs 31-60; DC maintenance hangar access apron and taxiway	Capacity Frost capacity	155,000+ 155,000+	85,000+ 85,000+	155,000+ 155,000+	220,000+ 220,000+	200,000+ 200,000+	320,000 265,000	330,000+ 330,000+	380,000+ 380,000+	800,000+ 800,000+	440,000 370,000	
A5C	Calibration hardstand	Capacity Frost capacity	155,000+ 155,000+	85,000+ 85,000+	155,000+ 155,000+	220,000+ 220,000+	200,000+ 200,000+	330,000+ 320,000+	330,000+ 330,000+	380,000+ 380,000+	800,000+ 800,000+	540,000 450,000	
A7B A9B A12B	S warm-up apron. Parking and maintenance apron Hangar No. 1 access aprons	Capacity Frost capacity	155,000+ 155,000	55,000 55,000	120,000 120,000	135,000 135,000	200,000+ 200,000+	225,000 225,000	245,000 245,000	330,000 330,000	800,000+ 800,000+	380,000 320,000	
A8B A10B A11B	S warm-up apron extension Nose dock access apron Parking aprons 1 and 2, stubs 1-30	Capacity Frost capacity	155,000+ 155,000+	55,000 55,000	120,000 120,000	135,000 135,000	200,000+ 200,000	225,000 225,000	245,000 245,000	330,000 330,000	800,000+ 800,000+	380,000 350,000	
T19A	Taxiway D	Capacity	155,000+	85,000+	155,000+	220,000+	200,000+	270,000	330,000+	380,000+	800,000	430,000	

WES FORM NO. 999
JUNE 1972

EDITION OF AUG 1960 IS OBSOLETE.

(3 of 3 sheets)

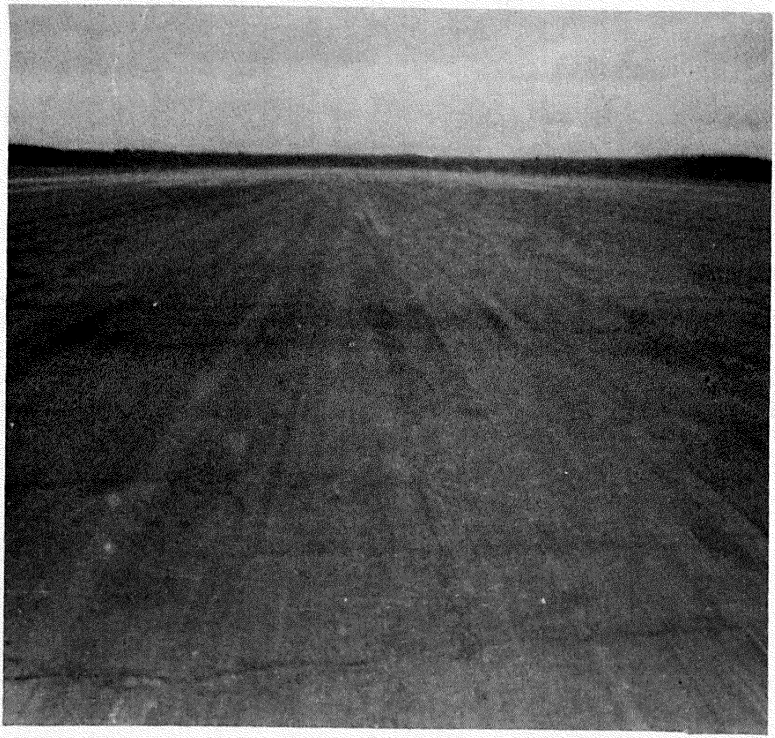


Photo 1. Crack on AC portion of N-S runway near north end

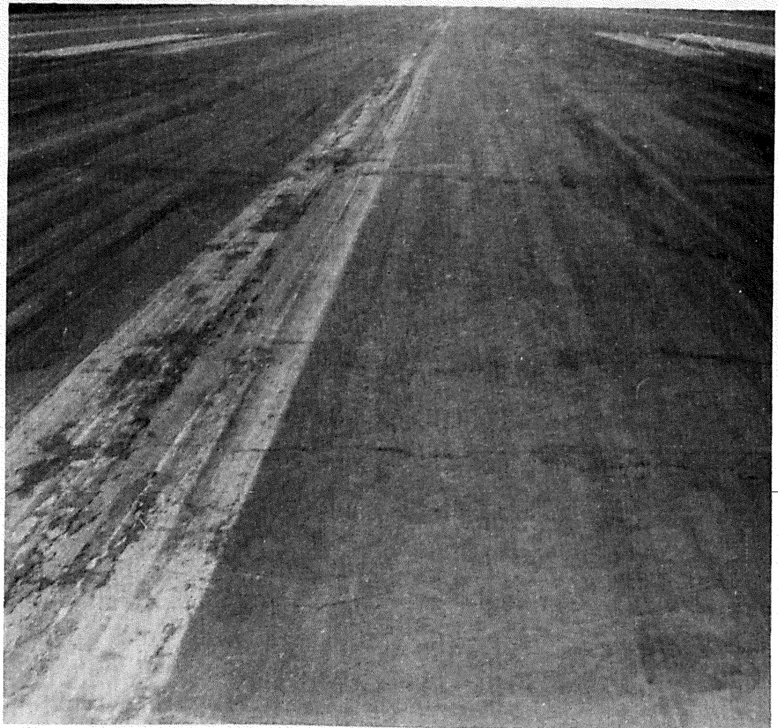


Photo 2. Cracking on N-S runway near north end of AC pavement

Photo 3. Extension to taxiway A

Photo 4. Cracks in taxiway E west of intersection with taxiway G

Photo 5. Cracks in taxiway G

Photo 6. Cracks in north connecting taxiway

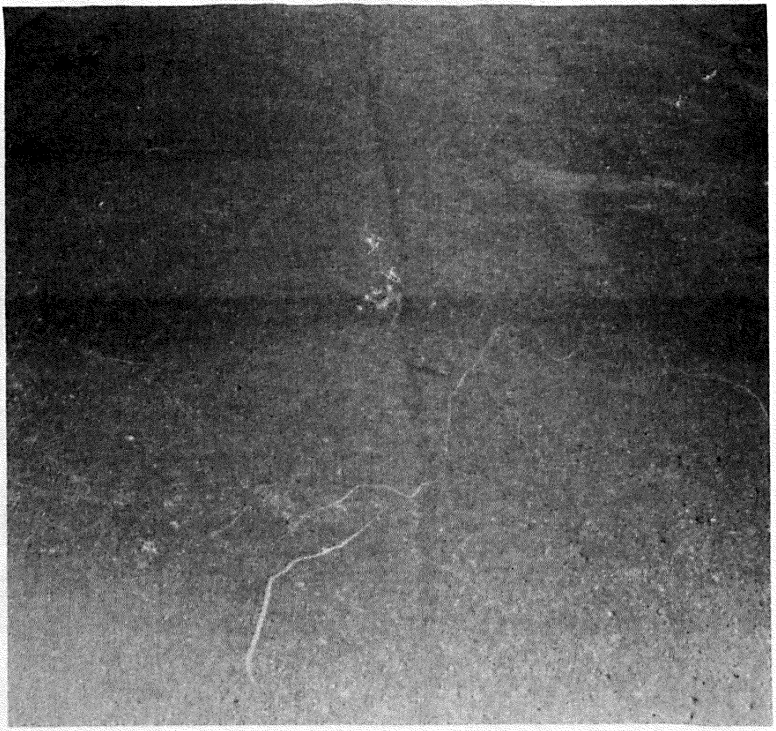


Photo 7. Close-up of parking and maintenance apron. Tar rejuvenator was applied in 1971

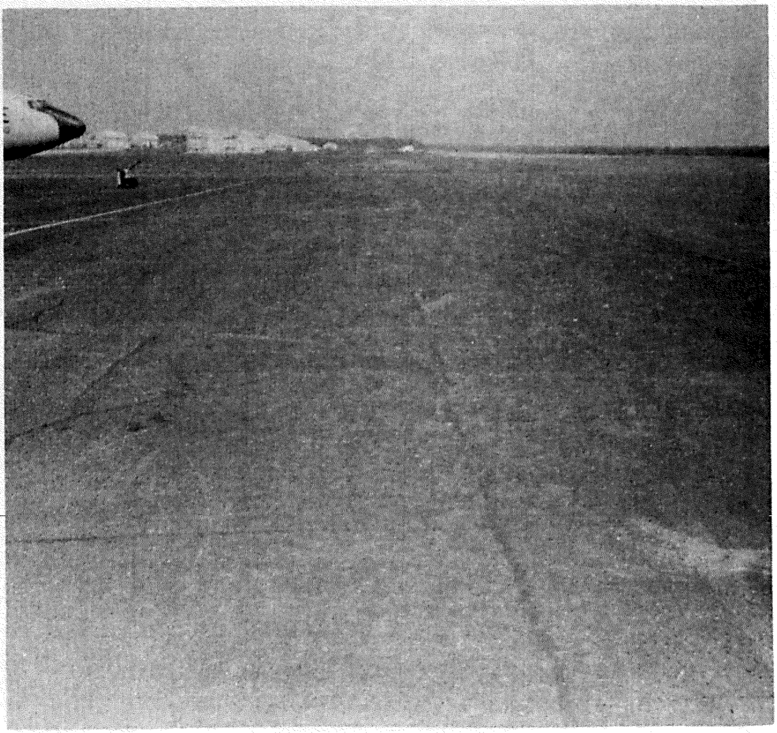


Photo 8. General view of parking and maintenance apron

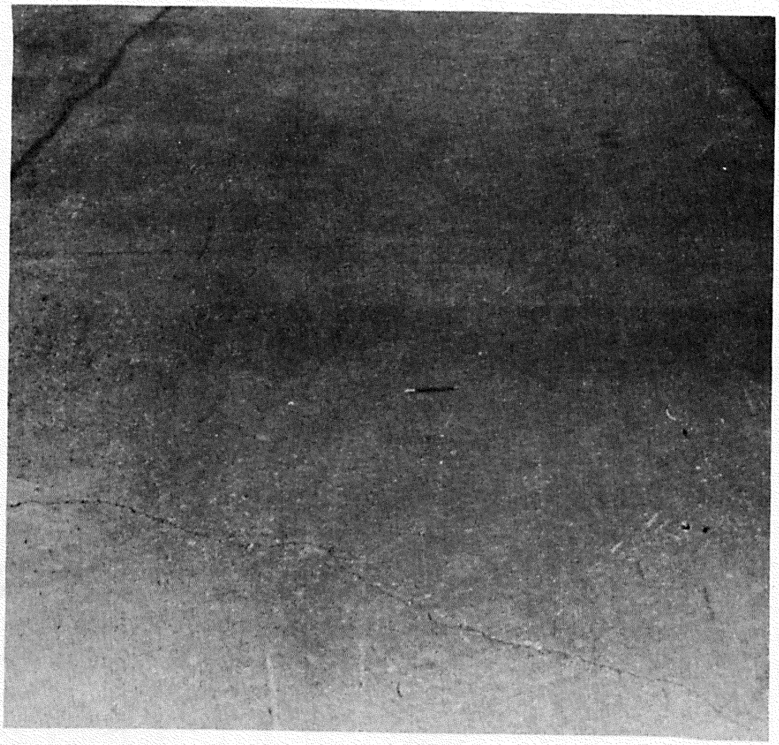


Photo 9. View of parking stub 8. Tar rejuvenator was applied in 1971

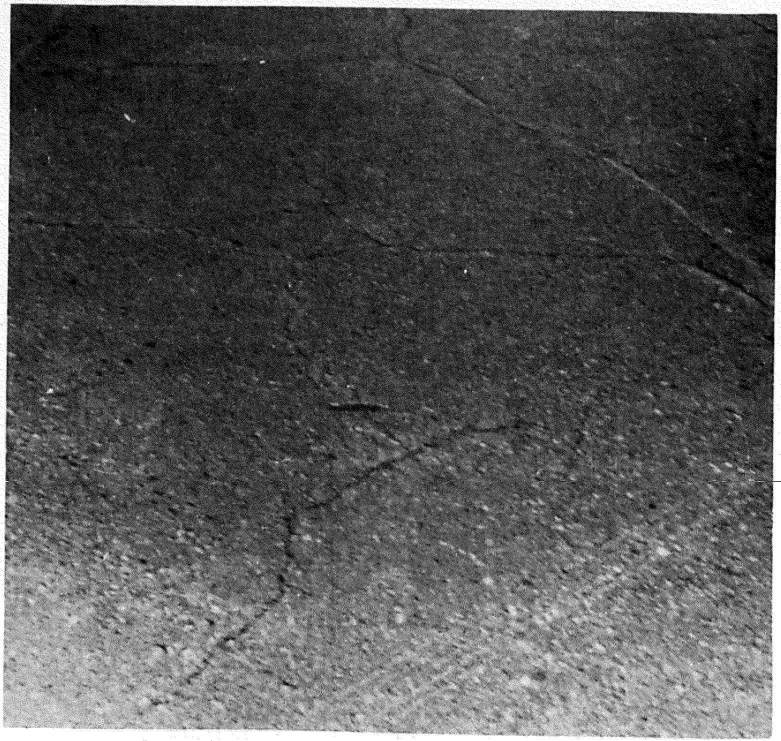
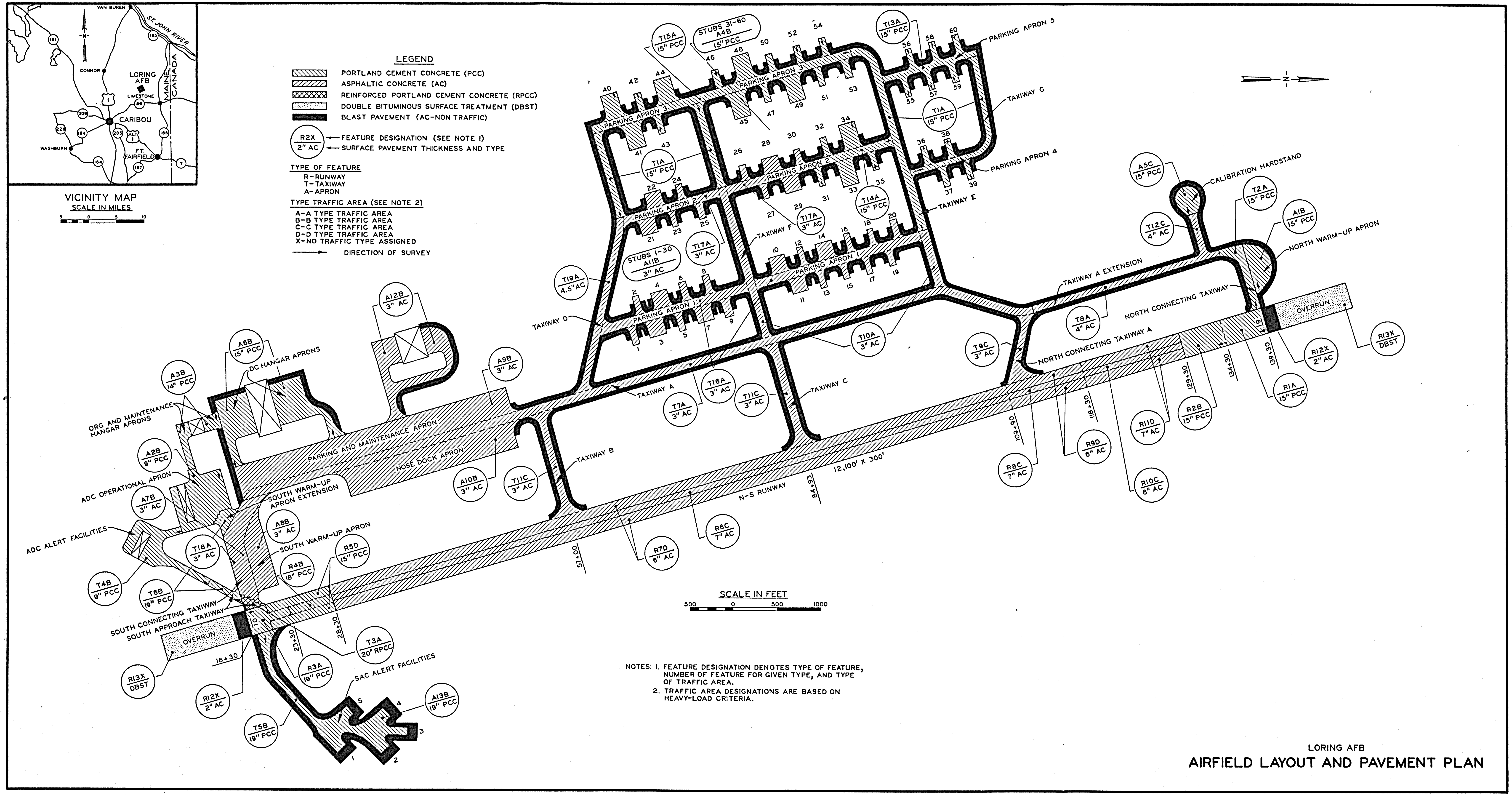


Photo 10. View of stub 23 (typical of AC stubs)



LEGEND

▨ PORTLAND CEMENT CONCRETE (PCC)
▨ ASPHALTIC CONCRETE (AC)
▩ REINFORCED PORTLAND CEMENT CONCRETE (RPCC)
░ DOUBLE BITUMINOUS SURFACE TREATMENT (DBST)
■ BLAST PAVEMENT (AC-NON TRAFFIC)

R2X ← FEATURE DESIGNATION (SEE NOTE 1)
2" AC ← SURFACE PAVEMENT THICKNESS AND TYPE

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

TYPE TRAFFIC AREA (SEE NOTE 2)
A-A TYPE TRAFFIC AREA
B-B TYPE TRAFFIC AREA
C-C TYPE TRAFFIC AREA
D-D TYPE TRAFFIC AREA
X-NO TRAFFIC TYPE ASSIGNED
→ DIRECTION OF SURVEY

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.

LORING AFB

AIRFIELD LAYOUT AND PAVEMENT PLAN

PLATE 1

Appendix A: LAFB Annual Pavement Maintenance Plan

Description	Pavement Type	Year Constructed	Existing Condition	Inspection Requirements	Maintenance Priority	Maintenance and Repair History	Present or Proposed Maintenance
R/W Prim Instrument 10,100' x 300' 3" & 4" Bit Surface 9" base course 55" subbase course	Flexible Heavy	1948 1953 1955	Sat	Daily P&G Monthly E&C	1A	1952-59 R/W sealcoated twice. 1959 the 3" R/W keel strip 75' wide was replaced with 4" AC. 1960 surface was sealed with RS-1 and sand. In 1964 R/W center line was leveled. 1968 sealcoated new keel strip, asphalt & sand. In-house crack sealing w/SS-S-164 each summer overlay 1972 3"	O&M FY72 Overlay R/W LOR 59-2
R/W Prim Instrument 1,000' x 300' south 15, 18, & 19" PCC 52, 49, 48" base course	Rigid Heavy	1948	Sat			1959 replace 15" center line slab with 18" and 19" slabs. 1963 resealed all joints and random cracks, SS-S-164.	Repair spalled areas.
1,000 x 300' north end 15" PCC 55" base	Rigid Heavy	1956	Sat			1963 resealed all joints and random cracks, SS-S-164. 1967 sealed random cracks in-house.	Repair spalled areas.
Parallel Prim T/W "A", 11,200' by 100'. 3" Bit Concrete 9" Stone base 55" subbase	Flexible Heavy	1948	Unsat			1959 all random cracks were sealed SS-S 164, 1961 surface sealed with RC-2 and stone chips. 1964 replaced 2,300' by entrance to R/W. 1965 replaced intersection of Dogleg T/W and T/W "A" and 40' keel strip on Dogleg T/W. 1966 replaced 2,500' x 40' keel strip from T/W "B" to section replaced in 1965. 1968 sealcoat new keel strips asphalt and sand. 1969 replace keel strip on south end T/W "A". 1970 repair sealcoat using heater planer at Mass Apron. Overlay T/W "A" from "B" to Dogleg.	1972 LOR 53-2, Sealcoat T/W "A" between T/W "B" and Dogleg.
2,240' x 75' 4" Bit. concrete 6" Stone base 60" subbase	Flexible Heavy	1956	Sat			1959 sealed joints and cracks with SS-S-164; 1961 sealed surface RC-2 and stone chips; 1965 replaced 40' keel strip w/4" bituminous concrete. 1968 sealcoat keel strip - asphalt and sand.	
960' x 75' 15" PCC 55" base	Rigid Heavy	1956	Sat			1959 sealed joints & cracks SS-S-164. 1963 replaced 4 PCC slabs - 19". 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
SAC Alert Complex 4 hardstands & TW 2300' x 75' 19" PCC 53" base	Rigid Heavy	1959	Sat		1C	1965 sealed joints and cracks and repaired spalls.	
T/W "B" 1,000 x 100' 3" Bit. concrete 7" Stone base 60" subbase	Flexible Heavy	1952	Sat		1D	1959 sealed cracks SS-S-164. 1961 sealed surface RC-2 and stone chips. 1967 replaced keel strip, w/4" B.C. 1968 sealcoat new keel strip.	
T/W "C" - 3" Bit concrete; 7" stone base; 60" subbase	Flexible Heavy	1952	Sat		1E	1959 sealed cracks SS-S-164 and 1961 sealed surface RC-2 and stone chips.	LOR 4-0, Repr Taxiway year (xx)
T/W "D" 2,000' x 100', 3" Bit concrete 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1F	1959 sealed cracks SS-S-164. 1960 replaced 30' keel strip with 4" bituminous concrete, 1961 sealed surface RC-2 and stone chips.	LOR 51-2, Overlay T/W overlay 1-1/2
T/W "D" 1,000' x 75' 15" PCC, 55" base	Rigid Heavy	1955	Sat		1F	1959 sealed joints SS-S-167. 1967 sealed random cracks and repaired spalls.	LOR 51-2, Overlay Surface
T/W "F" 1,800' x 100', 3" Bit concrete, 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1G	1959 sealed cracks SS-S-164. 1961 sealed surface RC-2 and stone chips; 1965 replaced 41' keel strip with 4" bituminous concrete. 1968 sealcoat keel strip with asphalt & sand.	
T/W "F" 1,000' x 75' 15" PCC, 55" base	Rigid Heavy	1955	Sat		1H	1959 sealed joints SS-S-167; 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
T/W "E" 3" Bit concrete 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1H	1959 sealed cracks SS-S-164; 1960 replaced surface with 4" bituminous concrete; 1961 sealed surface RC-2 and stone chips, 1965 sealed cracks SS-S-164 (in-house).	Seal Joints (In-House)
T/W "E" 2,280' x 75' 15" PCC 55" base	Rigid Heavy	1955	Sat		1H	1963 replaced 18PCC slabs; 1959 sealed joints; 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
T/W "G" 1,200' x 75' 15" PCC, 55" base	Rigid Heavy	1955	Sat		1I	1959 sealed joints SS-S-167; 1967 sealed random cracks and repaired.	Seal Joints (In-House)
Parking Apron #1 3,680' x 100' 3" bit concrete 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1J	1959 sealed cracks SS-S-164; 1960 replaced 25' keel strip - 4" bituminous concrete north portion between concrete; south portion between T/W "D" and "F". 1962 sealed surface with coal tar slurry; 1967 replaced pavement (north portion), w/4" B.C. 1968 sealcoat apron with asphalt and sand.	LOR 53-2, Sealcoat Surface South End
Parking Apron #2 2180' x 100' 3" bit concrete 7" stone base 60" subbase	Flexible Heavy	1959	Sat		1K	1959 sealed cracks SS-S-164; 1960 replaced 25' keel strip - 4" bituminous concrete north portion between T/W "E" and "F". 1962 overlayed with 1-1/2" bituminous concrete south portion between T/W "D" and "F"; 1962 sealed surface with coal tar slurry. 1967 sealed random cracks, in-house.	LOR 53-2, Sealcoat Surface South End
Apron #2 920' x 75' 15" PCC 55" base	Rigid Heavy	1955	Sat		1K	1959 sealed joints. 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)

.(Continued)

Appendix A: (Continued)

Description	Pavement Type	Year Constructed	Existing Condition	Inspection Requirements	Maintenance Priority	Maintenance and Repair History	Present or Proposed Maintenance
Parking Apron #3 3,100' x 75' 15" PCC 55" base	Rigid Heavy	1965	Sat	Daily P&G Monthly E&C	1L	1959 sealed joints; 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
Parking Apron #4 2,000' x 75' 15" PCC 55" base	Rigid Heavy	1965	Sat	↓	1M	1959 sealed joints. 1967 random cracks sealed and spalls repaired.	Seal Joints (In-House)
Mass Parking Apron 1,979' x 2,151' 3" Bit concrete 9" crush stone base 55" subbase	Flexible Heavy	1948	Unsat		1N	Sealed joints 1959; 1961 sealed surface parking area only coal tar slurry. 1962 overlayed parking area w/rubberized tar pavement. 1966 sealed random cracks in tar rubber pavement, in-house. Rejuvenated surface. 1971	
171' x 125' 3" Bit concrete 9" stone base 55" subbase	Flexible Heavy	1949	Sat		1N	Sealed joints 1951; sealed surface 1961.	
2,151' x 85' 3" Bit concrete 9" stone base 55" subbase	Flexible Heavy	1949	Sat		1N	Same as above - 1970 repair surface by heater planer.	
1,200' x 300' 3" Bit concrete 7" stone 60" subbase	Flexible Heavy	1952	Sat		1N	Same as above	
2,000' x 150' 3" Bit concrete 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1N	Sealed joints 1951 - sealed surface 1961. 1970 heater planer and surface course	
Hardstand Dispersal Parking Plan							
20 hardstands 3" Bit Concrete 7" stone base 60" subbase	Flexible Heavy	1952	Unsat		1O	Sealed cracks 1959; 1961 sealed surface coal tar slurry. 1962 overlayed with 1-1/2" rubberized tar pavement. 1966 sealed cracks in tar-rubber pavement. 1967 repaired rubberized tar pavement.	1971 LOR 15-1, Sealcoat Tar-Rubber Pavement; 1970 repair 4 trim hardstands, LOR 80-0
10 hangar aprons. 3" Bit concrete 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1O	1959 sealed cracks. 1961 sealed surface with coal tar slurry.	
22 hardstands 15" PCC, 55" base	Rigid Heavy	1955	Sat		1O	1959 sealed joints. 1967 sealed random cracks and repaired spalls.	
8 hangar aprons 15" PCC, 55" base	Rigid Heavy	1955	Sat		1O	1959 sealed joints. 1967 sealed random cracks and repaired spalls.	
ADC Complex: 600' x 55' Mass Apron, 300' x 150' Hangar Apron, 475' x 200' Alert T/W, 450' x 75' T/W 9" PCC, 63" base	Rigid Medium	1959	Sat		1P	1965 sealed joints with SS-S-164 and 167.	FY 71 LOR 38-9, Repr Apron (Spalls)
North warm-up pad 15" PCC 55" base	Rigid Heavy	1956	Sat		1Q	1959 sealed joints; 1960 installed blast pad 27 FIS. 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
South warm-up pad 3" Bit. concrete 7" stone base 60" subbase	Flexible Heavy	1952	Sat		1R	1959 sealed joints; 1961 sealed surface coal-tar slurry. 1962 repaired two 40' segments with 4" bituminous concrete. 1967 sealed random cracks, in-house.	
Arch hangar T/W and apron, 3" Bit. Concrete, 9" Stone 55" subbase	Flexible Heavy	1948	Sat		1S	1959 sealed cracks; 1961 sealed surface RC-2 and stone chips.	
DC Hangar Aprons 150' x 450', hangar access 800' x 100' T/W 15" PCC, 55" Base	Rigid Heavy	1955 1955	Sat		1T	1959 sealed joints; 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
Stub service pavement, ~~350,776 SY~~ 2" Bit concrete 7" Stone, 22" base, 3" Bit. Concrete 6" stone, 22" base	Flexible Light	1951 1956	Sat	Semi-annually P&G Semi-annually E&C	1U	1962 sealed surface RC-2 and stone chips; ~~1963 construct PCC blast pads on (behind)~~ hardstands 20, 26, and 27.	
Stabilized shoulders 24,000 x 37-1/2' & 16,000' x 50' 2" Bit. concrete 16" base	Flexible Light	1956	Unsat	Semi-annually E&C	1V	1964 sealed surface - slurry. FY 70 Surface seal.	
Calibration hardstand, 15" PCC 55" base	Flexible Heavy	1956	Sat	Weekly P&G Semi-annually E&C	1W	1959 sealed joints. 1967 sealed random cracks and repaired spalls.	Seal Joints (In-House)
Runway overrun 1,000' x 300' each end of R/W	Surface treatment	1956	Sat	Monthly P&G Semi-annually E&C	1X	1965 single surface treatment	1972 - sealcoat overruns, LOR 13-1.
Runway safety strip 200' x 12,100'	Sod	1948- 1956		Annual P&G Annual E&C	1Y		