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A COMPUTER PROGRAM FOR RIGID PAVEMENT  
EVALUATION

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This document presents a computer program which computes Allowable Gross Loads (AGL's) for various aircraft wheel configurations on rigid airfield pavements. Full program documentation, including flow charts, program listing, and sample output are included.		

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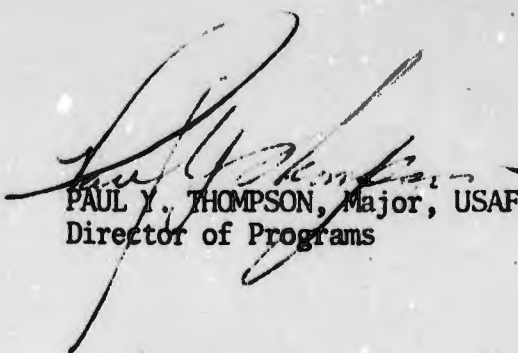
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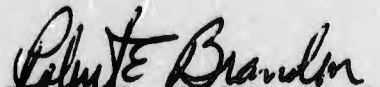
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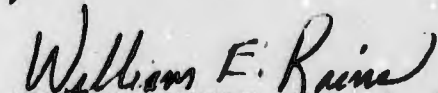
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## I. GENERAL DESCRIPTION

### A. Purpose:

This program computes Allowable Gross Loads (AGL's) for various aircraft gear configurations on rigid airfield pavements as described in Chapter 3 of AFM 88-24. The program reduces the manhours required for the hand computation from 240 manhours to less than two (2) man-hours per average base.

### B. Background:

From the beginning of its role in airfield pavement evaluation, the Air Force Civil Engineering Center (AFCEC) has constantly expanded its capabilities for pavement evaluation studies. One of the limitations inherent in such an expansion is the manpower required to accomplish the tasks. The manpower required in the field portion (data collection effort) of the pavement evaluation can only be reduced by advancing the state of the art in pavement evaluations. However, since the data reduction/interpretation effort of these evaluations requires extensive, repetitive hand calculations to reduce the data collected to a form readily interpreted, the manpower required can be reduced by the development of a computer program. As an example, for one pavement feature there are 40 sets of calculations. For an average base, there are normally 30 - 50 pavement features. This results in 1200 - 2000 calculations per average base, with each calculation needing to be checked at least once. The development of a computer program permits the calculations to be performed in minimum time with only a check of the four input items for each feature being studied. The program reduces the time required for the calculations from the approximately 240 manhours per average base to less than 2 manhours using less than 15 seconds of central processor time on a CDC 6600 computer.

### C. Discussion:

To determine the load carrying capacity of a rigid airfield system, field and laboratory testing is accomplished to determine the thickness (T) and flexural strength (R) of the Portland Cement Concrete Surfacing, as well as the Modulus of subgrade reaction (K) for the underlying layers. This data using procedures outlined in AFM 88-24, is used to calculate the allowable gross load (AGL's) for various gear configurations. The following is a listing of those steps:

1. Step 1 - Determine T,R,K
2. Step 2 - Determine the traffic areas (Based on AFR 93-5, para 2-4.

3. Step 3 - Look up the radius of relative stiffness (STIFF) (See Figure 1)

4. Step 4 - Look up the evaluation load factor [A (I,J)] based on the correct traffic area and using the above radius of relative stiffness (STIFF) (See Figures 2, 3, & 4)

5. Step 5 - Look up the pavement evaluation index (ALF) (See Figure 5)

6. Step 6 - Multiply the pavement evaluation index from Step 5 times the load factor from step 4. (See equation (1) below). The above process (Steps 4-6) must be accomplished for each of the ten gear configurations. This provides the allowable gross loads for capacity operations as defined by AFR 93-5, para 2-4. The next step is to determine the allowable gross loads for operational categories which provide for fewer operations than capacity operations. These categories are full, minimum and emergency and are defined in AFR 93-5, para 2-4.

7. Step 7 - Determine the appropriate  $G_f$ , and  $FT_i$  from AFM 88-24, Chapter 3, Appendix I. These values are used in the equations (2), (3), and (4) to compute allowable gross loads for the full, minimum and emergency categories.

The computer goes through the above steps quickly and accurately.

The following equations are used in the program to calculate AGL's:

$$D_{j-1} = \frac{(ALF)(A_{i,j})}{1000} \quad (1)$$

$$F_i = (1+(G_f)(FT_i)) (D_i) \quad (2)$$

$$R_i = (1+(G_r)(FT_i)) (D_i) \quad (3)$$

$$E_i = (1+(G_e)(FT_i)) (D_i) \quad (4)$$

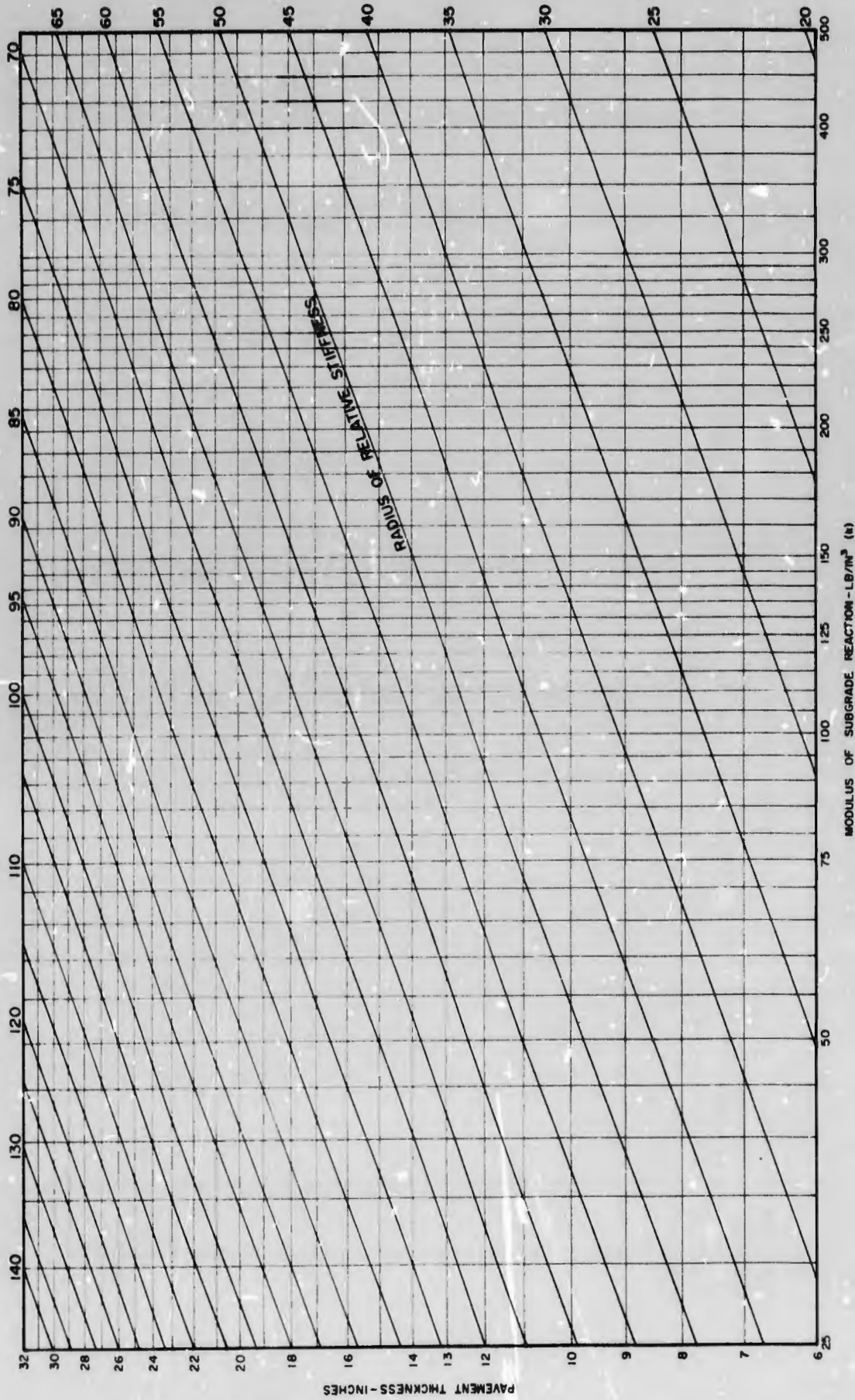
Where:  $D_i$  are the 10 AGL's for the capacity category;

$F_i$  are the 10 AGL's for the full category;

$R_i$  are the 10 AGL's for the minimum category;

$E_i$  are the 10 AGL's for the emergency category;

$G_f$  are the 3 pavement thickness factors for FULL category;



**RADIUS OF RELATIVE STIFFNESS**

( $E = 4.0 \times 10^6$  PSI,  $\mu = 0.20$ )

Figure 1

# RIGID PAVEMENT EVALUATION LOAD FACTORS (TYPE A TRAFFIC AREA)

RADIUS OF RELATIVE STIFFNESS IN	MULTIPLE WHEEL										BICYCLE GEAR			
	SINGLE WHEEL					TRICYCLE GEAR					TWIN WHEEL		TWIN TWIN	
	100 PSI INFLATION PRESSURE	100 SQ. IN. CONTACT AREA	241 SQ. IN. CONTACT AREA	TWIN WHEEL (28 CC)	SINGLE TANDEM (60 CC)	TWIN WHEEL (37 CC)	TWIN WHEEL (44 CC)	TWIN TANDEM (33 x 48)	C-5A GEAR CONFIGURATION	TWIN TWIN (37 x 62 x 37)	267 SQ. IN. TIRE			
	1	2	3	4	5	6	7	8	9	10				
20	4590	3350	3350	5310	5310	5310	6360	18020	5580	6.5				
22	4560	3280	3280	5180	5180	5180	6350	18000	5500					
24	4530	3200	3200	5050	5050	5050	6340	17970	5410					
26	4500	3120	3120	4920	4920	4920	6330	17920	5330	1-1.18				
28	4460	3040	3040	4790	4790	4790	6300	17850	5250	2-1.92				
30	4420	2960	2960	4660	4660	4660	6270	17760	5170	3-1.92				
32	4370	2880	2880	4540	4540	4540	6230	17660	5100	4-1.64				
34	4320	2800	2800	4430	4430	4430	6180	17550	5020					
36	4280	2720	2720	4320	4320	4320	6130	17410	4940	5-1.29				
38	4230	2640	2640	4210	4210	4210	6080	17250	4870	6-1.54				
40	4190	2560	2560	4100	4100	4100	5910	17060	4800	7-1.32				
42	4140	2480	2480	4000	4000	4000	5780	16840	4720					
44	4090	2400	2400	3900	3900	3900	5650	16610	4660	8-1.34				
46	4050	2320	2320	3800	3800	3800	5520	16360	4590					
48	4010	2240	2240	3700	3700	3700	5400	16090	4520	9-1.26				
50	3970	2160	2160	3600	3600	3600	5280	15820	4450	10-1.16				
52	3930	2080	2080	3500	3500	3500	5160	15530	4390					
54	3890	2000	2000	3400	3400	3400	5070	15240	4330					
56	3850	1920	1920	3300	3300	3300	4970	14970	4280					
58	3810	1840	1840	3200	3200	3200	4880	14700	4230					
60	3780	1760	1760	3100	3100	3100	4810	14450	4190					
62	3750	1680	1680	3000	3000	3000	4740	14210	4130					
64	3720	1600	1600	2900	2900	2900	4670	13970	4090					
66	3690	1520	1520	2800	2800	2800	4600	13760	4050					
68	3660	1440	1440	2700	2700	2700	4540	13550	4010					
70	3630	1360	1360	2600	2600	2600	4490	13350	3970					
72	3600	1280	1280	2500	2500	2500	4430	13160	3940					
74	3570	1200	1200	2400	2400	2400	4370	12970	3900					
76	3540	1120	1120	2300	2300	2300	4320	12780	3870					
78	3510	1040	1040	2200	2200	2200	4280	12600	3840					
80	3480	960	960	2100	2100	2100	4240	12420	3810					
82	3450	880	880	2000	2000	2000	4210	12240	3780					
84	3420	800	800	1900	1900	1900	4180	12060	3760					
86	3390	720	720	1800	1800	1800	4150	11880	3740					
88	3360	640	640	1700	1700	1700	4120	11700	3720					
90	3330	560	560	1600	1600	1600	4090	11520	3700					
92	3300	480	480	1500	1500	1500	4060	11350	3680					
94	3270	400	400	1400	1400	1400	4030	11180	3660					
96	3240	320	320	1300	1300	1300	4000	11010	3640					
100	3200	240	240	1200	1200	1200	3970	10850	3620					
105	3160	160	160	1100	1100	1100	3940	10690	3600					
110	3120	80	80	1000	1000	1000	3910	10530	3580					
115	3080	0	0	900	900	900	3880	10370	3560					
120	3040			800	800	800	3850	10210	3540					
125	3000			700	700	700	3820	10050	3520					
130	2960			600	600	600	3790	9890	3500					
135	2920			500	500	500	3760	9730	3480					
140	2880			400	400	400	3730	9570	3460					
145	2840			300	300	300	3700	9410	3440					
150	2800			200	200	200	3670	9250	3420					

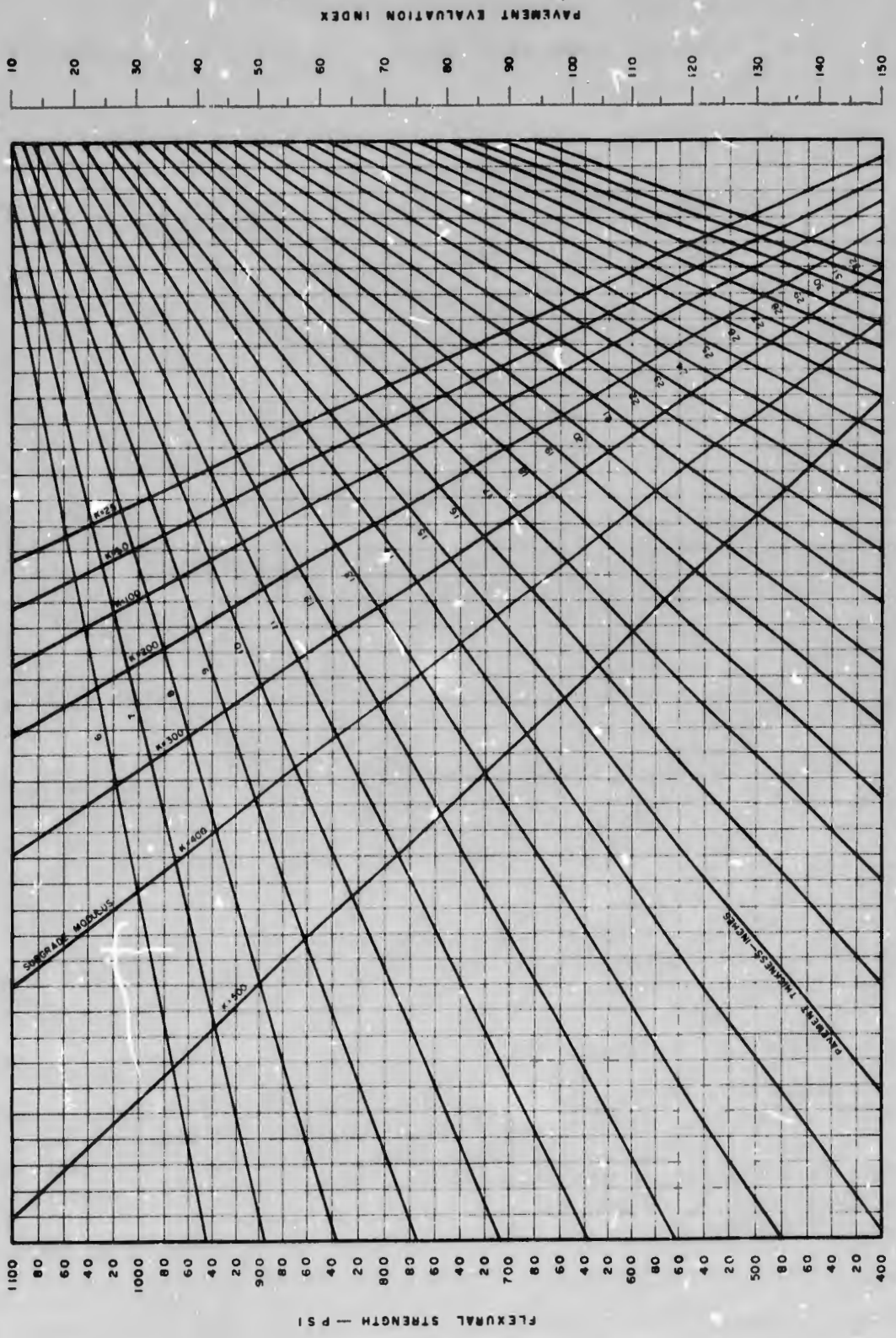
Figure 2

# RIGID PAVEMENT EVALUATION LOAD FACTORS (TYPE I TRAFFIC AREA)

RADIUS OF RELATIVE STIFFNESS IN	SINGLE WHEEL					MULTIPLE WHEEL				
	TRAFFIC GEAR					BICYCLE GEAR				
	1	2	3	4	5	6	7	8	9	10
100 PSI INFLATION PRESSURE	100 SQ IN. CONTACT AREA	241 SQ. IN. CONTACT AREA	TWIN WHEEL (28 CC)	SINGLE TANDEM (60 CC)	TWIN WHEEL (37 CC)	TWIN WHEEL (44 CC)	TWIN TANDEM (33 x 48)	C-5A GEAR CONFIGURATION	TWIN TWIN (37 x 62 x 37)	
20	2090	1500	2120	3430	5420	6180	7140	20810	5940	
22	2100	1530	2130	3400	5490	6280	7430	20790	5850	
24	2110	1560	2140	3370	5560	5870	7120	20750	5770	
26	2120	1590	2150	3340	5630	5720	7120	20680	5680	
28	2130	1610	2160	3320	5700	5700	7380	20610	5600	
30	2130	1630	2160	3290	5220	5220	7340	20510	5510	
32	2140	1650	2160	3260	5170	5280	7290	20400	5430	
34	2150	1670	2150	3240	5110	5230	7230	20270	5340	
36	2150	1680	2150	3220	5060	5190	7190	20110	5260	
38	2160	1700	2150	3200	5000	4930	7090	19920	5190	
40	2160	1710	2160	3180	4950	4830	6930	19700	5110	
42	2160	1720	2160	3160	4890	4730	6760	19470	5030	
44	2160	1730	2160	3140	4840	4640	6610	19180	4960	
46	2170	1740	2160	3120	4790	4570	6430	18890	4880	
48	2170	1740	2160	3100	4740	4510	6230	18580	4810	
50	2170	1750	2160	3080	4700	4460	6030	18270	4740	
52	2170	1760	2160	3070	4650	4380	6050	17950	4680	
54	2170	1760	2160	3050	4610	4300	6050	17620	4620	
56	2170	1770	2170	3040	4570	4280	5820	17280	4560	
58	2170	1770	2170	3030	4530	4240	5730	16980	4500	
60	2180	1780	2170	3020	4500	4200	5630	16680	4450	
62	2180	1780	2170	3010	4460	4160	5530	16410	4400	
64	2180	1790	2170	3000	4430	4130	5460	16110	4350	
66	2180	1790	2170	2990	4400	4100	5350	15820	4300	
68	2180	1800	2170	2980	4370	4070	5250	15520	4250	
70	2180	1800	2170	2970	4350	4040	5250	15220	4200	
72	2180	1810	2170	2960	4320	4010	5150	14920	4150	
74	2180	1810	2170	2950	4290	3980	5120	14680	4100	
76	2180	1820	2170	2940	4270	3960	5060	14480	4050	
78	2180	1820	2170	2930	4240	3930	5010	14280	4000	
80	2180	1830	2170	2920	4220	3910	4970	14080	3950	
82	2190	1830	2170	2910	4170	3880	4870	13880	3900	
84	2190	1840	2170	2900	4140	3860	4770	13680	3850	
86	2190	1840	2180	2890	4080	3820	4670	13480	3800	
88	2190	1850	2180	2880	4050	3780	4580	13280	3750	
90	2190	1850	2180	2870	4030	3760	4490	13080	3700	
92	2190	1850	2180	2860	3990	3740	4400	12880	3650	
94	2190	1850	2180	2850	3960	3710	4310	12680	3600	
96	2190	1860	2180	2840	3930	3670	4220	12480	3550	
98	2190	1860	2180	2830	3880	3650	4130	12280	3500	
100	2190	1860	2180	2820	3830	3610	4040	12080	3450	
102	2200	1870	2180	2810	3770	3590	3950	11880	3400	
104	2200	1870	2180	2800	3740	3570	3860	11680	3350	
106	2200	1880	2180	2790	3700	3550	3770	11480	3300	
108	2200	1880	2180	2780	3650	3530	3680	11280	3250	
110	2200	1890	2180	2770	3610	3510	3590	11080	3200	
112	2200	1890	2180	2760	3560	3490	3500	10880	3150	
114	2200	1890	2180	2750	3510	3470	3410	10680	3100	
116	2200	1890	2180	2740	3460	3450	3320	10480	3050	
118	2200	1900	2180	2730	3410	3430	3230	10280	3000	
120	2200	1900	2180	2720	3360	3410	3140	10080	2950	
122	2200	1900	2180	2710	3310	3390	3050	9880	2900	
124	2200	1900	2180	2700	3260	3370	2960	9680	2850	
126	2200	1900	2180	2690	3210	3350	2870	9480	2800	
128	2200	1900	2180	2680	3160	3330	2780	9280	2750	
130	2200	1900	2180	2670	3110	3310	2690	9080	2700	
132	2200	1900	2180	2660	3060	3290	2600	8880	2650	
134	2200	1900	2180	2650	3010	3270	2510	8680	2600	
136	2200	1900	2180	2640	2960	3250	2420	8480	2550	
138	2200	1900	2180	2630	2910	3230	2330	8280	2500	
140	2200	1900	2180	2620	2860	3210	2240	8080	2450	

Figure 3





**RIGID PAVEMENT EVALUATION INDEX CHART**

Figure 5

$G_f$  = FA for gear configuration 1 - 4

$G_f$  = FB for gear configuration 10

$G_f$  = FC for gear configuration 5 - 9

$G_r$  are the 3 pavement thickness factors for Minimum category;

$G_r$  = FD for gear configuration 1 - 4

$G_r$  = FE for gear configuration 10

$G_r$  = FF for gear configuration 5 - 9

$G_e$  are the 3 pavement thickness factors for Emergency category;

$G_e$  = FG for gear configuration 1 - 4

$G_e$  = FH for gear configuration 10

$G_e$  = FI for gear configuration 5 - 9

and  $FT_i$  are the thickness vs AGL relational factors for each gear configuration and are in the program as data. Depending on the feature, i.e., flexible overlay or rigid pavement, and the flexural strength, the G values are found in stored data within the program.

After the AGL's are computed, the terms are then rounded off in the following manner:

If the AGL is less than 25000 inch-pounds (25 KIPS) round off to the nearest KIP.

If the AGL is between 25 and 300 KIPS, round off to the nearest 5 KIPS.

If the AGL is between 300 and 800 KIPS, round off to the nearest 10 KIPS.

Above 800 KIPS, return a large number (presently set at  $10^9$ ). Above 800 KIPS, pavement will withstand any present AF aircraft loading situation.

#### D. Procedures:

Collection of the data for input to the program is a two-step process. First a pavement evaluation team collects raw data and samples by doing destructive testing and/or sample collection. The collected samples and data are then returned to a soils laboratory to determine specific data to be used as input to this program. The data collected in this manner is then fed into the program for computation of the AGL's.

E. Limitations:

The limitations on the program are as follows:

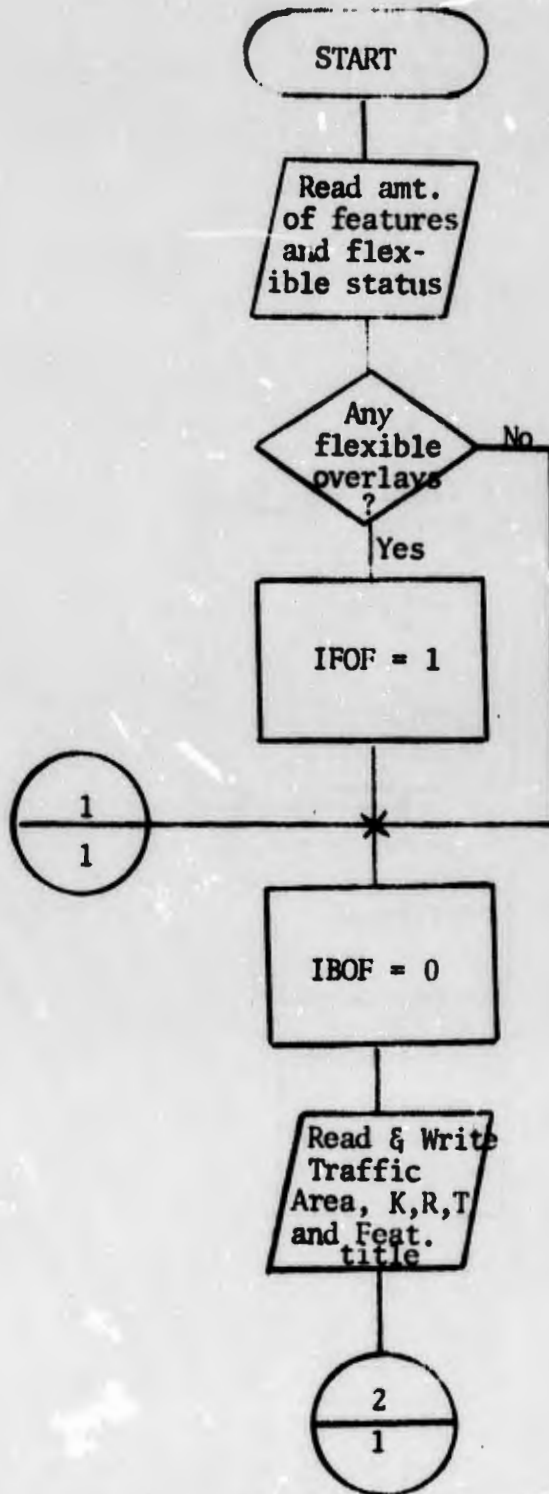
1. A maximum of 999 features can be run during any given program execution.
2. The program applies to the procedures outlined in AFM 88-24 Chapter 3, and to those aircraft in the AF inventory in 1974.
3. The modulus of subgrade reaction must be between 25 and 500 for rigid pavements or between 50 and 500 for flexible overlays.
4. Thickness must be between 6 and 25 inches, inclusive.

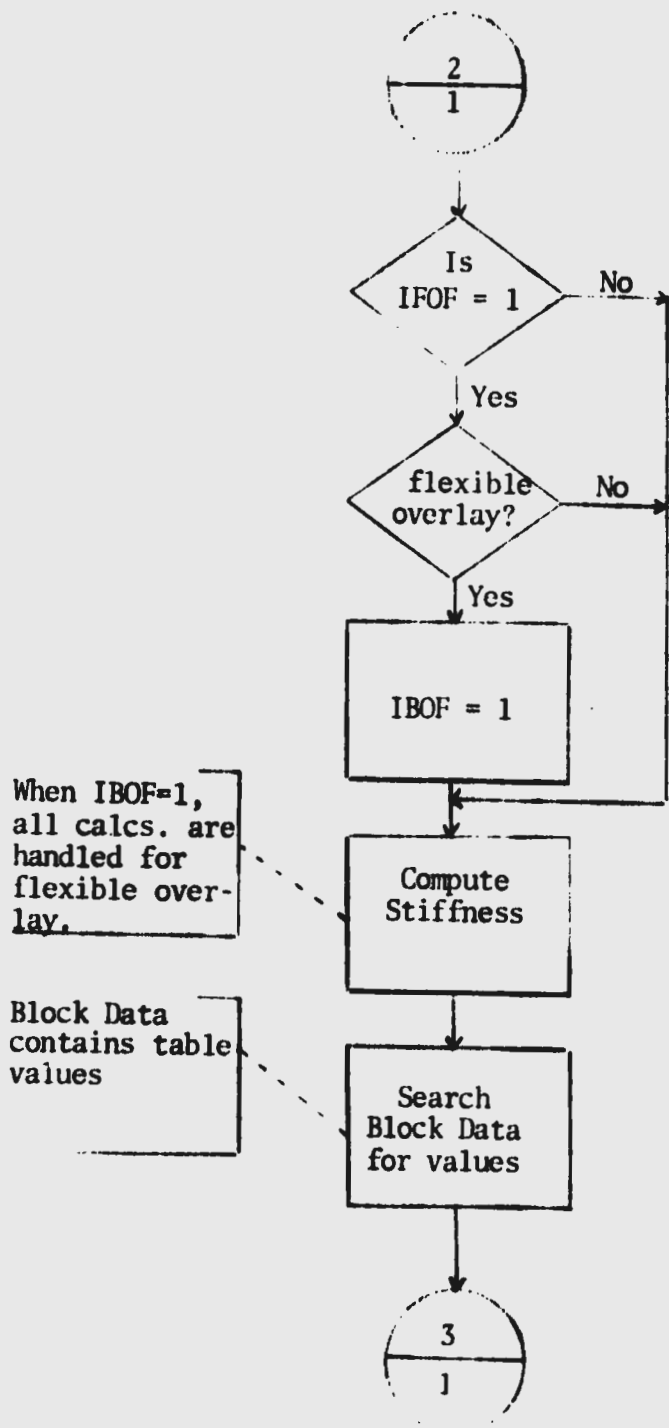
## II. DEFINITION OF PROGRAM VARIABLES

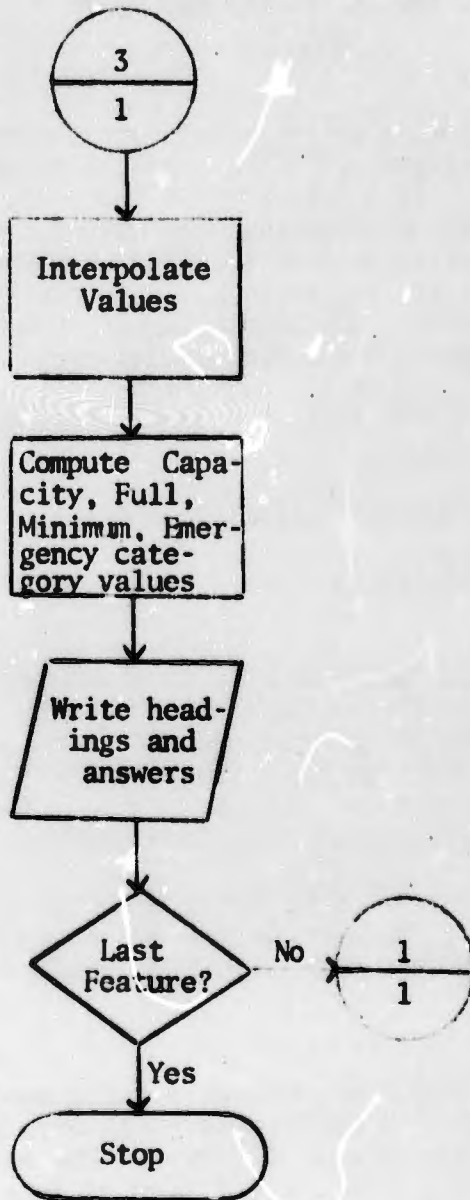
- A(I,J) - array containing load factors for A-type features.  
(figure 2)
- ALF - evaluation index  
(figure 5)
- ANSR - yes for flexible overlays (A3 format)\*
- B(I,J) - array containing load factors for B-type features.  
(figure 3)
- C(I,J) - array containing load factors for C-type features.  
(figure 4)
- D(K) - array containing AGL's for capacity category (output).
- E(K) - array containing AGL's for emergency category (output).
- F(K) - array containing AGL's for full category (output).
- F1(I) - array containing pavement thickness factors.
- G(K) - array containing thickness versus AGL relational  
factors for each gear configuration
- IAREA - feature type (I2 format) 01 for A, 02 for B, 03 for C\*
- KM - modulus of subgrade reaction (I4)\*
- MA - number of features (I3)\*
- R(K) - array containing AGL's for minimum category (output).
- RA - flexural strength (F7.0)\*
- STIFF - radius of relative stiffness
- TH - thickness of pavement (F7.0)\*
- XT(I,S) - array containing data used to compute the evaluation  
index (ALF).
- YK(I,J) - array containing data used to compute pavement thick-  
ness factors (F1(K)).

\*User supplied.

III. PROGRAM FLOWCHART







#### IV. PROGRAM DESCRIPTION

This section is divided into portions dealing with the various routines utilized by the program. The program is written in FORTRAN extended for interactive use. The routines discussed herein are: RIGCAL, RNDOFF, DUB, CHART, FMECAL, FIVALU and BDATA.

##### A. RIGCAL.

This routine is the main program controlling the logic flow through the computational efforts. Input data is read from an interactive terminal (or file substitution through a batch mode). When used interactively, the program asks the user for input as needed. The input for each feature as well as the Allowable Gross Loads (AGL's) for the feature are written to TAPE 5 with carriage control characters for line printer output. The output format, however, is based on an eighty (80) - Column page. Using various data sets and answers from the questions asked, the program can compute AGL's for both rigid pavements and flexible overlays on rigid pavements. All AGL's are output in KIPS (thousand inch pounds).

The subroutines called by RIGCAL are FIVALU, CHART, FMECAL and RNDOFF.

##### B. RNDOFF.

This subroutine is used to round off the AGL's under specified guidelines. If the AGL is less than 25 KIPS, round off the nearest KIP. If  $25 \leq \text{AGL} \leq 300$ , round off to the nearest 5 KIPS. If  $300 \leq \text{AGL} \leq 810$ , round off to the nearest 10 KIPS. This data is then returned to the main program for output. (Note: This routine is not called until all other calculations are completed for a particular test feature.)

This routine calls FUNCTION DUB to perform the specific round off instruction. However, if the AGL is greater than 810 KIPS, RNDOFF returns a number large enough to print an (\*) and all 0's.

##### C. CHART.

This subroutine performs a table search for the correct line of data in one of 3 tables entered through BDATA. An input feature is either A-type, B-type or C-type. The table required is correspondingly A, B, or C. The correct line of data is found from matching the first column of the correct table against the radius of relative stiffness (STIFF) calculated by the main program from input data. Interpolation, if required, is also performed. The values returned are the AGL's for the capacity operational category for the ten gear configurations maintained in the AF inventory (see the definition section for the various categories). No other subroutines are required.

D. FMECAL.

This subroutine computes AGL's for the full, minimum and emergency operational categories as defined in AFR 93-5, para 2-4. All data is transferred through the call statement. No additional subroutines are required.

E. FIVALU.

This subroutine performs a table search to find the pavement thickness factors for each gear configuration. The table search uses column 1 for thickness comparisons and interpolates where required. The F1 values found are used by FMECAL to compute AGL's for the full, minimum and emergency operational categories. The table search uses indices of 1 - 20 for rigid pavements and 21 - 30 for flexible overlays. No other subroutines required.

F. BDATA.

This subroutine enters block data into memory through DATA statements.

V. PROGRAM LISTING

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PROGRAM RIGCAL (INPUT=129,OUTPUT=129,TAPE1,TAPE4=INPUT,
1          TAPES=129,TAPE6=OUTPUT)
C THIS PROGRAM CALCULATES THE ALLOWABLE GROSS LOADS OF AIRCRAFT
C LANDING ON RIGID PAVEMENTS. THE EVALUATION IS MADE IAW AFM
C 88-24,CHPTR 3. INPUT REQUIREMENTS ARE THE TYPE OF TRAFFIC
C AREAS (A,B,C), THE MODULUS OF SUBGRADE REACTION (K), THE FLEX-
C URAL STRENGTH (R), AND THE THICKNESS OF THE FEATURE TO BE EVALUATED
C FURTHER INSTRUCTIONS FOR INPUT ARE FURNISHED DURING EXECUTION.
C THE OUTPUT IS ON THE FILE CALLED TAPES. CALL CAPT HANSON AT AUTO-
C VON 970-2112 OR LT MCCLELLEN AT 970-4212 FOR ADDITIONAL INFO.
COMMON D(10),R(10),E(10),F(10),ALF,STIFF
COMMON /X/G(10)
COMMON /TABLE/A(44,11),B(44,11),C(44,11),XT(20.6),YK(30,10)
DIMENSION F1(9)
DATA (G(I),I=1,10)/1.78,1.92,1.92,1.66,1.29,1.54,1.38,1.34,1.34,1.
X44/
C MA = # OF FEATS TO BE RUN
T6=5LTAPE4
T7=5LTAPE6
CALL CONNec (T6)
CALL CONNec (T7)
WRITE (6,511)
511 FORMAT (1X,*INPUT # OF FEATS--USE 3 SPACES--00X THRU XXX*)
READ 251,MA
WRITE (6,610)
IFOF=0
WRITE (6,940)
251 FORMAT (I3)
READ 941,ANSR
940 FORMAT (* ARE YOU COMPUTING VALUES FOR ANY FLEXIBLE OVERLAY FEAT
URES? (YES OR NO)*)
941 FORMAT (A3)
BANSR=3HYES
CANSR=1MY
IF (ANSR.EQ.BANSR) IFOF=1
IF (ANSR.EQ.CANSR) IFOF=1
DO 250 JA=1,MA
IBOF=0
C ALF=VAL IDEX, STIFF=STIFF FACT. FA THRU FI=F(1) VALUES
WRITE (6,606)
606 FORMAT (1X,/// * INPUT DATA--FEAT TYPE, K, R AND T*)
WRITE (6,603)
603 FORMAT (1X,*USE 2 SP(01,02,03)FOR FEAT TYPE (A,B,C), 4 SP*)
WRITE (6,608)
608 FORMAT (1X,*FOR K(0025 THRU 0500) AND 7 SPACES EACH WITH*)
WRITE (6,621)
621 FORMAT (1X,*DECIMAL FOR R AND T*)
READ 425,IARFA,KM,RA,TH
WRITE (6,610)
425 FORMAT (I2,I4,2F7.0)
WRITE (6,607)
607 FORMAT (1X,/* INPUT FEAT AND BASE INFO--20 SPAC OR LESS*)
READ 10,FEAT,URE,BASE,INFO
IF (IFOF-1)944,942,944
942 WRITE (6,943)
943 FORMAT (* IS THIS FEATURE A FLEXIBLE OVERLAY? (YES,NO)*)
READ 941,ANSR
IF (ANSR.EQ.BANSR)IBOF=1
IF (ANSR.EQ.CANSR)IBOF=1
944 IF (KM.GT.500) WRITE (5,505)KM
IF (KM.GT.500) KM=500
IF ((IBOF.EQ.1).AND.(KM.LT.50)) WRITE (5,503)KM

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IF ((IBOF.EQ.1).AND.(KM.LT.50)) KM=50
IF ((IBOF.NE.1).AND.(KM.LT.25)) WRITE (5,504)KM
IF ((IBOF.NE.1).AND.(KM.LT.25)) KM=25
TK=KM
103 FORMAT (4A5)
STIFF=24.27*((TH**3)/TK)**(.25)
IF (TK-500.) 911,912,912
912 BK=XT(7,6)
AK=XT(7,5)
GO TO 913
C *** SEARCHES TABLE FOR CORRECT LINE OF DATA. ***
911 DO 920 MK=1,7
IF (XT(MK,4)-TK) 920,925,926
926 JJI=MK-1
GO TO 927
925 JJI=MK
GO TO 927
920 CONTINUE
C *** INTERPOLATE FOR CORRECT VALUES ****
927 DK=(TK-XT(JJI,4))/(XT(JJI+1,4)-XT(JJI,4))
AK=(XT(JJI+1,5)-XT(JJI,5))*DK+XT(JJI,5)
BK=(XT(JJI+1,6)-XT(JJI,6))*DK+XT(JJI,6)
913 AIN=(AK-RA)/BK
IF (TH.LT.6.) WRITE (5,501)TH
IF (TH.LT.6.) TH=6.
IF (TH.GT.25.) WRITE (5,502)TH
IF (TH.GT.25.) TH=25.
IF (TH-25.) 950,951,951
951 CALF=XT(20,2)
DALF=XT(20,3)
GO TO 953
C *** SEARCH FOR CORRECT LINE OF DATA ***
950 DO 930 MK=1,20
IF (XT(MK,1)-TH) 930,935,936
936 JM=MK-1
GO TO 937
935 JM=MK
GO TO 937
930 CONTINUE
C *** INTERPOLATE AND COMPUTE EVALUATION INDEX ***
937 DM=(TH-XT(JM,1))/(XT(JM+1,1)-XT(JM,1))
CALF=(XT(JM+1,2)-XT(JM,2))*DM+XT(JM,2)
DALF=(XT(JM+1,3)-XT(JM,3))*DM+XT(JM,3)
953 ALF=CALF-DALF*AIN
IF (IBOF-1) 815,819,815
815 CALL F1VALU(1,20,YK,F1,KM,0)
GO TO 761
819 CALL F1VALU(21,30,YK,F1,KM,1)
761 CONTINUE
C *** COMPUTES CAPACITY CATEGORY ***
GO TO (40,50,60),IAREA
40 CALL CHART(A,STIFF,ALF,D)
GO TO 190
50 CALL CHART(B,STIFF,ALF,D)
GO TO 190
60 CALL CHART(C,STIFF,ALF,D)
190 CONTINUE
414 FORMAT (1X,*CAPACITY*/1X,10F7.0)
610 FORMAT (1X,*THANK YOU*)
C *** COMPUTES FULL, MINIMUM, AND EMERGENCY CATEGORIES ***
150 CALL FMECAL(IAREA,F1(1),F1(4),F1(7),1)
CALL FMECAL(IAREA,F1(2),F1(5),F1(8),2)
CALL FMECAL(IAREA,F1(3),F1(6),F1(9),3)
C *** FOLLOWING STEPS ROUND OFF ANSWERS ***
DO 939 N=1,10
CALL RNDOFF(F(N))

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	CALL RNDOFF(R(N))	001380
	CALL RNDOFF(E(N))	001390
939	CALL RNDOFF(D(N))	001400
	WRITE (5,5) FEAT,URE,BASE,INFO,IAREA,KM,RA,TH	001410
	WRITE (5,414) (D(N),N=1,10)	001420
	WRITE (5,510) (F(N),N=1,10)	001430
	WRITE (5,520) (R(N),N=1,10)	001440
	WRITE (5,530) (E(N),N=1,10)	001450
	WRITE (5,540)	001460
5	FORMAT (1X,*RESULTS*/2X,4A5,I3,I5,2F9.3)	001470
426	FORMAT (1X,11F7.3)	001480
501	FORMAT (1X,*THICK(*,F7.3,*) .LT.6, T RESET TO 6*)	001490
502	FORMAT (1X,*THICK(*,F7.3,*) .GT.25, T RESET TO 25*)	001500
503	FORMAT (1X,*K(*,I4,*) TO BE .GT. 50 FOR FLEX OVERLYS. USED 50*)	001510
504	FORMAT (1X,*K(*,I4,*) TO BE .GT. 25 FOR RIGID PVMNTS. USED 25*)	001520
505	FORMAT (1X,*K(*,I4,*) TO BE .LT. 500. USED 500*)	001530
510	FORMAT (1X,*FULL*/1X,10F7.0)	001540
520	FORMAT (1X,7HMINIMUM/1X,10F7.0)	001550
530	FORMAT (1X,9HEMERGENCY/1X,10F7.0)	001560
540	FORMAT (1H0///)	001570
100	FORMAT (11F6.0)	001580
250	CONTINUE	001590
	CALL DISCON (T6)	001600
	CALL DISCON (T7)	001610
	STOP	001620
	END	001630
	SUBROUTINE RNDOFF(A)	001640
	IF (A-25.)10,20,20	001650
10	RETURN	001660
20	IF(A-30.)15,30,30	001670
15	B=DUB(25,300,5,A)	001680
	A=9	001690
	RETURN	001700
30	IF (A-610.)40,40,50	001710
40	B=DUB(300,610,10,A)	001720
	A=9	001730
	RETURN	001740
50	A=1000000000.	001750
	RETURN	001760
	END	001770
	FUNCTION DUB(I,J,K,A)	001780
	DO 10 L=I,J,K	001790
	T=L	001800
	X=ABS(A-T)	001810
	Z=K	001820
	Y=Z/2.	001830
	IF (X-Y)2,2,10	001840
2	DUB=Y	001850
	RETURN	001860
10	CONTINUE	001870
	RETURN	001880
	END	001890
	SUBROUTINE CHART(BB,STIFF,ALF,D)	001900
	DIMENSION BB(44,11),D(10)	001910
	DO 10 N=1,44	001920
	IF (BB(N,1)-STIFF)10,20,30	001930
30	I=N-1	001940
	GO TO 40	001950
20	I=N	001960
	GO TO 40	001970
10	CONTINUE	001980
40	DO 45 J=2,11	001990
	BC=(BB(I+1,J)-BB(I,J))*(STIFF-BB(I,1))/(BB(I+1,1)-BB(I,1))	002000
	BC=BC+BB(I,J)	002010
45	D(J-1)=ALF*BC/1000.	002020
	RETURN	002030

```

END 002040
SUBROUTINE FMECAL(IAREA,FA,FO,FC,I) 002050
COMMON D(10),R(10),E(10),F(10),ALF,STIFF 002060
COMMON /X/G(10) 002070
DIMENSION AM(10) 002080
DO 10 N=1,10 002090
----- 002100
T=FC 002110
IF (IAREA-2) 15,20,20 002120
15 CONTINUE 002130
GO TO (20,20,20,20,10,10,10,10,10,10),N 002140
18 T=FB 002150
GO TO 10 002160
20 T=FA 002170
10 AM(N)=(1.+T*G(N))*D(N) 002180
IF (I-2)30,40,50 002190
30 DO 35 N=1,10 002200
35 F(N)=AM(N) 002210
RETURN 002220
----- 002230
40 DO 45 N=1,10 002240
45 R(N)=AM(N) 002250
RETURN 002260
50 DO 55 N=1,10 002270
55 E(N)=AM(N) 002280
RETURN 002290
----- 002300
END 002310
SUBROUTINE F1VALU(I,J,YK,F1,KM,IBOF) 002320
DIMENSION YK(30,10),F1(9) 002330
IF (IBOF-1)1,2,1 002340
2 IF (KM-50)100,100,3 002350
3 IF (KM-500)20,10,10 002360
1 IF (KM-25)115,115,4 002370
4 IF (KM-500)20,15,15 002380
10 L=30 002390
GO TO 30 002400
15 L=20 002410
GO TO 30 002420
100 L=21 002430
GO TO 30 002440
115 L=1 002450
GO TO 30 002460
20 DO 40 N=I,J 002470
IF (YK(N,1)-KM)40,67,61 002480
61 L=N-1 002490
GO TO 63 002500
67 L=N 002510
GO TO 63 002520
40 CONTINUE 002530
63 YD=(KM-YK(L,1))/(YK(L+1,1)-YK(L,1)) 002540
30 DO 72 NP=1,9 002550
IF (L-20)70,71,73 002560
73 IF (L-30)70,71,71 002570
71 F1(NP)=YK(L,NP+1) 002580
GO TO 72 002590
70 F1(NP)=(YK(L+1,NP+1)-YK(L,NP+1))*YD+YK(L,NP+1) 002600
72 CONTINUE 002610
RETURN 002620
END 002630
BLOCK DATA 002640
C 002650
C THIS SUBROUTINE SETS UP THE VALUES FOR ACHART, BCHART 002660
C AND GCHART. IT ALSO ESTABLISHES THE DATA BASE FOR EITHER 002670
C COMPUTATIONS ON RIGID PAVEMENTS OR FLEXIBLE OVERLAYS ON 002680
C RIGID PAVEMENTS. IT ALSO ESTABLISHES THE DATA BASE FOR 002690
C COMPUTATIONS OF THE EVALUATION INDEX AND THE STIFFNESS FACTOR 002700
C 002710
C COMMON /TABLE/A(44,11),B(44,11),C(44,11),XT(20,6),YK(30,10) 002720
----- 002730

```

DATA (A( 1,J),J=1,6) /	20., 2090., 1500., 2120., 3430., 4590./	002700
DATA (A( 1,J),J=7,11) /	3350., 5310., 6360., 18020., 5580./	002710
DATA (A( 2,J),J=1,6) /	22., 2100., 1530., 2130., 3400., 4560./	002720
DATA (A( 2,J),J=7,11) /	3320., 5180., 6350., 18000., 5500./	002730
DATA (A( 3,J),J=1,6) /	24., 2110., 1560., 2130., 3370., 4530./	002740
DATA (A( 3,J),J=7,11) /	3280., 5050., 6340., 17970., 5410./	002750
DATA (A( 4,J),J=1,6) /	26., 2120., 1580., 2140., 3340., 4500./	002760
DATA (A( 4,J),J=7,11) /	3250., 4920., 6330., 17920., 5330./	002770
DATA (A( 5,J),J=1,6) /	28., 2130., 1610., 2140., 3320., 4460./	002780
DATA (A( 5,J),J=7,11) /	3220., 4790., 6300., 17850., 5250./	002790
DATA (A( 6,J),J=1,6) /	30., 2130., 1630., 2140., 3290., 4420./	002800
DATA (A( 6,J),J=7,11) /	3190., 4660., 6270., 17760., 5170./	002810
DATA (A( 7,J),J=1,6) /	32., 2140., 1650., 2150., 3260., 4370./	002820
DATA (A( 7,J),J=7,11) /	3160., 4540., 6230., 17660., 5100./	002830
DATA (A( 8,J),J=1,6) /	34., 2150., 1670., 2150., 3240., 4320./	002840
DATA (A( 8,J),J=7,11) /	3130., 4430., 6180., 17550., 5020./	002850
DATA (A( 9,J),J=1,6) /	36., 2150., 1680., 2150., 3220., 4280./	002860
DATA (A( 9,J),J=7,11) /	3100., 4320., 6110., 17410., 4940./	002870
DATA (A(10,J),J=1,6) /	38., 2160., 1700., 2150., 3200., 4230./	002880
DATA (A(10,J),J=7,11) /	3070., 4230., 6020., 17250., 4870./	002890
DATA (A(11,J),J=1,6) /	40., 2160., 1710., 2160., 3180., 4190./	002900
DATA (A(11,J),J=7,11) /	3040., 4150., 5910., 17060., 4800./	002910
DATA (A(12,J),J=1,6) /	42., 2160., 1720., 2160., 3160., 4140./	002920
DATA (A(12,J),J=7,11) /	3020., 4070., 5780., 16840., 4720./	002930
DATA (A(13,J),J=1,6) /	44., 2160., 1730., 2160., 3140., 4090./	002940
DATA (A(13,J),J=7,11) /	2990., 4000., 5650., 16610., 4660./	002950
DATA (A(14,J),J=1,6) /	46., 2170., 1740., 2160., 3120., 4050./	002960
DATA (A(14,J),J=7,11) /	2970., 3940., 5520., 16360., 4590./	002970
DATA (A(15,J),J=1,6) /	48., 2170., 1740., 2160., 3100., 4010./	002980
DATA (A(15,J),J=7,11) /	2950., 3880., 5400., 16090., 4520./	002990
DATA (A(16,J),J=1,6) /	50., 2170., 1750., 2160., 3080., 3970./	003000
DATA (A(16,J),J=7,11) /	2930., 3820., 5280., 15820., 4450./	003010
DATA (A(17,J),J=1,6) /	52., 2170., 1760., 2160., 3070., 3930./	003020
DATA (A(17,J),J=7,11) /	2910., 3770., 5160., 15530., 4390./	003030
DATA (A(18,J),J=1,6) /	54., 2170., 1760., 2160., 3050., 3900./	003040
DATA (A(18,J),J=7,11) /	2890., 3730., 5070., 15240., 4330./	003050
DATA (A(19,J),J=1,6) /	56., 2170., 1770., 2170., 3040., 3870./	003060
DATA (A(19,J),J=7,11) /	2870., 3690., 4970., 14970., 4280./	003070
DATA (A(20,J),J=1,6) /	58., 2170., 1770., 2170., 3030., 3830./	003080
DATA (A(20,J),J=7,11) /	2850., 3650., 4880., 14700., 4230./	003090
DATA (A(21,J),J=1,6) /	60., 2180., 1780., 2170., 3020., 3810./	003100
DATA (A(21,J),J=7,11) /	2830., 3610., 4810., 14450., 4180./	003110
DATA (A(22,J),J=1,6) /	62., 2180., 1780., 2170., 3010., 3780./	003120
DATA (A(22,J),J=7,11) /	2810., 3580., 4740., 14200., 4130./	003130
DATA (A(23,J),J=1,6) /	64., 2180., 1790., 2170., 3000., 3750./	003140
DATA (A(23,J),J=7,11) /	2800., 3550., 4670., 13970., 4090./	003150
DATA (A(24,J),J=1,6) /	66., 2180., 1790., 2170., 2990., 3720./	003160
DATA (A(24,J),J=7,11) /	2780., 3520., 4600., 13760., 4050./	003170
DATA (A(25,J),J=1,6) /	68., 2180., 1800., 2170., 2980., 3700./	003180
DATA (A(25,J),J=7,11) /	2770., 3500., 4540., 13550., 4010./	003190
DATA (A(26,J),J=1,6) /	70., 2180., 1800., 2170., 2970., 3680./	003200
DATA (A(26,J),J=7,11) /	2750., 3470., 4490., 13350., 3970./	003210
DATA (A(27,J),J=1,6) /	72., 2190., 1810., 2170., 2960., 3650./	003220
DATA (A(27,J),J=7,11) /	2740., 3450., 4430., 13160., 3940./	003230
DATA (A(28,J),J=1,6) /	74., 2180., 1810., 2170., 2950., 3630./	003240
DATA (A(28,J),J=7,11) /	2720., 3430., 4370., 12970., 3900./	003250
DATA (A(29,J),J=1,6) /	76., 2180., 1820., 2170., 2940., 3610./	003260
DATA (A(29,J),J=7,11) /	2710., 3410., 4320., 12780., 3870./	003270
DATA (A(30,J),J=1,6) /	78., 2180., 1820., 2170., 2930., 3590./	003280
DATA (A(30,J),J=7,11) /	2700., 3380., 4280., 12600., 3840./	003290
DATA (A(31,J),J=1,6) /	80., 2180., 1830., 2170., 2920., 3570./	003300
DATA (A(31,J),J=7,11) /	2690., 3360., 4240., 12420., 3810./	003310
DATA (A(32,J),J=1,6) /	84., 2190., 1830., 2170., 2910., 3530./	003320
DATA (A(32,J),J=7,11) /	2670., 3320., 4150., 12140., 3760./	003330
DATA (A(33,J),J=1,6) /	88., 2190., 1840., 2180., 2900., 3490./	003340
DATA (A(33,J),J=7,11) /	2650., 3290., 4070., 11870., 3710./	003350

DATA (A(34,J),J=1,6)/	92., 2190., 1840., 2180., 2890., 3450./	003360
DATA (A(34,J),J=7,11)/	2630., 3250., 3990., 11620., 3670./	003370
DATA (A(35,J),J=1,6)/	96., 2190., 1850., 2180., 2880., 3410./	003380
DATA (A(35,J),J=7,11)/	2610., 3220., 3920., 11390., 3630./	003390
DATA (A(36,J),J=1,6)/	100., 2190., 1850., 2180., 2870., 3380./	003400
DATA (A(36,J),J=7,11)/	2590., 3190., 3850., 11190., 3590./	003410
DATA (A(37,J),J=1,6)/	105., 2190., 1850., 2180., 2860., 3330./	003420
DATA (A(37,J),J=7,11)/	2570., 3160., 3780., 10990., 3550./	003430
DATA (A(38,J),J=1,6)/	110., 2190., 1860., 2180., 2850., 3280./	003440
DATA (A(38,J),J=7,11)/	2560., 3130., 3700., 10800., 3510./	003450
DATA (A(39,J),J=1,6)/	115., 2190., 1860., 2180., 2840., 3240./	003460
DATA (A(39,J),J=7,11)/	2550., 3110., 3620., 10620., 3480./	003470
DATA (A(40,J),J=1,6)/	120., 2200., 1870., 2180., 2830., 3200./	003480
DATA (A(40,J),J=7,11)/	2540., 3090., 3560., 10450., 3450./	003490
DATA (A(41,J),J=1,6)/	125., 2200., 1870., 2180., 2820., 3160./	003500
DATA (A(41,J),J=7,11)/	2540., 3070., 3500., 10300., 3430./	003510
DATA (A(42,J),J=1,6)/	130., 2200., 1880., 2180., 2820., 3120./	003520
DATA (A(42,J),J=7,11)/	2530., 3050., 3450., 10160., 3410./	003530
DATA (A(43,J),J=1,6)/	135., 2200., 1890., 2180., 2810., 3080./	003540
DATA (A(43,J),J=7,11)/	2530., 3040., 3400., 10040., 3390./	003550
DATA (A(44,J),J=1,6)/	140., 2200., 1890., 2180., 2810., 3050./	003560
DATA (A(44,J),J=7,11)/	2530., 3030., 3350., 9950., 3380./	003570
DATA (B( 1,J),J=1,5)/	20., 2090., 1500., 2120., 3430./	003580
DATA (B( 1,K),K=6,11)/	5420., 3990., 6180., 7440., 20810., 5940./	003590
DATA (B( 2,J),J=1,5)/	22., 2100., 1530., 2130., 3400./	003600
DATA (B( 2,K),K=6,11)/	5390., 3950., 6020., 7430., 20790., 5850./	003610
DATA (B( 3,J),J=1,5)/	24., 2110., 1560., 2130., 3370./	003620
DATA (B( 3,K),K=6,11)/	5360., 3910., 5870., 7420., 20750., 5770./	003630
DATA (B( 4,J),J=1,5)/	26., 2120., 1580., 2140., 3340./	003640
DATA (B( 4,K),K=6,11)/	5320., 3870., 5720., 7410., 20690., 5680./	003650
DATA (B( 5,J),J=1,5)/	28., 2130., 1610., 2140., 3320./	003660
DATA (B( 5,K),K=6,11)/	5270., 3830., 5570., 7380., 20610., 5600./	003670
DATA (B( 6,J),J=1,5)/	30., 2130., 1630., 2140., 3290./	003680
DATA (B( 6,K),K=6,11)/	5220., 3800., 5420., 7340., 20510., 5510./	003690
DATA (B( 7,J),J=1,5)/	32., 2140., 1650., 2150., 3260./	003700
DATA (B( 7,K),K=6,11)/	5170., 3770., 5280., 7290., 20400., 5430./	003710
DATA (B( 8,J),J=1,5)/	34., 2150., 1670., 2150., 3240./	003720
DATA (B( 8,K),K=6,11)/	5110., 3730., 5150., 7230., 20270., 5340./	003730
DATA (B( 9,J),J=1,5)/	36., 2150., 1680., 2150., 3220./	003740
DATA (B( 9,K),K=6,11)/	5060., 3690., 5040., 7190., 20110., 5260./	003750
DATA (B(10,J),J=1,5)/	38., 2160., 1700., 2150., 3200./	003760
DATA (B(10,K),K=6,11)/	5000., 3660., 4930., 7090., 19920., 5190./	003770
DATA (B(11,J),J=1,5)/	40., 2160., 1710., 2160., 3180./	003780
DATA (B(11,K),K=6,11)/	4950., 3630., 4830., 6920., 19700., 5110./	003790
DATA (B(12,J),J=1,5)/	42., 2160., 1720., 2160., 3160./	003800
DATA (B(12,K),K=6,11)/	4890., 3600., 4730., 6760., 19450., 5030./	003810
DATA (B(13,J),J=1,5)/	44., 2160., 1730., 2160., 3140./	003820
DATA (B(13,K),K=6,11)/	4840., 3570., 4640., 6610., 19180., 4960./	003830
DATA (B(14,J),J=1,5)/	46., 2170., 1740., 2160., 3120./	003840
DATA (B(14,K),K=6,11)/	4790., 3540., 4570., 6460., 18890., 4880./	003850
DATA (B(15,J),J=1,5)/	48., 2170., 1740., 2160., 3100./	003860
DATA (B(15,K),K=6,11)/	4740., 3510., 4510., 6320., 18550., 4810./	003870
DATA (B(16,J),J=1,5)/	50., 2170., 1750., 2160., 3080./	003880
DATA (B(16,K),K=6,11)/	4700., 3490., 4440., 6180., 18260., 4740./	003890
DATA (B(17,J),J=1,5)/	52., 2170., 1760., 2160., 3070./	003900
DATA (B(17,K),K=6,11)/	4650., 3460., 4380., 6050., 17930., 4680./	003910
DATA (B(18,J),J=1,5)/	54., 2170., 1760., 2160., 3050./	003920
DATA (B(18,K),K=6,11)/	4610., 3440., 4330., 5930., 17600., 4620./	003930
DATA (B(19,J),J=1,5)/	56., 2170., 1770., 2170., 3040./	003940
DATA (B(19,K),K=6,11)/	4570., 3420., 4280., 5820., 17280., 4560./	003950
DATA (B(20,J),J=1,5)/	58., 2170., 1770., 2170., 3030./	003960
DATA (B(20,K),K=6,11)/	4530., 3400., 4240., 5720., 16980., 4500./	003970
DATA (B(21,J),J=1,5)/	60., 2180., 1780., 2170., 3020./	003980
DATA (B(21,K),K=6,11)/	4500., 3370., 4200., 5630., 16690., 4450./	003990
DATA (B(22,J),J=1,5)/	62., 2180., 1780., 2170., 3010./	004000
DATA (B(22,K),K=6,11)/	4460., 3350., 4160., 5540., 16410., 4400./	004010

DATA (B(23,J),J=1,5)/	64., 2180., 1790., 2170., 3000./	004020
DATA (B(23,K),K=6,11)/	4430., 3330., 4130., 5460.,16140., 4350./	004030
DATA (B(24,J),J=1,5)/	66., 2180., 1790., 2170., 2990./	004040
DATA (B(24,K),K=6,11)/	4400., 3310., 4100., 5390.,15890., 4310./	004050
DATA (B(25,J),J=1,5)/	68., 2180., 1800., 2170., 2980./	004060
DATA (B(25,K),K=6,11)/	4370., 3300., 4070., 5320.,15650., 4270./	004070
DATA (B(26,J),J=1,5)/	70., 2180., 1800., 2170., 2970./	004080
DATA (B(26,K),K=6,11)/	4350., 3280., 4040., 5250.,15420., 4230./	004090
DATA (B(27,J),J=1,5)/	72., 2180., 1810., 2170., 2960./	004100
DATA (B(27,K),K=6,11)/	4320., 3260., 4010., 5180.,15200., 4190./	004110
DATA (B(28,J),J=1,5)/	74., 2180., 1810., 2170., 2950./	004120
DATA (B(28,K),K=6,11)/	4290., 3240., 3980., 5120.,14980., 4150./	004130
DATA (B(29,J),J=1,5)/	76., 2180., 1820., 2170., 2940./	004140
DATA (B(29,K),K=6,11)/	4270., 3230., 3960., 5060.,14760., 4120./	004150
DATA (B(30,J),J=1,5)/	78., 2180., 1820., 2170., 2930./	004160
DATA (B(30,K),K=6,11)/	4240., 3210., 3930., 5010.,14550., 4090./	004170
DATA (B(31,J),J=1,5)/	80., 2180., 1830., 2170., 2920./	004180
DATA (B(31,K),K=6,11)/	4220., 3200., 3910., 4970.,14340., 4060./	004190
DATA (B(32,J),J=1,5)/	84., 2190., 1830., 2170., 2910./	004200
DATA (B(32,K),K=6,11)/	4170., 3170., 3860., 4870.,14020., 4010./	004210
DATA (B(33,J),J=1,5)/	88., 2190., 1840., 2180., 2900./	004220
DATA (B(33,K),K=6,11)/	4120., 3140., 3820., 4770.,13710., 3960./	004230
DATA (B(34,J),J=1,5)/	92., 2190., 1840., 2180., 2890./	004240
DATA (B(34,K),K=6,11)/	4080., 3120., 3780., 4680.,13420., 3910./	004250
DATA (B(35,J),J=1,5)/	96., 2190., 1850., 2180., 2880./	004260
DATA (B(35,K),K=6,11)/	4030., 3100., 3740., 4590.,13150., 3870./	004270
DATA (B(36,J),J=1,5)/	100., 2190., 1850., 2180., 2870./	004280
DATA (B(36,K),K=6,11)/	3990., 3080., 3710., 4510.,12920., 3830./	004290
DATA (B(37,J),J=1,5)/	105., 2190., 1850., 2180., 2860./	004300
DATA (B(37,K),K=6,11)/	3930., 3060., 3650., 4420.,12690., 3790./	004310
DATA (B(38,J),J=1,5)/	110., 2190., 1860., 2180., 2850./	004320
DATA (B(38,K),K=6,11)/	3880., 3050., 3640., 4330.,12470., 3740./	004330
DATA (B(39,J),J=1,5)/	115., 2190., 1860., 2180., 2840./	004340
DATA (B(39,K),K=6,11)/	3830., 3040., 3610., 4250.,12260., 3700./	004350
DATA (B(40,J),J=1,5)/	120., 2200., 1870., 2180., 2830./	004360
DATA (B(40,K),K=6,11)/	3780., 3030., 3590., 4170.,12070., 3670./	004370
DATA (B(41,J),J=1,5)/	125., 2200., 1870., 2180., 2820./	004380
DATA (B(41,K),K=6,11)/	3740., 3030., 3570., 4100.,11890., 3650./	004390
DATA (B(42,J),J=1,5)/	130., 2200., 1880., 2180., 2820./	004400
DATA (B(42,K),K=6,11)/	3690., 3020., 3550., 4040.,11730., 3630./	004410
DATA (B(43,J),J=1,5)/	135., 2200., 1890., 2180., 2810./	004420
DATA (B(43,K),K=6,11)/	3650., 3020., 3530., 3980.,11600., 3620./	004430
DATA (B(44,J),J=1,5)/	140., 2200., 1890., 2180., 2810./	004440
DATA (B(44,K),K=6,11)/	3610., 3010., 3520., 3920.,11490., 3610./	004450
DATA (C( 1,K),K=1,6)/	20., 2790., 2000., 2830., 4570., 7230./	004460
DATA (C( 1,K),K=7,11)/	5320., 8240., 9920.,27740., 7920./	004470
DATA (C( 2,K),K=1,6)/	22., 2800., 2040., 2840., 4530., 7190./	004480
DATA (C( 2,K),K=7,11)/	5270., 8030., 9910.,27710., 7800./	004490
DATA (C( 3,K),K=1,6)/	24., 2810., 2080., 2840., 4490., 7150./	004500
DATA (C( 3,K),K=7,11)/	5210., 7830., 9890.,27660., 7690./	004510
DATA (C( 4,K),K=1,6)/	26., 2830., 2110., 2850., 4450., 7090./	004520
DATA (C( 4,K),K=7,11)/	5160., 7630., 9880.,27580., 7570./	004530
DATA (C( 5,K),K=1,6)/	28., 2840., 2150., 2860., 4430., 7030./	004540
DATA (C( 5,K),K=7,11)/	5110., 7430., 9830.,27470., 7470./	004550
DATA (C( 6,K),K=1,6)/	30., 2840., 2170., 2860., 4390., 6960./	004560
DATA (C( 6,K),K=7,11)/	5070., 7230., 9790.,27340., 7350./	004570
DATA (C( 7,K),K=1,6)/	32., 2950., 2200., 2860., 4350., 6890./	004580
DATA (C( 7,K),K=7,11)/	5030., 7040., 9720.,27190., 7240./	004590
DATA (C( 8,K),K=1,6)/	34., 2870., 2230., 2870., 4320., 6810./	004600
DATA (C( 8,K),K=7,11)/	4970., 6870., 9640.,27020., 7120./	004610
DATA (C( 9,K),K=1,6)/	36., 2870., 2240., 2870., 4290., 6750./	004620
DATA (C( 9,K),K=7,11)/	4920., 6720., 9540.,26810., 7010./	004630
DATA (C(10,K),K=1,6)/	38., 2880., 2270., 2870., 4270., 6670./	004640
DATA (C(10,K),K=7,11)/	4880., 6570., 9400.,26550., 6920./	004650
DATA (C(11,K),K=1,6)/	40., 2830., 2280., 2870., 4240., 6600./	004660
DATA (C(11,K),K=7,11)/	4840., 6440., 9230.,26260., 6810./	004670

DATA (C(12,K),K=1,6)/	42.,	2880.,	2290.,	2880.,	4210.,	6520./	004680
DATA (C(12,K),K=7,11)/	4800.,	6310.,	9020.,	25430.,	6710./		004690
DATA (C(13,K),K=1,6)/	44.,	2890.,	2310.,	2880.,	4190.,	6450./	004700
DATA (C(13,K),K=7,11)/	4760.,	6190.,	8810.,	25570.,	6610./		004710
DATA (C(14,K),K=1,6)/	46.,	2890.,	2320.,	2880.,	4160.,	6390./	004720
DATA (C(14,K),K=7,11)/	4720.,	6090.,	8620.,	25180.,	6510./		004730
DATA (C(15,K),K=1,6)/	48.,	2890.,	2320.,	2880.,	4130.,	6320./	004740
DATA (C(15,K),K=7,11)/	4680.,	6010.,	8430.,	24770.,	6410./		004750
DATA (C(16,K),K=1,6)/	50.,	2890.,	2330.,	2880.,	4110.,	6270./	004760
DATA (C(16,K),K=7,11)/	4650.,	5920.,	8240.,	24340.,	6320./		004770
DATA (C(17,K),K=1,6)/	52.,	2890.,	2350.,	2880.,	4090.,	6200./	004780
DATA (C(17,K),K=7,11)/	4610.,	5840.,	8060.,	23900.,	6240./		004790
DATA (C(18,K),K=1,6)/	54.,	2890.,	2350.,	2890.,	4070.,	6150./	004800
DATA (C(18,K),K=7,11)/	4590.,	5770.,	7900.,	23460.,	6160./		004810
DATA (C(19,K),K=1,6)/	56.,	2890.,	2360.,	2890.,	4050.,	6090./	004820
DATA (C(19,K),K=7,11)/	4560.,	5710.,	7760.,	23030.,	6080./		004830
DATA (C(20,K),K=1,6)/	58.,	2890.,	2360.,	2890.,	4040.,	6040./	004840
DATA (C(20,K),K=7,11)/	4530.,	5650.,	7630.,	22630.,	6000./		004850
DATA (C(21,K),K=1,6)/	60.,	2910.,	2370.,	2890.,	4030.,	6000./	004860
DATA (C(21,K),K=7,11)/	4490.,	5600.,	7510.,	22250.,	5930./		004870
DATA (C(22,K),K=1,6)/	62.,	2910.,	2370.,	2890.,	4010.,	5950./	004880
DATA (C(22,K),K=7,11)/	4470.,	5550.,	7390.,	21870.,	5870./		004890
DATA (C(23,K),K=1,6)/	64.,	2910.,	2390.,	2890.,	4000.,	5910./	004900
DATA (C(23,K),K=7,11)/	4440.,	5510.,	7280.,	21510.,	5800./		004910
DATA (C(24,K),K=1,6)/	66.,	2910.,	2390.,	2890.,	3990.,	5870./	004920
DATA (C(24,K),K=7,11)/	4410.,	5470.,	7180.,	21180.,	5750./		004930
DATA (C(25,K),K=1,6)/	68.,	2910.,	2400.,	2890.,	3970.,	5830./	004940
DATA (C(25,K),K=7,11)/	4400.,	5430.,	7090.,	20860.,	5690./		004950
DATA (C(26,K),K=1,6)/	70.,	2910.,	2400.,	2890.,	3960.,	5800./	004960
DATA (C(26,K),K=7,11)/	4370.,	5390.,	7000.,	20560.,	5640./		004970
DATA (C(27,K),K=1,6)/	72.,	2910.,	2410.,	2900.,	3950.,	5760./	004980
DATA (C(27,K),K=7,11)/	4350.,	5350.,	6910.,	20260.,	5590./		004990
DATA (C(28,K),K=1,6)/	74.,	2910.,	2410.,	2900.,	3930.,	5720./	005000
DATA (C(28,K),K=7,11)/	4320.,	5310.,	6830.,	19970.,	5530./		005010
DATA (C(29,K),K=1,6)/	76.,	2910.,	2430.,	2900.,	3920.,	5690./	005020
DATA (C(29,K),K=7,11)/	4310.,	5280.,	6750.,	19680.,	5490./		005030
DATA (C(30,K),K=1,6)/	78.,	2910.,	2430.,	2900.,	3910.,	5650./	005040
DATA (C(30,K),K=7,11)/	4280.,	5240.,	6680.,	19390.,	5450./		005050
DATA (C(31,K),K=1,6)/	80.,	2910.,	2440.,	2900.,	3890.,	5630./	005060
DATA (C(31,K),K=7,11)/	4270.,	5210.,	6620.,	19120.,	5410./		005070
DATA (C(32,K),K=1,6)/	84.,	2920.,	2440.,	2900.,	3880.,	5560./	005080
DATA (C(32,K),K=7,11)/	4230.,	5150.,	6470.,	18690.,	5350./		005090
DATA (C(33,K),K=1,6)/	88.,	2920.,	2450.,	2900.,	3870.,	5490./	005100
DATA (C(33,K),K=7,11)/	4190.,	5090.,	6350.,	18280.,	5280./		005110
DATA (C(34,K),K=1,6)/	92.,	2920.,	2450.,	2900.,	3850.,	5440./	005120
DATA (C(34,K),K=7,11)/	4160.,	5040.,	6230.,	17890.,	5210./		005130
DATA (C(35,K),K=1,6)/	96.,	2920.,	2470.,	2900.,	3840.,	5370./	005140
DATA (C(35,K),K=7,11)/	4130.,	4990.,	6130.,	17530.,	5160./		005150
DATA (C(36,K),K=1,6)/	100.,	2920.,	2470.,	2900.,	3830.,	5320./	005160
DATA (C(36,K),K=7,11)/	4110.,	4950.,	6010.,	17220.,	5110./		005170
DATA (C(37,K),K=1,6)/	105.,	2920.,	2470.,	2900.,	3810.,	5240./	005180
DATA (C(37,K),K=7,11)/	4080.,	4910.,	5830.,	16910.,	5050./		005190
DATA (C(38,K),K=1,6)/	110.,	2920.,	2480.,	2910.,	3800.,	5170./	005200
DATA (C(38,K),K=7,11)/	4070.,	4850.,	5730.,	16620.,	4990./		005210
DATA (C(39,K),K=1,6)/	115.,	2930.,	2480.,	2910.,	3790.,	5110./	005220
DATA (C(39,K),K=7,11)/	4050.,	4810.,	5660.,	16350.,	4930./		005230
DATA (C(40,K),K=1,6)/	120.,	2930.,	2490.,	2910.,	3770.,	5040./	005240
DATA (C(40,K),K=7,11)/	4040.,	4790.,	5550.,	16090.,	4890./		005250
DATA (C(41,K),K=1,6)/	125.,	2930.,	2490.,	2910.,	3760.,	4990./	005260
DATA (C(41,K),K=7,11)/	4040.,	4760.,	5460.,	15850.,	4870./		005270
DATA (C(42,K),K=1,6)/	130.,	2930.,	2510.,	2910.,	3760.,	4920./	005280
DATA (C(42,K),K=7,11)/	4030.,	4730.,	5380.,	15640.,	4840./		005290
DATA (C(43,K),K=1,6)/	135.,	2930.,	2520.,	2910.,	3750.,	4870./	005300
DATA (C(43,K),K=7,11)/	4030.,	4710.,	5300.,	15460.,	4830./		005310
DATA (C(44,K),K=1,6)/	140.,	2930.,	2520.,	2910.,	3750.,	4810./	005320
DATA (C(44,K),K=7,11)/	4010.,	4690.,	5230.,	15310.,	4810./		005330

DATA (YK ( 1,K),K=1,5)/25.000,	.070,	.150,	.225,	.035/	005340
DATA (YK ( 1,K),K=6,10) /	.095,	.170,	.070,	.130, .210/	005350
DATA (YK ( 2,K),K=1,5)/50.000,	.100,	.215,	.360,	.050/	005360
DATA (YK ( 2,K),K=6,10) /	.135,	.245,	.090,	.175, .295/	005370
DATA (YK ( 3,K),K=1,5)/75.000,	.130,	.275,	.460,	.065/	005380
DATA (YK ( 3,K),K=6,10) /	.165,	.310,	.105,	.205, .360/	005390
DATA (YK ( 4,K),K=1,5)/100.00,	.155,	.330,	.530,	.080/	005400
DATA (YK ( 4,K),K=6,10) /	.190,	.350,	.120,	.230, .410/	005410
DATA (YK ( 5,K),K=1,5)/125.00,	.175,	.365,	.595,	.090/	005420
DATA (YK ( 5,K),K=6,10) /	.210,	.385,	.130,	.255, .440/	005430
DATA (YK ( 6,K),K=1,5)/150.00,	.190,	.390,	.640,	.100/	005440
DATA (YK ( 6,K),K=6,10) /	.225,	.410,	.137,	.274, .470/	005450
DATA (YK ( 7,K),K=1,5)/175.00,	.210,	.410,	.680,	.110/	005460
DATA (YK ( 7,K),K=6,10) /	.240,	.430,	.145,	.290, .490/	005470
DATA (YK ( 8,K),K=1,5)/200.00,	.220,	.430,	.710,	.115/	005480
DATA (YK ( 8,K),K=6,10) /	.250,	.460,	.190,	.300, .510/	005490
DATA (YK ( 9,K),K=1,5)/225.00,	.235,	.450,	.740,	.125/	005500
DATA (YK ( 9,K),K=6,10) /	.260,	.475,	.160,	.310, .530/	005510
DATA (YK (10,K),K=1,5)/250.00,	.245,	.465,	.775,	.130/	005520
DATA (YK (10,K),K=6,10) /	.270,	.500,	.165,	.320, .550/	005530
DATA (YK (11,K),K=1,5)/275.00,	.255,	.485,	.810,	.135/	005540
DATA (YK (11,K),K=6,10) /	.275,	.520,	.170,	.327, .570/	005550
DATA (YK (12,K),K=1,5)/300.00,	.265,	.505,	.855,	.140/	005560
DATA (YK (12,K),K=6,10) /	.280,	.540,	.175,	.335, .590/	005570
DATA (YK (13,K),K=1,5)/325.00,	.275,	.530,	.900,	.148/	005580
DATA (YK (13,K),K=6,10) /	.290,	.560,	.180,	.340, .620/	005590
DATA (YK (14,K),K=1,5)/350.00,	.285,	.550,	.960,	.150/	005600
DATA (YK (14,K),K=6,10) /	.300,	.590,	.185,	.350, .640/	005610
DATA (YK (15,K),K=1,5)/375.00,	.295,	.580,	1.030,	.155/	005620
DATA (YK (15,K),K=6,10) /	.315,	.620,	.190,	.365, .670/	005630
DATA (YK (16,K),K=1,5)/400.00,	.310,	.610,	1.140,	.160/	005640
DATA (YK (16,K),K=6,10) /	.330,	.650,	.195,	.380, .705/	005650
DATA (YK (17,K),K=1,5)/425.00,	.325,	.640,	1.200,	.165/	005660
DATA (YK (17,K),K=6,10) /	.345,	.680,	.200,	.390, .740/	005670
DATA (YK (18,K),K=1,5)/450.00,	.340,	.675,	1.200,	.168/	005680
DATA (YK (18,K),K=6,10) /	.360,	.720,	.205,	.410, .780/	005690
DATA (YK (19,K),K=1,5)/475.00,	.355,	.720,	1.200,	.170/	005700
DATA (YK (19,K),K=6,10) /	.380,	.760,	.210,	.435, .820/	005710
DATA (YK (20,K),K=1,5)/500.00,	.370,	.770,	1.200,	.175/	005720
DATA (YK (20,K),K=6,10) /	.405,	.810,	.215,	.460, .870/	005730
DATA (YK (21,K),K=1,5)/50.000,	.105,	.255,	.500,	.032/	005740
DATA (YK (21,K),K=6,10) /	.150,	.320,	.079,	.200, .390/	005750
DATA (YK (22,K),K=1,5)/100.00,	.170,	.430,	.960,	.045/	005760
DATA (YK (22,K),K=6,10) /	.225,	.520,	.100,	.290, .570/	005770
DATA (YK (23,K),K=1,5)/150.00,	.212,	.560,	1.290,	.053/	005780
DATA (YK (23,K),K=6,10) /	.270,	.650,	.120,	.350, .720/	005790
DATA (YK (24,K),K=1,5)/200.00,	.233,	.660,	1.570,	.060/	005800
DATA (YK (24,K),K=6,10) /	.300,	.740,	.130,	.380, .820/	005810
DATA (YK (25,K),K=1,5)/250.00,	.250,	.770,	2.100,	.064/	005820
DATA (YK (25,K),K=6,10) /	.330,	.830,	.140,	.420, .950/	005830
DATA (YK (26,K),K=1,5)/300.00,	.280,	.920,	3.000,	.069/	005840
DATA (YK (26,K),K=6,10) /	.370,	.980,	.160,	.480, 1.200/	005850
DATA (YK (27,K),K=1,5)/350.00,	.320,	1.150,	3.000,	.077/	005860
DATA (YK (27,K),K=6,10) /	.450,	1.200,	.175,	.560, 1.450/	005870
DATA (YK (28,K),K=1,5)/400.00,	.385,	1.580,	3.000,	.090/	005880
DATA (YK (28,K),K=6,10) /	.550,	1.650,	.190,	.670, 2.150/	005890
DATA (YK (29,K),K=1,5)/450.00,	.500,	2.450,	3.000,	.110/	005900
DATA (YK (29,K),K=6,10) /	.700,	3.000,	.230,	.870, 3.000/	005910
DATA (YK (30,K),K=1,5)/500.00,	.760,	3.000,	3.000,	.130/	005920
DATA (YK (30,K),K=6,10) /	.960,	3.000,	.280,	1.300, 3.000/	005930
DATA (XT ( 1,K),K=1,6) /	6.,	14.,	.04,	25., 820., 2.15/	005940
DATA (XT ( 2,K),K=1,6) /	7.,	18.,	.05,	50., 755., 2.1 /	005950
DATA (XT ( 3,K),K=1,6) /	8.,	22.,	.06,	100., 695., 1.9 /	005960
DATA (XT ( 4,K),K=1,6) /	9.,	27.,	.08,	200., 633., 1.75/	005970
DATA (XT ( 5,K),K=1,6) /	10.,	31.,	.09,	300., 555., 1.5 /	005980
DATA (XT ( 6,K),K=1,6) /	11.,	36.,	.1,	400., 480., 1.35/	005990

DATA (XT ( 7,K),K=1,6)/	12.,	41.,	.11,	500.,	395.,	1.23/	006000
DATA (XT ( 8,K),K=1,6)/	13.,	47.,	.13,	0.,	0.,	0./	006010
DATA (XT ( 9,K),K=1,6)/	14.,	54.,	.15,	0.,	0.,	0./	006020
DATA (XT (10,K),K=1,6)/	15.,	59.,	.17,	0.,	0.,	0./	006030
DATA (XT (11,K),K=1,6)/	16.,	66.,	.19,	0.,	0.,	0./	006040
DATA (XT (12,K),K=1,6)/	17.,	73.,	.21,	0.,	0.,	0./	006050
DATA (XT (13,K),K=1,6)/	18.,	80.,	.225,	0.,	0.,	0./	006060
DATA (XT (14,K),K=1,6)/	19.,	87.,	.25,	0.,	0.,	0./	006070
DATA (XT (15,K),K=1,6)/	20.,	94.,	.26,	0.,	0.,	0./	006080
DATA (XT (16,K),K=1,6)/	21.,	103.,	.29,	0.,	0.,	0./	006090
DATA (XT (17,K),K=1,6)/	22.,	111.,	.305,	0.,	0.,	0./	006100
DATA (XT (18,K),K=1,6)/	23.,	121.,	.34,	0.,	0.,	0./	006110
DATA (XT (19,K),K=1,6)/	24.,	129.,	.35,	0.,	0.,	0./	006120
DATA (XT (20,K),K=1,6)/	25.,	138.,	.33,	0.,	0.,	0./	006130
END							006140

IOBC000 //// END OF LIST ON LP 16 AT 10.40.12.ON 20/11/74 ////

#####

## VI. PROGRAM USAGE

### A. Data Input.

Note: All numerical fields must be right justified.

<u>CARD NO.</u>	<u>DESCRIPTION</u>
1	Number of features (I3 format) 001 thru 999.
2	Are flexible overlay features being computed (Yes, No) (A3 format).

Cards 3 & 4 (and 5 where required) form a repeating set. One set required for each feature evaluated.

3 "Traffic area type, K, R, and T" Card

a. Entered via remote terminal when program displays a message requesting traffic area type K, R, and T.

b. Card layout.

Col 1 - 2 TRAFFIC AREA TYPE - Use following Code:

Type "A" - enter "01"

Type "B" - enter "02"

Type "C" - enter "03"

Col 3 - 6 MODULUS OF SUBGRADE REACTION (K) - enter values from "0025" to "0500" for rigid pavements "0050" to "0500" for flexible overlays.

Col 7-13 FLEXURAL STRENGTH (R) - Must be a value of six digits and include a decimal point. Leading zeroes and zeroes trailing to the right of the decimal point may be omitted.

Col 14-20 Thickness (or equivalent thickness) (T) (inches)  
Same format as flexural strength. Enter equivalent thickness only when flexible overlay is being evaluated.

$$6 \leq T \leq 25$$

4 "FEATURE AND BASE INFORMATION" CARD

a. Entered via remote terminal when program displays a message requesting base and feature information.

CARD NO.

DESCRIPTION

b. CARD LAYOUT

Col 1-20 FEAT, AND BASE INFO - Enter identifying information for heading purposes.

5 (Used only if answer to #2 was yes) Is this a flexible overlay (yes, no) (A3 Format).

B. Program Run Instructions.

1. Initially the program, during execution, will ask the following questions or prompt the user for the information.

(a) Input # of features - use 3 spaces - 00X thru XXX (this sets up the looping for each feature 1 thru 999 sets of calculations can be performed).

(b) Are you computing values for any flexible overlay features? (Yes, No) (if Yes, the program will prompt the user after each feature for additional information).

2. At this point, the program enters the calculation loop. The program prompts the user for the following for each feature.

(a) Input Data - Feat Type, K, R, and T use 2 Sp (01, 02, 03) FOR FEAT TYPE (A, B, C), 4 SP FOR K (0025 thru 0500) and 7 SPACES EACH WITH DECIMAL FOR R AND T. (User inputs data IAW Section A, Card 3).

(1) Input feat and base info - 20 SPAC or less (user inputs information data to be printed in the answer - not used for calculations).

(2) If the answer to question 1 was "yes", then the program asks this question:

Is this a flexible overlay? (Yes, No)

When statement #2a shows up again, the calculations for the previous feature have been performed and written on the file Tape5 with carriage control characters.

(3) After successful completion of the total calculations, the program will issue the word: STOP; and execution will cease. The answers, with the input data, will be on Tape5.

(4) The program is written for interactive execution but can be used in a batch mode as well. The following commands are needed for the interactive mode on the CDC 6600 Intercom System (Scope 3.3).

- a. ATTACH, LFN, RIGID (or FETCH, P XXXX)
- b. LFN
- c. Answer the question/instructions
- d. PAGE, TAPES, for answers (input data checking) -  
Print from page routine or,
- e. DISPOSE, TAPES, PR=CUI, for line printer output.

The following cards are needed for BATCH operation. On the CDC 6600 Scope 3.3 operating system.

- A. JOB, TL 20 sec, CM 25000.
- B. SAD, Tape5, UP1.
- C. ATTACH, LFN, RIGID (or FETCH, P XXXX)
- D. LFN
- E. 7-8-9
- F. Data Deck
- G. 6-7-8-9

C. Description of Output.

The general format of the output for each feature is as follows:

BASE & FEAT. ID	INPUT DATA FEAT TYPE K, R, T
"CAPACITY"	AGL FOR TEN GEAR CONFIGURATIONS
"FULL"	AGL FOR TEN GEAR CONFIGURATIONS
"MINIMUM"	AGL FOR TEN GEAR CONFIGURATIONS
"EMERGENCY"	AGL TEN GEAR CONFIGURATIONS

See following pages for sample output.

RESULTS  
R3A

	1	290	730.000	20.000					
CAPACITY	265.	215.	265.	370.	470.	750.	450.	610.*01000.	530.
FULL	390.	330.	400.	570.	580.	450.	560.	750.*03000.	630.
MINIMUM	500.	420.	520.	680.	680.	570.	660.*00000.*01000.		740.
EMERGENCY	560.	560.	690.*00000.*00000.			570.*01000.*00000.*00000.*00000.			

RESULTS  
R43

	2	290	770.000	19.000					
CAPACITY	260.	215.	260.	370.	560.	420.	530.	720.*01000.	560.
FULL	390.	320.	390.	530.	750.	580.	710.*00000.*00000.		770.
MINIMUM	490.	420.	510.	670.*10000.		740.*00100.*00000.*03000.*00000.			
EMERGENCY	560.	560.	680.*00000.*01000.*00100.*00000.*00000.*01000.*01000.*00000.						

RESULTS  
R43

	3	270	810.000	15.000					
CAPACITY	245.	195.	240.	350.	540.	400.	510.	730.*01000.	550.
FULL	350.	290.	360.	500.	710.	550.	690.*00000.*01000.		750.
MINIMUM	450.	370.	470.	670.*10000.		590.*00100.*00000.*03000.*00000.			
EMERGENCY	590.	490.	610.*00000.*00000.*00100.*00100.*00000.*01000.*00000.						

RESULTS  
R90

	3	290	800.000	14.250					
CAPACITY	225.	180.	225.	370.	510.	770.	490.	690.*00000.	520.
FULL	330.	270.	340.	470.	670.	520.	660.*00000.*00000.		710.
MINIMUM	420.	350.	440.	590.*10000.		650.*03000.*00000.*03000.*00000.			
EMERGENCY	550.	460.	580.	770.*10000.*00100.*00100.*00000.*00000.*01000.*00000.					

RESULTS  
R130

	3	290	800.000	15.000					
CAPACITY	245.	195.	240.	350.	540.	400.	520.	730.*01000.	550.

FULL									
350.	290.	360.	500.	720.	360.	700.	*00000.	*00000.	760.
MINIMUM									
450.	380.	470.	640.	*00000.	700.	*00000.	*00000.	*00000.	*00000.
EMERGENCY									
600.	500.	620.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.

RESULTS									
R11C			3	230	800.000	16.750			
CAPACITY									
300.	240.	295.	430.	650.	490.	620.	*00000.	*00000.	660.
FULL									
440.	360.	450.	610.	*00000.	590.	*00000.	*00000.	*00000.	*00000.
MINIMUM									
560.	470.	580.	780.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.
EMERGENCY									
740.	620.	770.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.

RESULTS									
R12C			3	310	770.000	16.000			
CAPACITY									
275.	220.	270.	390.	600.	450.	570.	*00000.	*00000.	610.
FULL									
400.	330.	410.	570.	*00000.	630.	790.	*00000.	*00000.	*00000.
MINIMUM									
520.	440.	540.	730.	*00000.	800.	*00000.	*00000.	*00000.	*00000.
EMERGENCY									
700.	590.	730.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.

RESULTS									
R13			2	325	770.000	19.000			
CAPACITY									
275.	225.	275.	390.	590.	440.	560.	770.	*00000.	590.
FULL									
410.	340.	420.	570.	800.	630.	770.	*00000.	*00000.	*00000.
MINIMUM									
540.	450.	550.	730.	*00000.	900.	*00000.	*00000.	*00000.	*00000.
EMERGENCY									
720.	610.	750.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.	*00000.

RESULTS									
R14A			1	325	770.000	19.750			
CAPACITY									
290.	235.	290.	410.	520.	390.	500.	680.	*00000.	580.
FULL									
430.	360.	440.	590.	640.	490.	620.	*00000.	*00000.	700.
MINIMUM									
530.	470.	580.	770.	750.	590.	730.	*00000.	*00000.	*00000.
EMERGENCY									
750.	640.	790.	*00000.	*00000.	750.	*00000.	*00000.	*00000.	*00000.

RESULTS	T1A								
	1	310	770.000	19.500					
CAPACITY	280.	225.	280.	390.	500.	370.	480.	650.*00000.	560.
FULL	410.	340.	420.	570.	620.	470.	600.	810.*00000.	670.
MINIMUM	540.	450.	550.	730.	720.	570.	700.*00000.*00000.		790.
EMERGENCY	710.	610.	740.*00000.*00000.			720.*00000.*00000.*00000.*00000.			

RESULTS	T2A								
	1	310	770.000	18.000					
CAPACITY	245.	200.	245.	350.	450.	330.	430.	600.*00000.	500.
FULL	360.	300.	370.	510.	550.	420.	540.	740.*00000.	610.
MINIMUM	470.	400.	490.	650.	650.	510.	630.*00000.*00000.		710.
EMERGENCY	530.	530.	660.*00000.		800.	640.	790.*00000.*00000.*00000.		

RESULTS	T3A								
	1	310	770.000	19.000					
CAPACITY	270.	220.	270.	380.	490.	350.	470.	640.*00000.	540.
FULL	400.	330.	410.	550.	600.	460.	580.	790.*00000.	660.
MINIMUM	520.	440.	530.	710.	700.	550.	690.*00000.*00000.		770.
EMERGENCY	590.	590.	720.*00000.*00000.			700.*00000.*00000.*00000.*00000.			

RESULTS	T4A								
	1	530	750.000	17.000					
CAPACITY	290.	230.	290.	420.	550.	400.	540.	760.*00000.	630.
FULL	480.	390.	490.	680.	700.	530.	700.*00000.*00000.		780.
MINIMUM	590.	570.	720.*00000.*00000.			690.*00000.*00000.*00000.*00000.			
EMERGENCY	00000.	760.*00000.*00000.*00000.*00000.*00000.*00000.*00000.							

RESULTS  
---

123		1	310	770.000	19.600			
CAPACITY								
280.	230.	280.	400.	510.	370.	480.	660.*00000.	560.
FULL								
420.	350.	420.	570.	620.	480.	600.*00000.*00000.		680.
MINIMUM								
340.	450.	560.	730.	730.	570.	710.*00000.*00000.		790.
EMERGENCY								
720.	610.	750.*00000.*00000.			720.*00000.*00000.*00000.*00000.			

RESULTS T3A		1	310	770.000	17.500			
CAPACITY								
235.	190.	235.	340.	430.	320.	420.	580.*00000.	490.
FULL								
350.	290.	360.	490.	530.	410.	520.	720.*00000.	590.
MINIMUM								
450.	380.	470.	620.	620.	490.	610.*00000.*00000.		690.
EMERGENCY								
500.	510.	630.*00000.	770.	620.	770.*00000.*00000.*00000.			

RESULTS T7A		1	310	800.000	19.000			
CAPACITY								
280.	230.	290.	400.	510.	380.	490.	660.*00000.	570.
FULL								
420.	350.	420.	570.	620.	480.	610.*00000.*00000.		680.
MINIMUM								
340.	450.	560.	740.	730.	570.	710.*00000.*00000.		800.
EMERGENCY								
720.	610.	750.*00000.*00000.			720.*00000.*00000.*00000.*00000.			

RESULTS T7A1		1	310	800.000	20.000			
CAPACITY								
300.	245.	300.	420.	540.	400.	510.	700.*00000.	600.
FULL								
440.	370.	450.	610.	660.	510.	640.*00000.*00000.		720.
MINIMUM								
570.	480.	590.	780.	770.	510.	750.*00000.*00000.*00000.		
EMERGENCY								
770.	650.	800.*00000.*00000.			770.*00000.*00000.*00000.*00000.			

RESULTS T9A		1	310	770.000	19.500			
CAPACITY								
290.	225.	290.	390.	500.	370.	480.	650.*00000.	560.
FULL								
410.	340.	420.	570.	620.	470.	600.	810.*00000.	670.
MINIMUM								
---	---	---	---	---	---	---	---	---

240.	430.	520.	730.	720.	270.	700.*00000.*00000.	790.
EMERGENCY							
710.	610.	740.*00000.*00000.			720.*00000.*00000.*00000.*00000.		

RESULTS							
T9A			1	710	770.000	20.000	
CAPACITY							
230.	235.	230.	410.	520.	340.	490.	670.*00000.
FULL							
430.	360.	440.	590.	640.	490.	610.*00000.*00000.	690.
MINIMUM							
350.	470.	570.	750.	740.	540.	720.*00000.*00000.	810.
EMERGENCY							
740.	630.	770.*00000.*00000.			740.*00000.*00000.*00000.*00000.		

RESULTS							
T12A			1	310	730.000	20.250	
CAPACITY							
230.	230.	280.	390.	500.	370.	480.	650.*00000.
FULL							
410.	350.	420.	570.	620.	470.	600.	800.*00000.
MINIMUM							
340.	450.	560.	730.	720.	560.	700.*00000.*00000.	780.
EMERGENCY							
720.	610.	750.*00000.*00000.			720.*00000.*00000.*00000.*00000.		

RESULTS							
T13A			2	270	830.000	12.500	
CAPACITY							
125.	100.	125.	185.	290.	215.	280.	400.*00000.
FULL							
180.	145.	195.	260.	380.	290.	370.	520.*00000.
MINIMUM							
230.	190.	235.	320.	450.	360.	450.	640.*00000.
EMERGENCY							
295.	245.	310.	410.	560.	450.	560.	790.*00000.

RESULTS							
T14A			2	350	750.000	19.000	
CAPACITY							
275.	225.	275.	390.	600.	440.	560.	780.*00000.
FULL							
420.	350.	430.	580.*00000.	640.	780.*00000.*00000.*00000.		
MINIMUM							
350.	460.	570.	750.*00000.*00000.*00000.*00000.*00000.*00000.				
EMERGENCY							
750.	440.	780.*00000.*00000.*00000.*00000.*00000.*00000.*00000.					



390. 320. 390. 530. 750. 580. 710.\*00000.\*01000. 770.  
 MINIMUM  
 430. 420. 510. 670.\*00000. 740.\*00000.\*00000.\*00000.\*00000.  
 EMERGENCY  
 550. 560. 680.\*00000.\*00000.\*00000.\*00000.\*00000.\*01000.\*00000.

RESULTS  
 A49 2 290 750.000 19.250  
 CAPACITY  
 250. 210. 260. 370. 550. 410. 520. 710.\*01000. 550.  
 FULL  
 390. 320. 390. 520. 740. 580. 710.\*00000.\*00000. 760.  
 MINIMUM  
 430. 410. 510. 670.\*00000. 730.\*00000.\*00000.\*01000.\*00000.  
 EMERGENCY  
 550. 550. 670.\*00000.\*00000.\*00000.\*00000.\*00000.\*00000.\*00000.

RESULTS  
 A53 2 390 810.000 20.500  
 CAPACITY  
 350. 290. 350. 500. 760. 520. 710.\*00000.\*00000. 760.  
 FULL  
 550. 460. 560. 750.\*00000.\*00000.\*00000.\*00000.\*01000.\*00000.  
 MINIMUM  
 730. 620. 760.\*00000.\*00000.\*00000.\*00000.\*00000.\*01000.\*00000.  
 EMERGENCY  
 \*00000.\*00000.\*00000.\*00000.\*00000.\*00000.\*00000.\*00000.\*01000.\*00000.

RESULTS  
 A63 2 325 810.000 12.500  
 CAPACITY  
 145. 115. 145. 215. 330. 245. 330. 470.\*01000. 340.  
 FULL  
 215. 175. 220. 310. 450. 350. 450. 640.\*00000. 480.  
 MINIMUM  
 280. 230. 290. 400. 560. 440. 570. 810.\*00000. 610.  
 EMERGENCY  
 370. 310. 390. 530. 720. 580. 730.\*00000.\*00000. 790.

RESULTS  
 A73 2 325 840.000 15.000  
 CAPACITY  
 205. 165. 205. 295. 460. 340. 440. 630.\*01000. 470.  
 FULL  
 300. 250. 310. 430. 620. 480. 610.\*00000.\*00000. 650.  
 MINIMUM  
 400. 330. 410. 560. 770. 510. 760.\*00000.\*00000.\*00000.  
 EMERGENCY  
 530. 440. 560. 740.\*00000. 800.\*00000.\*00000.\*01000.\*00000.

RESULTS								
A99								
CAPACITY								
150.	120.	150.	225.	350.	255.	340.	490.*00000.	360.
FULL								
225.	185.	230.	330.	470.	370.	470.	670.*00000.	510.
MINIMUM								
295.	240.	310.	420.	590.	470.	590.*00000.*00000.		640.
EMERGENCY								
400.	330.	410.	560.	760.	510.	770.*00000.*00000.*00000.		

RESULTS								
A118								
CAPACITY								
150.	130.	160.	235.	360.	265.	340.	490.*00000.	370.
FULL								
235.	195.	240.	330.	480.	370.	470.	660.*00000.	500.
MINIMUM								
300.	250.	310.	420.	590.	470.	580.*00000.*00000.		630.
EMERGENCY								
400.	340.	420.	560.	740.	500.	740.*00000.*00000.		810.

IOBC000 /// END OF LIST ON LP 15 AT 12.15.55. ON 04/  
 \*\*\*\*\*