National Aeronautics and Space Administration

BUDGET ESTIMATES

FISCAL YEAR 1965

Volume IV

ADMINISTRATIVE OPERATIONS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

ADMINISTRATIVE OPERATIONS

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ADMINISTRATIVE OPERATIONS

GENERAL STATEMENT

In fiscal year 1965 NASA will make significant progress in preparation for the first manned lunar landing. Progress in development of the Merritt Island launch area at the John F. Kennedy Space Center, NASA and the Mississippi Test Facility will move towards the end of the construction stage in preparation for the testing and launching of the Saturn class rockets. The Manned Spacecraft Center will have essentially completed its move into the new site at Clear Lake, Texas. The major effort in testing on Apollo developmental spacecraft will be completed and four Gemini flights are scheduled. At the same time, hardware development and manufacture will be reaching its peak. This will require a more intensive effort in working with contractors at their plants conducting quality assurance and reliability inspections, monitoring of technical progress and continuous liaison between the government and industry, in order to assure the success of the manned lunar landing program.

During the first half of fiscal year 1964 personnel were held to a minimum to conduct essential operations while redirection of effort was studied. As a result, it was possible to reduce the overall planned employment and to increase the effort at the manned space flight centers by assigning or reassigning personnel where they were most urgently needed. In addition, reorganizations both at Headquarters and at the manned space flight centers have provided for a more intensive effort. These actions have placed greater emphasis on the Manned Spacecraft and Kennedy Space Centers which are now reaching towards their full development. The success of efforts at these locations in the next few years will have a heavy bearing on the success of the manned lunar landing program. Additional emphasis has also been placed on electronics research. Activation of the proposed Electronics Research Center will be accelerated upon Congressional approval of a site for the Center. There will be continued effort on research for the supersonic transport. However, the centers particularly concentrating on research and technology and on unmanned investigations in space will be operated at a very austere personnel level in order to concentrate as much attention as possible on the manned lunar landing.

The effort devoted to other NASA programs will be adequate to assure that they will be prosecuted in a timely and agressive manner. It is the intention of the agency to assure that not only will the primary goal, a manned lunar landing and return prior to 1970, be met, but that NASA will have a balanced space research program to assure United States preeminence in Space.

MANPOWER

During formulation of the fiscal year 1964 operating plan and the fiscal

year 1965 budget, the growth of employment and the ability to effectively utilize manpower was studied in depth. It was determined that NASA would plan to operate with a smaller number of people than included in the fiscal year 1964 budget, but that redirection of effort was necessary to give the best support to the manned program. As a result, personnel for the Manned Spacecraft Center and Kennedy Space Center were increased by a total of 686 positions. About half of this was accomplished by reduction in supporting activities in NASA Headquarters and the Western Operations Office. The remainder was obtained essentially by a reduction of proposed increases in personnel for supporting research and technology and reductions where programs planned for fiscal year 1964 are no longer included in the NASA plan.

The following tabulation indicates the distribution of NASA program and support personnel:

Personnel Distribution

	1963	1964	1965
Direct Personnel by Program			
Manned Space Flight			
Gemini	512	796	945
Apollo	6,876	8,495	9,167
Advanced missions	428	559	579
Completed missions	120	---	---
Space Science and Applications			
Geophysics and astronomy	1,048	1,257	1,257
Lunar and planetary exploration	179	358	374
Sustaining university program	55	65	65
Launch vehicle development	615	684	679
Bioscience	207	290	296
Meteorological satellites	263	296	287
Communications satellites	147	137	110
Advanced technological satellites	---	43	84
Advanced Research and Technology			
Basic research	1,402	1,451	1,460
Space vehicle systems	1,836	1,843	1,805
Electronic systems	1,098	1,157	1,345
Human factor systems	142	194	189
Nuclear-electric systems	679	728	723
Nuclear rockets	626	539	523
Chemical propulsion	503	506	488
Space power	243	263	269
Aeronautics	1,530	1,547	1,529

	1963	1964	1965
Tracking and Data Acquisition	698	865	866
Technology Utilization and Policy Planning.....	37	40	40
Subtotal, direct positions.	19,244	22,113	23,080
Support Personnel			
Director and staff.....	445	562	603
Administration.....	4,068	4,593	4,705
Installation operation.....	2,795	3,099	3,169
Research and development support	607	742	752
NASA-wide support.....	745	891	891
Subtotal, support positions..	8,660	9,887	10,120
Total, permanent positions.....	27,904	32,000	33,200
Subtotal, other positions....	2,030	600	600
Total, all positions.....	29,934	32,600	33,800

As indicated in the fiscal year 1964 budget, 600 positions, 466 for students under cooperative agreements for training in NASA installations and 134 temporaries will be utilized in addition to the permanent personnel. This results in the overall NASA personnel plan for fiscal year 1964 of 32,600 as against 33,100 proposed in the fiscal year 1964 budget. In fiscal year 1965 no increases in personnel are planned with the exception of the Manned Spacecraft Center and the Kennedy Space Center, a total of 1,000 additional positions; and 200 additional positions for the Electronics Research Center. All other centers, as well as NASA Headquarters, are planned at the same level as at the end of fiscal year 1964.

The following table reflects the fiscal year 1965 personnel requirements and the realignment of personnel by installation for fiscal year 1964:

Personnel Requirements

	1964 Column of the 1964 Budget	Revision	1964 Column of the 1965 Budget	1965
Manned Space Flight				
Kennedy Space Center	1,200	+ 476	1,676	2,205
Manned Spacecraft Center	3,980	+ 210	4,190	4,661
Marshall Space Flight Center	7,492	- 28	7,464	7,464
	12,672	+ 658	13,330	14,330

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	1964 Column of the 1964 Budget	Revision	1964 Column of the 1965 Budget	1965
Advanced Research and Technology				
Ames Research Center.....	2,309	- 133	2,176	2,176
Electronics Research Center.	250	- 200	50	250
Flight Research Center.....	593	+ 11	604	604
Langley Research Center.....	4,296	- 18	4,278	4,278
Lewis Research Center.....	5,128	- 343	4,785	4,785
Space Nuclear Propulsion Office	160	- 57	103	103
	12,736	- 740	11,996	12,196
Space Science and Applications				
Goddard Space Flight Center.	3,700	- 88	3,612	3,612
Pacific Launch Operations Office	22	- 3	19	19
Wallops Station.....	530	- 12	518	518
	4,252	- 103	4,149	4,149
Supporting Activities				
Headquarters, NASA	2,300	- 200	2,100	2,100
Northeast Office.....	40	-0-	40	40
Western Operations Office...	500	- 115	385	385
	2,840	- 315	2,525	2,525
Permanent positions.....	32,500	- 500	32,000	33,200
Subtotal positions, other than permanent.....	600	-0-	600	600
TOTAL.....	33,100	- 500	32,600	33,800

The fiscal year 1965 funding request for Administrative Operations is approximately $124 million more than the plan for fiscal year 1964. This increase, however, is primarily the result of increases in personnel compensation and a program to purchase rather than lease electronic data processing equipment. It is expected that the procurement of the equipment will result in significant savings over the lifetime of the equipment and that the full purchase price will be recaptured within a four-year period.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION

		(Thousands of dollars) 1963	1964	1965
11.	Personnel compensation	$230,575	$289,383	$326,782
12.	Personnel benefits	15,988	20,117	22,718
21.	Travel of persons	15,018	19,800	22,000
22.	Transportation of things	6,390	5,901	5,848
23.	Rents, communication and utilities	39,770	54,400	47,489
24.	Printing and reproduction	3,201	5,440	5,946
25.	Other services	64,741	75,508	82,913
26.	Supplies and materials	29,909	25,460	31,109
31.	Equipment	27,263	15,931	90,074
32.	Lands and Structures	5,806	4,900	6,110
40.	Insurance claims and indemnities	14	11	11
Total		$438,675	$516,851	$641,000

Personnel Program

Personnel compensation and benefits will increase from a total of $309.5 million in fiscal year 1964 to $349.5 million in fiscal year 1965. This increase is primarily related to a larger number of man-years in fiscal year 1965. Man-years for NASA funded personnel will increase from 30,404 to 33,320 an increase of 2,916 man years, although total employment will increase by only 1,200 positions. As mentioned before, employment was held to a minimum level during the first half of fiscal year 1964, in order to determine the most effective method of assigning manpower. This review was completed in early December and authorizations to recruit personnel to meet the goals on the above table were released. As a result, the man-year totals for fiscal year 1964 will show an unusually high lapse rate. It is expected, however, that full employment will be reached by the end of the fiscal year and that the fiscal year 1965 will have the effective use of the entire fiscal year 1964 end year complement plus about 900 man-years of the 1,200 additional positions included in the budget request. Another increased cost factor in fiscal year 1965 will be the full year payment of the second phase of the pay raise which is effective in fiscal year 1964 for only the second half of the year.

Travel

Requirements for travel are closely related to the progress of the research and development programs and the higher average employment level. The intensive effort at contractors' plants will require a great number of trips by project personnel. The number and types of launches in fiscal year 1965 will require travel by larger numbers of personnel for a longer period of time than in the past. The largest increases in travel funds are for the

manned space flight centers where the greatest responsibility lies in monitoring contracts and planning with and inspecting contractors' efforts. These centers also are responsible for the significant launch effort and will require a great amount of mobility for the conduct of the programs.

Equipment

The largest increase for any purpose in fiscal year 1965 is for equipment. This results primarily from the program to procure electronic data processing equipment. Leasing of this equipment throughout fiscal year 1965 would cost approximately $32 million. By procuring this equipment, the lease cost would be reduced to approximately $18.8 million which would pay for the period of time it would be necessary to lease the equipment prior to procurement and for any necessary termination cost of the leased equipment. In addition, it would cost approximately $1.7 million, in fiscal year 1965, to maintain the equipment after purchase, a cost which is now included in the lease values. This would allow for procurement of approximately $73.7 million worth of electronic data processing equipment which is considered economically advantageous to the government, i.e., it is planned that this procurement would recapture its total procurement cost of a four-year period.

Other Costs

Increases in other objects result primarily from the increase in activity at the Kennedy Space and Manned Spacecraft Centers, which are nearing their peak of heavy growth, and for items of supplies and materials and other requirements related to the increase in man-years of employment.

The rents, communications, and utilities object classification indicates a decrease of approximately $7 million. However, communications and utilities increase because of the expansion at the Kennedy Space and Manned Spacecraft Centers and the proposed Electronics Research Center. In addition, utility costs increase as a result of completion of construction projects throughout the Agency. These increases are offset by a reduction of $13.2 million in rentals for electronic data processing equipment due to the proposed purchase of certain selected equipment.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

ADMINISTRATIVE OPERATIONS

SUMMARY OF BUDGET PLAN BY INSTALLATION

	Fiscal Year 1963	Fiscal Year 1964	Fiscal Year 1965
MANNED SPACE FLIGHT			
John F. Kennedy Space Center, NASA	$18,804,000	$32,375,000	$47,877,000
Manned Spacecraft Center	50,960,000	68,071,000	98,104,000
Marshall Space Flight Center	112,576,000	128,834,000	158,539,000
SPACE SCIENCE AND APPLICATIONS			
Goddard Space Flight Center	52,810,000	62,620,000	83,156,000
Pacific Launch Operations Office	641,000	720,000	833,000
Wallops Station	8,881,000	9,400,000	9,910,000
ADVANCED RESEARCH AND TECHNOLOGY			
Ames Research Center	25,550,000	28,968,000	31,806,000
Electronics Research Center	---	394,000	2,561,000
Flight Research Center	7,549,000	9,539,000	10,402,000
Langley Research Center	51,756,000	52,474,000	55,270,000
Lewis Research Center	53,448,000	61,107,000	65,617,000
Space Nuclear Propulsion Office	970,000	1,493,000	1,432,000
SUPPORTING OPERATIONS			
Northeastern Office	195,000	475,000	595,000
Western Operations Office	3,449,000	4,485,000	5,398,000
NASA Headquarters	51,086,000	55,896,000	69,350,000
TOTAL	$438,675,000	$516,851,000	$641,000,000

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

ADMINISTRATIVE OPERATIONS

NUMBER OF POSITIONS BY LOCATION

	Fiscal Year 1963	Fiscal Year 1964	Fiscal Year 1965
MANNED SPACE FLIGHT			
John F. Kennedy Space Center, NASA	1,181	1,713	2,242
Manned Spacecraft Center	3,345	4,340	4,811
Marshall Space Flight Center	7,332	7,658	7,658
SPACE SCIENCE AND APPLICATIONS			
Goddard Space Flight Center	3,487	3,660	3,660
Pacific Launch Operations Office	17	22	22
Wallops Station	493	530	530
ADVANCED RESEARCH AND TECHNOLOGY			
Ames Research Center	2,116	2,196	2,196
Electronics Research Center	-	50	250
Flight Research Center	616	618	618
Langley Research Center	4,220	4,348	4,348
Lewis Research Center	4,697	4,817	4,817
Space Nuclear Propulsion Office	96	103	103
SUPPORTING OPERATIONS			
Northeastern Office	25	40	40
Western Operations Office	308	390	390
NASA Headquarters	2,001	2,115	2,115
TOTAL	29,934	32,600	33,800

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

ADMINISTRATIVE OPERATIONS

DISTRIBUTION OF BUDGET PLAN BY OBJECT CLASSIFICATION BY INSTALLATION

(In dollars)

OBJECT CLASSIFICATION	TOTAL	J. F. KENNEDY SPACE CENTER, NASA	MANNED SPACECRAFT CENTER	MARSHALL SPACE FLIGHT CENTER	GODDARD SPACE FLIGHT CENTER	PACIFIC LAUNCH OPERATIONS OFFICE	WALLOPS STATION	AMES RESEARCH CENTER	ELECTRONICS RESEARCH CENTER	FLIGHT RESEARCH CENTER	LANGLEY RESEARCH CENTER	LEWIS RESEARCH CENTER	SPACE NUCLEAR PROPULSION OFFICE	NORTHEASTERN OFFICE	WESTERN OPERATIONS OFFICE	HEADQUARTERS
FISCAL YEAR 1963																
Personnel compensation	230,575,000	6,240,000	22,590,000	65,324,000	24,958,000	150,000	3,391,000	15,429,000	---	4,984,000	31,926,000	34,900,000	703,000	109,000	2,288,000	17,583,000
Personnel benefits	15,988,000	387,000	1,475,000	4,319,000	1,702,000	10,000	222,000	1,129,000	---	359,000	2,340,000	2,534,000	50,000	8,000	153,000	1,300,000
Travel of persons	15,018,000	529,000	3,164,000	3,504,000	2,141,000	17,000	88,000	465,000	---	213,000	1,036,000	996,000	147,000	22,000	218,000	2,478,000
Transportation of things	6,390,000	234,000	1,179,000	930,000	2,038,000	5,000	94,000	95,000	---	38,000	425,000	779,000	14,000	1,000	26,000	532,000
Rents, communication, and utilities	39,770,000	724,000	3,273,000	10,827,000	9,856,000	72,000	691,000	4,223,000	---	387,000	3,929,000	3,664,000	---	8,000	418,000	1,698,000
Printing and reproduction	3,201,000	104,000	327,000	613,000	338,000	21,000	3,000	42,000	---	4,000	96,000	38,000	---	1,000	13,000	1,601,000
Other services	64,741,000	4,587,000	5,392,000	15,193,000	5,148,000	189,000	1,734,000	1,309,000	---	605,000	2,750,000	2,836,000	56,000	10,000	228,000	24,704,000
Supplies and materials	29,909,000	3,248,000	4,990,000	6,710,000	2,115,000	60,000	1,097,000	1,899,000	---	300,000	3,574,000	5,365,000	---	6,000	61,000	484,000
Equipment	27,263,000	2,479,000	7,688,000	3,448,000	3,855,000	75,000	1,095,000	739,000	---	211,000	5,142,000	1,763,000	---	30,000	44,000	694,000
Lands and structures	5,806,000	272,000	882,000	1,708,000	659,000	42,000	466,000	220,000	---	448,000	536,000	573,000	---	---	---	---
Insurance claims and indemnities	14,000	---	---	---	---	---	---	---	---	---	2,000	---	---	---	---	12,000
Totals	438,675,000	18,804,000	50,960,000	112,576,000	52,810,000	641,000	8,881,000	25,550,000	---	7,549,000	51,756,000	53,448,000	970,000	195,000	3,449,000	51,086,000
FISCAL YEAR 1964																
Personnel compensation	289,383,000	14,310,000	35,295,000	73,039,000	32,361,000	211,000	3,725,000	18,080,000	161,000	5,660,000	35,975,000	42,887,000	1,132,000	353,000	3,337,000	22,857,000
Personnel benefits	20,117,000	911,000	2,284,000	4,911,000	2,139,000	14,000	250,000	1,320,000	12,000	405,000	2,658,000	3,124,000	86,000	27,000	213,000	1,763,000
Travel of persons	19,800,000	1,451,000	4,320,000	4,439,000	2,650,000	28,000	148,000	576,000	32,000	235,000	1,285,000	1,356,000	150,000	33,000	270,000	2,827,000
Transportation of things	5,901,000	344,000	1,188,000	816,000	1,017,000	10,000	85,000	65,000	15,000	35,000	421,000	954,000	23,000	3,000	26,000	899,000
Rents, communication, and utilities	54,400,000	2,480,000	6,345,000	13,904,000	14,044,000	75,000	811,000	4,499,000	25,000	367,000	4,742,000	4,666,000	---	27,000	341,000	2,074,000
Printing and reproduction	5,440,000	728,000	400,000	1,378,000	161,000	30,000	15,000	77,000	3,000	7,000	150,000	55,000	---	4,000	13,000	2,419,000
Other services	75,508,000	6,259,000	10,323,000	21,370,000	4,445,000	164,000	2,080,000	1,650,000	47,000	926,000	2,589,000	3,414,000	102,000	10,000	190,000	21,939,000
Supplies and materials	25,460,000	3,040,000	5,317,000	5,934,000	1,927,000	65,000	1,025,000	1,719,000	40,000	551,000	3,082,000	2,097,000	---	8,000	60,000	595,000
Equipment	15,931,000	1,868,000	2,112,000	1,893,000	3,150,000	80,000	1,025,000	792,000	59,000	1,266,000	1,070,000	2,050,000	---	10,000	35,000	521,000
Lands and structures	4,900,000	984,000	484,000	1,149,000	726,000	43,000	235,000	190,000	---	86,000	500,000	503,000	---	---	---	---
Insurance claims and indemnities	11,000	---	3,000	1,000	---	---	1,000	---	---	1,000	2,000	1,000	---	---	---	2,000
Totals	516,851,000	32,375,000	68,071,000	128,834,000	62,620,000	720,000	9,400,000	28,968,000	394,000	9,339,000	52,474,000	61,107,000	1,493,000	475,000	4,485,000	55,896,000
FISCAL YEAR 1965																
Personnel compensation	326,782,000	21,968,000	47,480,000	77,302,000	36,392,000	243,000	4,093,000	19,385,000	1,564,000	5,785,000	37,305,000	44,962,000	1,153,000	419,000	4,025,000	24,706,000
Personnel benefits	22,718,000	1,402,000	3,100,000	5,000,000	2,400,000	17,000	267,000	1,415,000	101,000	415,000	2,770,000	3,204,000	91,000	31,000	248,000	2,071,000
Travel of persons	22,000,000	1,358,000	5,161,000	4,944,000	2,917,000	32,000	150,000	603,000	181,000	262,000	1,385,000	1,434,000	175,000	42,000	300,000	3,056,000
Transportation of things	5,848,000	477,000	813,000	836,000	1,176,000	6,000	83,000	60,000	140,000	40,000	427,000	961,000	4,000	3,000	15,000	807,000
Rents, communications, and utilities	47,489,000	3,751,000	6,906,000	10,285,000	8,326,000	75,000	874,000	4,283,000	247,000	433,000	5,300,000	4,477,000	---	37,000	441,000	2,054,000
Printing and reproduction	5,946,000	998,000	530,000	1,464,000	180,000	15,000	15,000	80,000	15,000	10,000	150,000	65,000		4,000	24,000	2,396,000
Other services	82,913,000	6,862,000	11,268,000	24,348,000	5,462,000	273,000	2,100,000	1,804,000	90,000	1,737,000	2,763,000	3,767,000	59,000	41,000	226,000	22,113,000
Supplies and materials	31,109,000	4,200,000	7,457,000	7,926,000	2,050,000	82,000	1,025,000	1,300,000	107,000	840,000	3,281,000	2,154,000	---	8,000	94,000	585,000
Equipment	90,074,000	5,141,000	14,936,000	25,385,000	23,352,000	80,000	1,000,000	2,451,000	116,000	664,000	1,387,000	3,967,000	---	10,000	25,000	11,560,000
Lands and structures	6,110,000	1,720,000	450,000	1,000,000	813,000	60,000	302,000	425,000	---	215,000	500,000	625,000	---	---	---	---
Insurance claims and indemnities	11,000	---	3,000	1,000	---	---	1,000	---	---	1,000	2,000	1,000	---	---	---	2,000
Totals	641,000,000	47,877,000	98,104,000	158,589,000	83,156,000	883,000	9,910,000	31,806,000	2,561,000	10,402,000	55,270,000	65,617,000	1,482,000	595,000	5,398,000	69,350,000

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

SUMMARY OF ADMINISTRATIVE OPERATIONS BUDGET PLAN AS RECONCILED TO FINANCING SCHEDULE

Budget Plan:			
Administrative operations.....	$438,675,000[1/]	$516,851,000	$641,000,000
Financing:			
Comparative transfer from "Research, development, and operation".....	-$438,675,000	---	---
Appropriation.....	---	$494,000,000	$641,000,000
Transferred from:			
"Research and development" (77 Stat. 439).....	---	+16,385,000	---
"Construction of facilities" (77 Stat. 439).....	---	+6,500,000	---
Transferred to "Operating expenses, Public Buildings Services," General Services Administration (77 Stat. 436).	---	-34,000	---
Appropriation (adjusted)...	---	$516,851,000	$641,000,000

1/THE "ADMINISTRATIVE OPERATIONS" FUNDING FOR FISCAL YEAR 1963 IS SHOWN FOR COMPARABILITY AND WAS A PORTION OF THE "RESEARCH, DEVELOPMENT, AND OPERATION" APPROPRIATION.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FY 1965 ESTIMATES

COMPUTATION OF PERSONNEL COSTS BY INSTALLATION AND FISCAL YEAR

(In Thousands of Dollars)

FISCAL YEAR 1963 ACTUAL	NASA TOTAL	J. F. KENNEDY SPACE CENTER, NASA	MANNED SPACECRAFT CENTER	MARSHALL SPACE FLIGHT CENTER	GODDARD SPACE FLIGHT CENTER	PACIFIC LAUNCH OPERATIONS OFFICE	WALLOPS STATION	AMES RESEARCH CENTER	ELECTRONICS RESEARCH CENTER	FLIGHT RESEARCH CENTER	LANGLEY RESEARCH CENTER	LEWIS RESEARCH CENTER	SPACE NUCLEAR PROPULSION OFFICE	HEADQUARTERS	NORTHEASTERN OPERATIONS OFFICE	WESTERN OPERATIONS OFFICE
Total annual salaries - permanent positions	$238,587	$9,163	$25,543	$59,443	$27,054	$147	$2,950	$16,717	-	$4,769	$32,216	$37,834	$999	$18,853	$216	$2,683
Deduct:																
Lapses	27,255	3,887	6,135	2,264	3,403	4	220	1,516	-	287	1,456	4,505	291	2,539	112	636
Net savings due to lower pay scales for part of the year	3,303	119	165	1,258	451	4	24	223	-	66	338	514	11	115	1	14
Net cost of permanent positions	$208,029	$5,157	$19,243	$55,921	$23,200	$139	$2,706	$14,978	-	$4,416	$30,422	$32,815	$697	$16,199	$103	$2,033
Positions other than permanent	4,473	101	827	1,417	596	-	130	102	-	77	305	612	-	296	4	6
Other personnel compensation	18,724	997	2,521	8,078	1,708	11	556	349	-	492	1,199	1,474	4	1,084	2	249
Total personnel compensation	$231,226	$6,255	$22,591	$65,416	$25,504	$150	$3,392	$15,429	-	$4,985	$31,926	$34,901	$701	$17,579	$109	$2,288
Total personnel benefits	$ 16,037	$ 387	$ 1,474	$ 4,332	$ 1,736	$ 10	$ 221	1,129	-	$ 358	$ 2,340	$ 2,533	$ 52	$ 1,304	$ 8	$ 153
Grand total personnel costs	$247,263	$6,642	$24,065	$69,748	$27,240	$160	$3,613	$16,558	-	$5,343	$34,266	$37,434	$753	$18,883	$117	$2,441
NASA funded	246,563	6,627	24,065	69,643	26,660	160	3,613	16,558	-	$5,343	$34,266	$37,434	$753	$18,883	$117	$2,441
Reimbursable	700	15	-	105	580	-	-	-	-	-	-	-	-	-	-	-
FISCAL YEAR 1964 ESTIMATED																
Total annual salaries - permanent positions	$289,739	$15,815	$38,354	$67,688	$33,246	$202	$3,494	$18,607	$ 551	$5,133	$35,678	$42,395	$1,151	$23,334	$389	$3,702
Deduct:																
Lapses	22,257	3,380	7,747	2,485	2,612	20	365	962	380	52	939	1,087	-	1,531	46	651
Net savings due to lower pay scales for part of the year	6,065	366	781	1,697	724	5	18	326	23	71	612	778	31	546	9	78
Net cost of permanent positions	$261,417	$12,069	$29,826	$63,506	$29,910	$177	$3,111	$17,319	$ 148	$5,010	$34,127	$40,530	$1,120	$21,257	$334	$2,973
Positions other than permanent	3,848	191	853	1,074	685	13	70	139	-	77	332	160	-	225	10	19
Other personnel compensation	24,545	2,050	4,616	8,470	2,182	21	544	622	13	573	1,516	2,197	12	1,375	9	345
Total personnel compensation	$289,810	$14,310	$35,295	$73,050	$32,777	$211	$3,725	$18,080	$ 161	$5,660	$35,975	$42,887	$1,132	$22,857	$353	$3,337
Total personnel benefits	$ 20,147	$ 911	$ 2,284	$ 4,912	$ 2,168	$ 14	$ 250	$ 1,320	$ 12	$ 405	$ 2,658	$ 3,124	$ 86	$ 1,763	$ 27	$ 213
Grand total personnel costs	$309,957	$15,221	$37,579	$77,962	$34,945	$225	$3,975	$19,400	$ 173	$6,065	$38,633	$46,011	$1,218	$24,620	$380	$3,550
NASA funded	309,500	15,221	37,579	77,950	34,500	225	3,975	19,400	173	6,065	38,633	46,011	1,218	24,620	380	3,550
Reimbursable	457	-	-	12	445	-	-	-	-	-	-	-	-	-	-	-
FISCAL YEAR 1965 ESTIMATED																
Total annual salaries - permanent positions	$303,550	$20,823	$43,048	$68,088	$34,380	$211	$3,529	$18,637	$ 1,931	$5,218	$35,820	$42,869	$1,151	$23,624	$404	$3,817
Deduct:																
Lapses	3,858	1,054	1,097	318	162	3	27	67	461	50	176	120	6	240	3	74
Net cost of permanent positions	$299,692	$19,769	$41,951	$67,770	$34,218	$208	$3,502	$18,570	$ 1,470	$5,168	$35,644	$42,749	$1,145	$23,384	$401	$3,743
Positions other than permanent	3,297	154	861	1,040	280	13	58	139	-	62	271	164	-	225	10	20
Other personnel compensation	23,994	2,045	4,668	8,503	2,084	22	533	676	94	555	1,390	2,049	8	1,097	8	262
Total personnel compensation	$326,983	$21,968	$47,480	$77,313	$36,582	$243	$4,093	$19,385	$ 1,564	$5,785	$37,305	$44,962	$1,153	$24,706	$419	$4,025
Total personnel benefits	$ 22,734	$ 1,402	$ 3,100	$ 5,099	$ 2,503	$ 17	$ 267	$ 1,415	$ 101	$ 415	$ 2,770	$ 3,204	$ 91	$ 2,071	$ 31	$ 248
Grand total personnel costs	$349,717	$23,370	$50,580	$82,412	$39,085	$260	$4,360	$20,800	$ 1,665	$6,200	$40,075	$48,166	$1,244	$26,777	$450	$4,273
NASA funded	349,500	23,370	50,580	82,400	38,880	260	4,360	20,800	1,665	6,200	40,075	48,166	1,244	26,777	450	4,273
Reimbursable	217	-	-	12	205	-	-	-	-	-	-	-	-	-	-	-

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

DISTRIBUTION OF PERSONNEL POSITIONS BY INSTALLATION AND FISCAL YEAR

FISCAL YEAR 1963 ACTUAL	TOTAL	J. F. KENNEDY SPACE CENTER, NASA	MANNED SPACECRAFT CENTER	MARSHALL SPACE FLIGHT CENTER	GODDARD SPACE FLIGHT CENTER	PACIFIC LAUNCH OPERATIONS OFFICE	WALLOPS STATION	AMES RESEARCH CENTER	ELECTRONICS RESEARCH CENTER	FLIGHT RESEARCH CENTER	LANGLEY RESEARCH CENTER	LEWIS RESEARCH CENTER	SPACE NUCLEAR PROPULSION OFFICE	HEADQUARTERS	NORTHEASTERN OPERATIONS OFFICE	WESTERN OPERATIONS OFFICE
TOTAL EXCEPTED POSITIONS	412	6	35	53	38	-	2	28	-	7	38	35	2	163	2	3
General Schedule Positions:																
GS-16	4	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
GS-15	1,300	58	126	324	127	1	2	93	-	14	121	148	19	315	2	10
GS-14	2,088	85	214	607	267	3	7	122	-	19	196	258	17	260	4	29
GS-13	2,932	146	415	799	393	2	10	160	-	37	268	478	18	159	1	48
GS-12	2,986	178	441	948	414	3	16	133	-	44	311	457	8	89	2	42
GS-11	2,679	131	308	794	379	2	35	105	-	41	379	364	1	74	-	66
GS-10	21	2	-	1	-	-	-	2	-	-	-	12	-	4	-	-
GS-9	2,286	78	292	518	390	-	24	177	-	51	374	317	2	57	1	5
GS-8	35	2	-	2	4	-	-	1	-	1	1	5	-	19	-	-
GS-7	1,902	47	330	257	293	1	36	155	-	41	293	309	1	131	2	6
GS-6	528	28	25	59	52	2	6	28	-	8	64	50	3	192	-	11
GS-5	1,245	49	117	204	245	1	18	113	-	8	121	118	8	190	2	51
GS-4	1,525	74	216	519	122	-	13	28	-	33	199	162	11	116	7	25
GS-3	849	50	143	170	90	-	27	65	-	17	122	101	5	50	1	8
GS-2	267	13	49	86	40	-	12	5	-	1	18	40	1	1	-	1
TOTAL GENERAL SCHEDULE	20,707	941	2,676	5,192	2,816	15	206	1,187	-	315	2,467	2,819	94	1,657	22	300
WAGE BOARD POSITIONS	6,785	85	283	1,576	248	-	239	770	-	264	1,575	1,718	-	27	-	-
TOTAL PERMANENT POSITIONS	27,904	1,032	2,994	6,821	3,102	15	447	1,985	-	586	4,080	4,572	96	1,847	24	303
OTHER POSITIONS	2,030	149	351	511	385	2	46	131	-	30	140	125	-	154	1	5
GRAND TOTAL POSITIONS FY 1963	29,934	1,181	3,345	7,332	3,487	17	493	2,116	-	616	4,220	4,697	96	2,001	25	308
FISCAL YEAR 1964 ESTIMATED																
TOTAL EXCEPTED POSITIONS	439	14	37	54	39	-	2	29	7	7	38	36	3	168	2	3
General Schedule Positions:																
GS-16	4	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
GS-15	1,665	80	175	391	178	1	3	108	11	20	121	162	19	378	7	11
GS-14	2,482	127	289	708	330	4	8	133	9	22	197	293	19	294	4	45
GS-13	3,604	274	483	964	477	1	17	190	8	36	291	577	21	201	2	62
GS-12	3,565	288	616	892	507	4	23	160	1	58	312	499	8	109	5	83
GS-11	3,175	196	485	894	450	4	32	130	2	58	388	390	2	94	1	49
GS-10	22	3	-	1	-	-	-	2	-	-	-	12	-	4	-	-
GS-9	2,459	113	345	539	435	-	25	183	-	47	374	327	2	61	1	7
GS-8	43	4	-	2	5	-	-	1	-	1	1	5	-	23	-	1
GS-7	2,006	64	433	316	308	1	36	123	1	15	306	245	2	147	4	5
GS-6	602	42	35	59	66	2	8	35	7	10	64	50	3	209	-	12
GS-5	1,716	125	280	318	196	1	35	122	3	36	188	114	8	222	2	66
GS-4	1,826	151	359	439	205	1	22	122	1	23	220	100	11	129	11	32
GS-3	1,271	71	285	304	133	-	26	48	-	3	181	167	5	38	1	9
GS-2	150	4	31	29	10	-	12	5	-	-	18	40	-	1	-	-
TOTAL GENERAL SCHEDULE	24,590	1,542	3,816	5,860	3,300	19	247	1,362	43	329	2,661	2,981	100	1,910	38	382
WAGE BOARD POSITIONS	6,971	120	337	1,550	273	-	269	785	-	268	1,579	1,768	-	22	-	-
TOTAL PERMANENT POSITIONS	32,000	1,676	4,190	7,464	3,612	19	518	2,176	50	604	4,278	4,785	103	2,100	40	385
OTHER POSITIONS	600	37	150	194	48	3	12	20	-	14	70	32	-	15	-	5
GRAND TOTAL POSITIONS FY 1964	32,600	1,713	4,340	7,658	3,660	22	530	2,196	50	618	4,348	4,817	103	2,115	40	390
FISCAL YEAR 1965 ESTIMATED																
TOTAL EXCEPTED POSITIONS	439	14	37	54	39	-	2	29	7	7	38	36	3	168	2	3
General Schedule Positions:																
GS-16	4	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
GS-15	1,753	109	211	392	178	5	4	112	17	20	121	169	19	378	7	11
GS-14	2,648	185	340	709	330	2	9	135	52	24	197	303	19	294	4	45
GS-13	3,846	352	557	961	477	4	20	200	64	46	291	588	21	201	2	62
GS-12	3,750	371	649	895	507	3	22	175	25	77	312	509	8	109	5	83
GS-11	3,309	253	529	899	450	1	29	150	14	60	388	390	2	94	1	49
GS-10	23	4	-	1	-	-	-	2	-	-	-	12	-	4	-	-
GS-9	2,460	147	365	540	435	-	24	131	3	29	374	330	2	61	1	7
GS-8	45	5	-	2	5	-	-	1	1	1	1	5	-	23	-	1
GS-7	2,054	83	481	316	308	1	34	104	1	15	306	247	2	147	4	5
GS-6	620	55	38	59	66	1	6	35	11	11	64	50	3	209	-	12
GS-5	1,809	165	320	315	196	1	33	122	21	37	188	113	8	222	2	66
GS-4	1,938	198	412	436	204	1	33	122	34	15	220	80	11	129	11	32
GS-3	1,309	98	321	302	132	-	26	48	-	3	181	145	5	38	1	9
GS-2	151	5	41	29	5	-	7	5	-	-	18	40	-	1	-	-
TOTAL GENERAL SCHEDULE	25,719	2,030	4,264	5,860	3,293	19	247	1,362	243	329	2,661	2,981	100	1,910	38	382
WAGE BOARD POSITIONS	7,042	161	360	1,550	280	-	269	785	-	268	1,579	1,768	-	22	-	-
TOTAL PERMANENT POSITIONS	33,200	2,205	4,661	7,464	3,612	19	518	2,176	250	604	4,278	4,785	103	2,100	40	385
OTHER POSITIONS	600	37	150	194	48	3	12	20	-	14	70	32	-	15	-	5
GRAND TOTAL POSITIONS FY 1965	33,800	2,242	4,811	7,658	3,660	22	530	2,196	250	618	4,348	4,817	103	2,115	40	390

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1965 ESTIMATES

ADMINISTRATIVE OPERATIONS

ANALYSIS OF REQUIREMENTS FOR PASSENGER MOTOR VEHICLES

The appropriation language provides for the purchase of 114 passenger motor vehicles, of which 46 are for augmentation of the fiscal year 1964 ending inventory and 68 are for replacement. All vehicles scheduled for replacement meet, or will meet, the criteria established by the General Services Administration for replacement of vehicles due either to age, mileage, annual maintenance costs, or a combination of these factors.

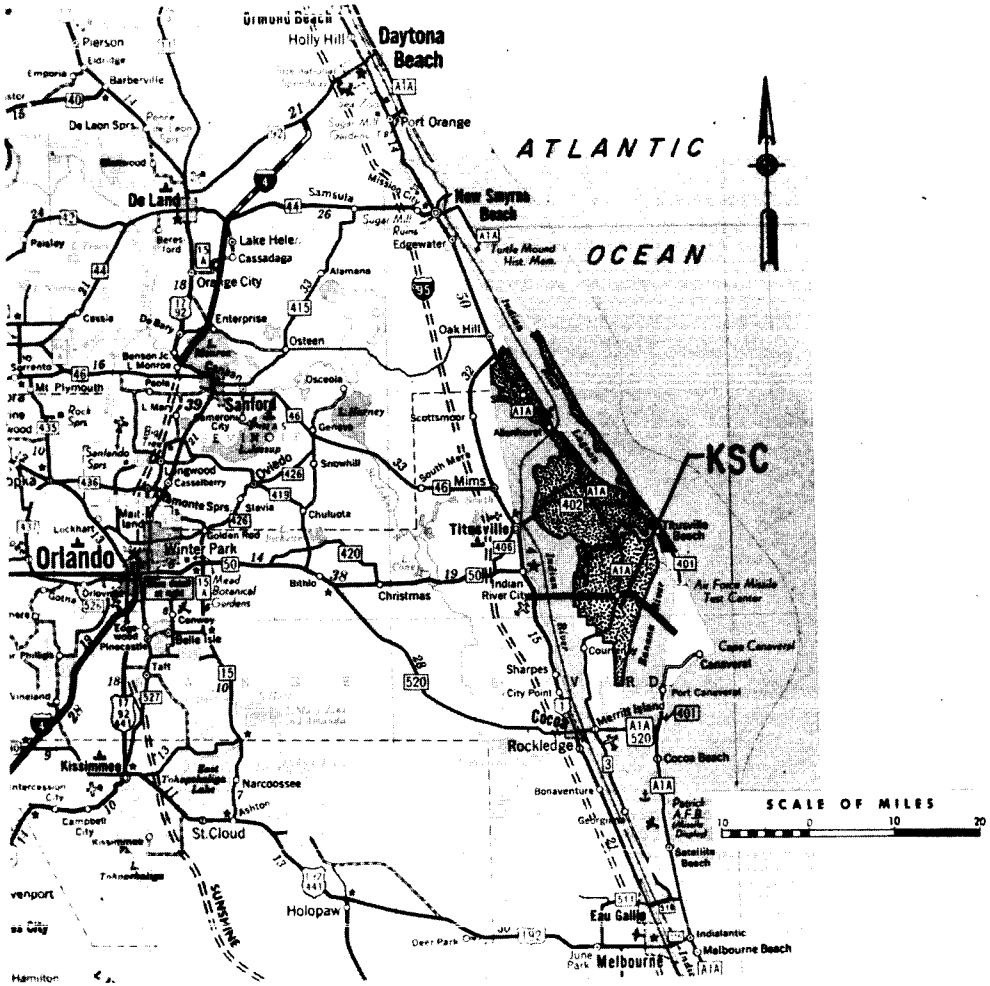
A summary analysis and planned procurement by type of vehicle in fiscal year 1965 is as follows:

	Total	Sedans	Station Wagons	Ambu-lances	Buses
On hand July 1, 1964.....	173	50	98	12	13
Total to be procured:	114	29	81	-	4
(For replacement).....	(68)	(22)	(46)	(-)	(-)
(Disposed - not replaced)	(1)	(-)	(-)	(-)	(1)
On hand June 30, 1965.....	218	57	133	12	16

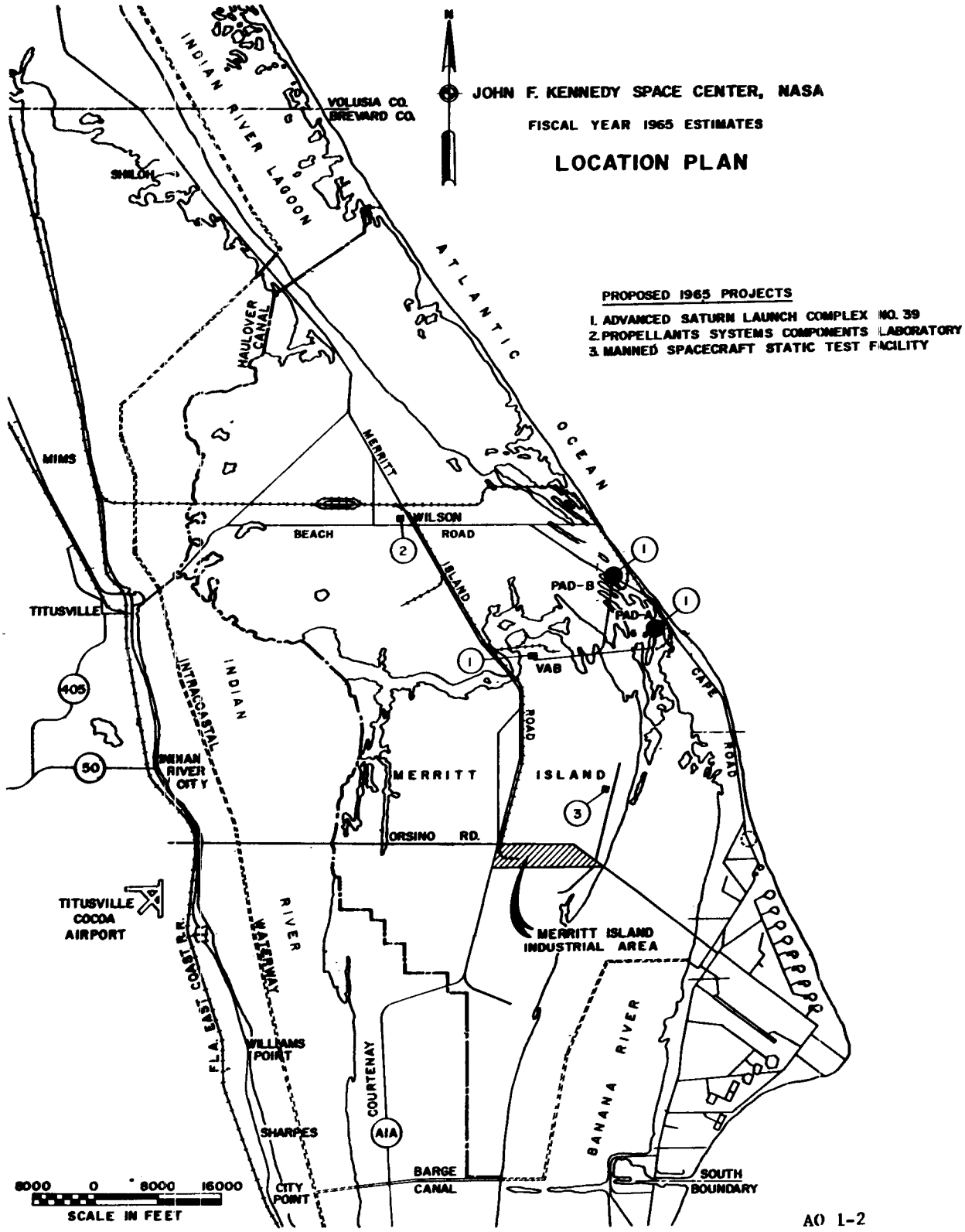
JOHN F. KENNEDY SPACE CENTER, NASA

FISCAL YEAR 1965 ESTIMATES

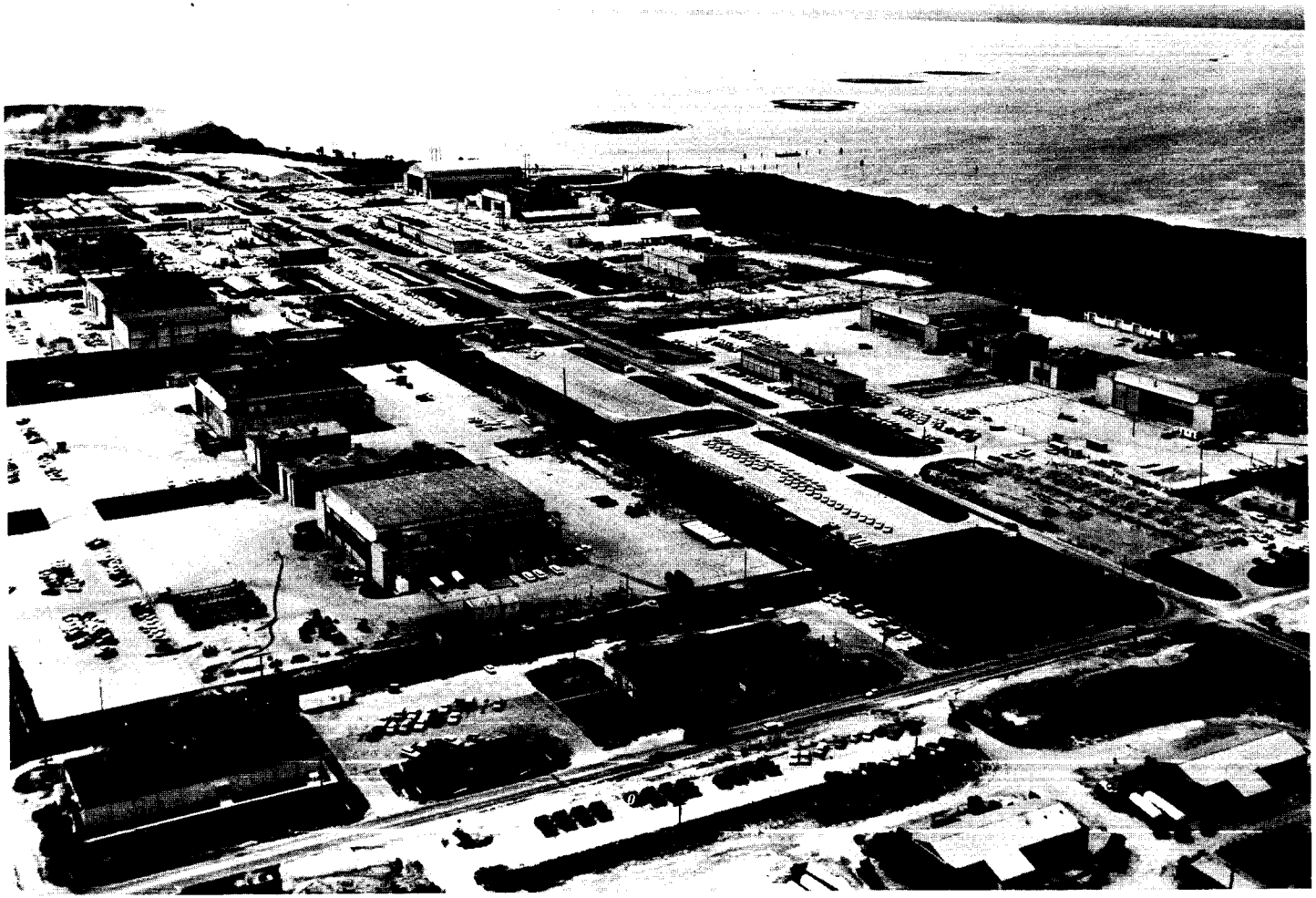
VICINITY MAP



KEY PLAN


JOHN F. KENNEDY SPACE CENTER, NASA
FISCAL YEAR 1965 ESTIMATES
LOCATION PLAN
PROPOSED 1965 PROJECTS
1. ADVANCED SATURN LAUNCH COMPLEX NO. 39
2. PROPELLANTS SYSTEMS COMPONENTS LABORATORY
3. MANNED SPACECRAFT STATIC TEST FACILITY
N
VOLUSIA CO.
BREVARD CO.
INDIAN RIVER LAGOON
SHILOH
ATLANTIC OCEAN
HAULOVER CANAL
MERRITT
MIMS
WILSON
BEACH
ROAD
ISLAND
PAD-B
PAD-A
VAB
TITUSVILLE
INTRACOASTAL
INDIAN
CAPE
ROAD
MELBOURNE RIVER CITY
MERRITT
ISLAND
ORSINO RD.
TITUSVILLE COCOA AIRPORT
RIVER
WATERWAY
MERRITT ISLAND INDUSTRIAL AREA
F.L.A. EAST COAST R.R.
WILLIAMS POINT
COURTENAY
BANANA RIVER
SHARPES
A1A
BARGE CANAL
SOUTH BOUNDARY
CITY POINT
8000 0 8000 16000
SCALE IN FEET

JOHN F. KENNEDY SPACE CENTER, NASA

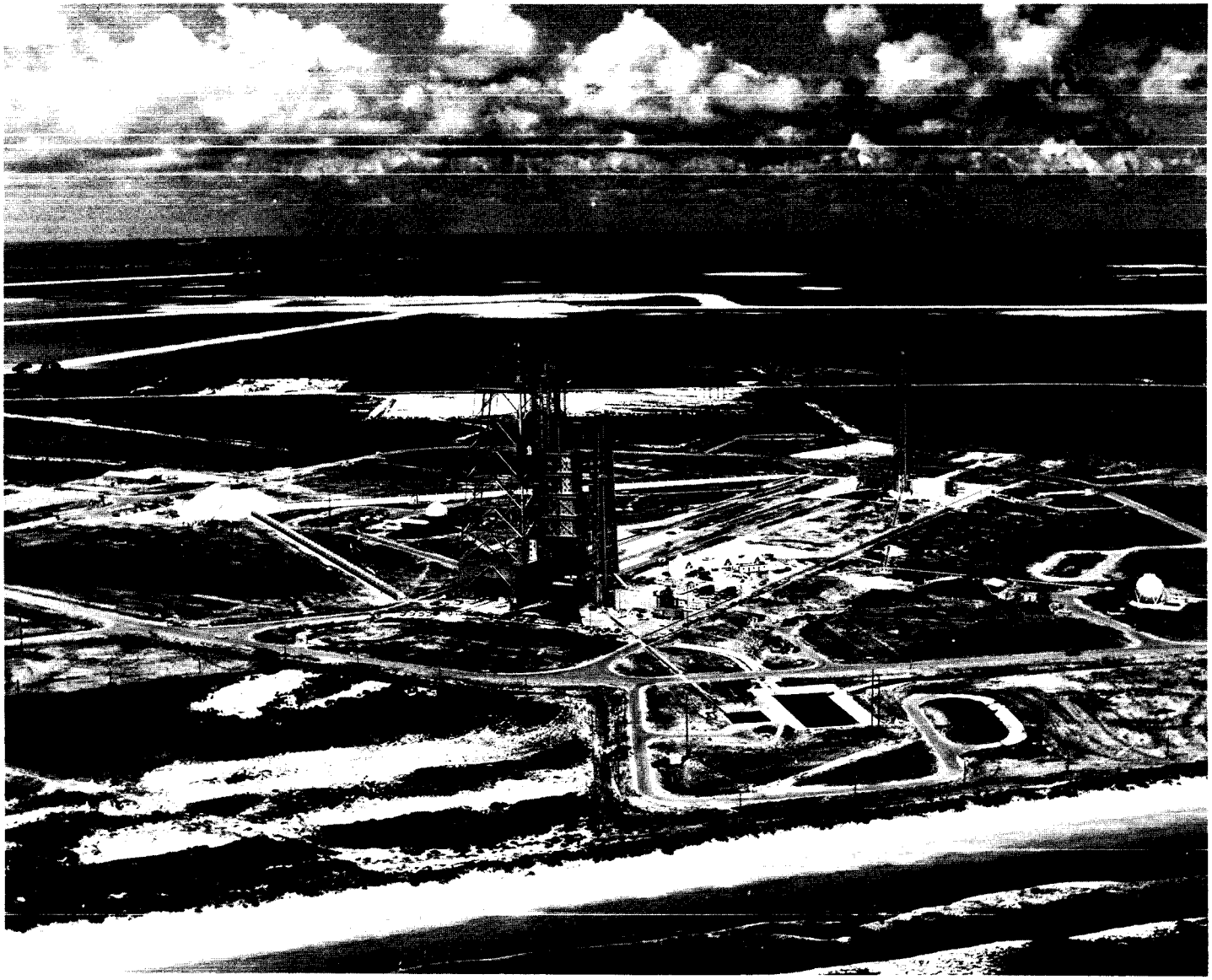


INDUSTRIAL AREA

JOHN F. KENNEDY SPACE CENTER, NASA

LAUNCH COMPLEX 34

JOHN F. KENNEDY SPACE CENTER, NASA



LAUNCH COMPLEX 37

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JOHN F. KENNEDY SPACE CENTER, NASA

LAUNCH COMPLEX 39

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

JOHN F. KENNEDY SPACE CENTER, NASA

STAFF SUMMARY

	64	65
Excepted	14	14
GS-15	80	109
GS-14	127	185
Other GS	1,335	1,736
Wage Board	120	161
Total	1,676	2,205

OFFICE OF DIRECTOR

	64	65
Excepted	2	2
GS-15	1	1
Other GS	6	7
Total	9	10

NASA DAYTONA BEACH OPERATIONS

	64	65
GS-15	1	1
GS-14	4	4
Other GS	51	62
Total	56	67

NASA TEST SUPPORT OFFICE

	64	65
GS-15	1	1
GS-14	1	3
Other GS	6	8
Total	8	12

PUBLIC AFFAIRS OFFICE

	64	65
GS-15	1	4
GS-14	3	3
Other GS	16	16
Total	20	23

SAFETY OFFICE

	64	65
GS-15	1	1
GS-14	3	3
Other GS	15	18
Total	19	22

TECHNICAL STAFF

	64	65
GS-15	1	1
GS-14	1	3
Other GS	2	2
Total	4	6

ASSISTANT DIRECTOR FOR PLANS AND PROJECTS MANAGEMENT

	64	65
GS-15	8	8
GS-14	11	14
Other GS	68	68
Total	87	90

ASSISTANT DIRECTOR FOR ADMINISTRATION

	64	65
Excepted	1	1
GS-15	10	14
GS-14	11	15
Other GS	362	411
Wage Board	6	8
Total	390	449

ASSISTANT DIRECTOR FOR LAUNCH VEHICLE OPERATIONS

	64	65
Excepted	5	5
GS-15	21	29
GS-14	16	26
Other GS	214	319
Wage Board	53	71
Total	309	450

LAUNCH SUPPORT OPERATIONS DIVISION

	64	65
Excepted	1	1
GS-15	5	5
GS-14	8	12
Other GS	79	103
Wage Board	50	67
Total	143	190

BASE OPERATIONS DIVISION

	64	65
GS-15	3	3
GS-14	11	12
Other GS	121	128
Wage Board	11	15
Total	146	158

QUALITY ASSURANCE DIVISION

	64	65
GS-15	1	1
GS-14	4	5
Other GS	37	46
Total	42	52

LAUNCH SUPPORT EQUIPMENT ENGINEERING DIVISION

	64	65
Excepted	2	2
GS-15	11	14
GS-14	20	28
Other GS	93	125
Total	126	169

FACILITIES ENGINEERING AND CONSTRUCTION DIVISION

	64	65
GS-15	6	8
GS-14	14	19
Other GS	97	133
Total	117	160

ASSISTANT DIRECTOR FOR INSTRUMENTATION

	64	65
Excepted	3	3
GS-15	9	16
GS-14	20	38
Other GS	168	290
Total	200	347

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

JOHN F. KENNEDY SPACE CENTER, NASA

MISSION AND CAPABILITIES:

The Launch Operations Directorate of Marshall Space Flight Center was established as the Launch Operations Center on July 1, 1962, and redesignated by Executive Order as the John F. Kennedy Space Center, NASA, on November 29, 1963. The Center's primary responsibilities are: to conduct overall planning and supervision of the integration, test, checkout and launch of NASA space vehicle systems at Kennedy Space Center, to provide a central point of contact with the Department of the Air Force at Cape Kennedy for NASA, and to provide support in technical, administrative, and facilities areas, such as:

a. Administrative and technical support services (public relations, visitor control services, community and industrial relations; and legal, security, purchasing and contracting, transportation, and financial management) for all NASA elements located in the area.

b. Programming, integrating, and fulfilling user requirements for general purpose facilities such as offices, warehouses, maintenance buildings, utilities, and roads.

c. Design and construction of all NASA facilities at Kennedy Space Center to meet users' functional requirements.

d. Physical integration of NASA ground support equipment at the launch sites for various space vehicle systems.

e. Representing NASA in coordinating with the United States Air Force in matters pertaining to tracking and data acquisition, and in making arrangements for tracking and data services and support required for operation of all NASA activities at Cape Kennedy.

Under the NASA-DOD agreement dated January 1963, the Kennedy Space Center was designated as the NASA executive agent and manager of the Merritt Island Launch Area, and as the host agency at MILA, is responsible for the provision of support services to all NASA and Department of the Air Force elements located in the area.

The John F. Kennedy Space Center, with the experience of numerous launches beginning with the inception of the Redstone program in 1952, pro-

vides manpower skills in the areas of testing, checkout and launching vehicles, and research and development capability in the areas of launch instrumentation, design of launch and related support facilities, and design of ground support equipment.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year.	1,181	1,713	2,242
Administrative operations.....	$18,804,000	$32,375,000	$47,877,000

INSTALLATION DESCRIPTION:

The Kennedy Space Center is located adjacent to, and northward of, the Cape Kennedy Launch Area in Florida, which is situated approximately 50 miles east of Orlando and south of Daytona Beach in northwest Brevard County.

The land purchases for the Center, which began about two years ago, were approximately 83 per cent complete as of December 1963. The total land to be procured will be approximately 87,400 acres. Water areas, included within the land area under procurement, will increase the total acreage to approximately 103,000 acres. In addition to the land purchases, which has been designated the Merritt Island Launch Area, and where an industrial area and the Saturn V launch complex are now under construction, the Center is responsible for many facilities in the Cape Kennedy Launch Area (34 of these facilities were transferred from the Air Force to NASA on July 1, 1963). The plant value as of June 30, 1963, was $122,747,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$6,240,000	$14,310,000	$21,968,000
12.	Personnel benefits.....	387,000	911,000	1,402,000
	Total, personnel costs....	$6,627,000	$15,221,000	$23,370,000
21.	Travel and transportation of persons.....	529,000	1,451,000	1,358,000
22.	Transportation of things....	234,000	344,000	477,000
23.	Rents, communications and utilities.....	724,000	2,480,000	3,751,000
24.	Printing and reproduction...	104,000	728,000	998,000
25.	Other services.....	4,587,000	6,259,000	6,862,000
26.	Supplies and materials.....	3,248,000	3,040,000	4,200,000
31.	Equipment.....	2,479,000	1,868,000	5,141,000
32.	Lands and structures.....	272,000	984,000	1,720,000
	TOTAL.....	$18,804,000	$32,375,000	$47,877,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs	$23,370,000
Positions, end of year	2,242

Personnel increases at the Kennedy Space Center have been phased to support the increasing frequency of launches.

During fiscal year 1965 Saturn I launches will continue and the development of the Merritt Island Launch Area will be accelerated. Saturn IB stages will be delivered for test and preparation for launch. Capability for Saturn V launches will follow the completion of the largest single facility, Launch Complex 39.

Requirements for administrative and logistic support of all NASA elements and associated contractors at Kennedy Space Center will continue to increase. For fiscal year 1965 a total of approximately 11,000 NASA civil service and contractor personnel will require support as compared to 7,000 in fiscal year 1964.

The fiscal year 1965 personnel costs increase by $8,149,000 over fiscal year 1964. This increase is due primarily to the increase of 792 man-years and the funding of the civil service pay increase, effective January 5, 1964 for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Gemini	2	12	12
Apollo	586	889	1,314
Advanced missions	4	-	-
Space Science and Applications			
Launch vehicle development	4	5	7
Advanced Research and Technology			
Space vehicle systems	1	1	1
Nuclear electric systems	1	-	-
Subtotal, direct positions	598	907	1,334

	1963	1964	1965
Support personnel			
Director and staff.....	37	104	122
Administration.....	300	390	449
Installation operations.....	43	146	158
Research and development support.....	54	129	142
Subtotal, support positions.....	434	769	871
Total, permanent positions.....	1,032	1,676	2,205
Other positions:			
Positions under cooperative training agreements.....	35	32	32
Other temporary positions.....	114	5	5
Total, all positions.....	1,181	1,713	2,242

Travel and transportation of persons - $1,358,000

The estimate for travel and transportation of persons for fiscal year 1965 decreases $93,000 from the fiscal year 1964 level. This reduction is the result of the planned procurement of the high performance administrative aircraft (Jetstar) in lieu of continuing to lease. It is planned to purchase this aircraft in December 1964; therefore, funds to cover the charter costs are only required for six months of the year. The reduction in costs for chartered aircraft due to this planned procurement offsets increased requirements for travel funds related to direction and coordination of the increasing activities of the Center.

Transportation of things - $477,000

The increase of $133,000 over the fiscal year 1964 level is the result of three factors: an expanding requirement for adequate truck transportation in the expansive Merritt Island Launch Area; the need for relocation of personnel and equipment to this area as facilities are completed; and the requirement for increased cargo airlift to support the Gemini and Apollo project activity.

Rents, communications, and utilities - $3,751,000

The increase of $1,271,000 for rents, communications, and utilities is primarily due to increased usage of electricity incident to the activation of the Merritt Island Launch Area and a nominal increase in communications.

The rapid expansion of activities has created the need for leasing of facilities beyond the limits of the Cape Kennedy area. Personnel housed in leased facilities will relocate to MILA, and inasmuch as it is not considered economical to construct new facilities on the Cape. Initial relocation to MILA is anticipated during the close of fiscal year 1965. The leased properties consist of the Holiday Office Center (11,096 sq. ft.) and the Apollo Building (41,987 sq ft.) located in the City of Cocoa Beach. Renewal of fiscal year 1964 leases is anticipated at no increase in cost in fiscal year 1965.

Requirements for rental of electronic data processing equipment decrease in fiscal year 1965 due to the decision to buy such equipment. The reduced funding for computers is offset, in part, by increases for peripheral equipment to support the expanded services required. The effect of these offsetting changes is a net decrease of $32,000 for fiscal year 1965 for rental of electronic data processing equipment. In addition, it is estimated that the requirement for rental of other equipment will be about $15,000 less than fiscal year 1964. As a result, the total estimated cost of equipment rentals will decrease by about $47,000 in fiscal year 1965.

Communications costs will increase by $143,000 to cover the expense of adding three direct dial lines to support stage contractors, increased local telephone expenses keyed to the development of Merritt Island, and increased refile traffic and video circuit costs.

Electric power required for facilities at the Cape and Merritt Island is purchased through the Air Force Missile Test Center. The amount required for fiscal year 1965 is a projection of requirements based on current costs. Increased costs in the amount of $1,116,000 for fiscal year 1965 are attributable, primarily to the new facilities. Water requirements for facilities are furnished on a reimbursable basis by the Air Force. An increase of $59,000 over fiscal year 1964 is required for the new facilities scheduled for completion during fiscal year 1965.

Printing and reproduction - $998,000

The increase of $270,000 for printing and reproduction in 1965 is attributed to the accelerated launch and construction activities.

Other services - $6,862,000

The increase of $603,000 for fiscal year 1965 is generated by additional requirements for service contracts in support of expanded activities.

The major portion of this increase consists of amounts for engineering services, computer operations, technical documentation, graphics, motor pool operations, and other miscellaneous services. Increased requirements exist for technical documentation to support activities, expanded computer operations and six month's cost of contractual maintenance of computers anticipated to be purchased by mid-year, increased graphic services and expansion of motor pool operations. The balance of the increase covers tuition, management services, model fabrication, custodial services, and helicopter services required to support organization growth and activity buildup. These increases are partially offset by a decrease in the projected costs of engineering services.

Increases in the maintenance and repair of research, business, and photographic equipment are due to the buildup in both equipment population and usage over that experienced in fiscal year 1964.

Payments to other Government agencies for maintenance and repair of facilities, photographic services and supplies, and materials and equipment will be less in fiscal year 1965.

Supplies and materials - $4,200,000

As the personnel complement of Kennedy Space Center and the level of activity increases, the need for supplies and materials increases. To provide for the increase in civil service and service contractor man-years, and to provide for an inventory build-up to an adequate operating level, an increase of $1,160,000 will be required.

Equipment - $5,141,000

The increase of $3,273,000 in the fiscal year 1965 estimates consist of the items discussed below totalling $3,654,000, less decreases in estimates for other types of equipment totalling $381,000. An increase of $172,000 is required for purchase of additional laboratory equipment to support expanding program activities; funds in the amount of $1,120,000 are included for the purchase of a high performance administrative aircraft which is currently under a lease equity contract. Funds are provided for the purchase of electronic data processing equipment, currently funded under a rental contract. A total of four computers will be provided - three for business application and one for scientific use. This requirement is based on expanding requirements at Kennedy Space Center and anticipates a need for two shift capacity. Cost of these computers is estimated at $2,362,000.

Lands and structures - $1,720,000

The estimated requirement in fiscal year 1965 for minor construction projects and modifications is $736,000 higher than the fiscal year 1964 amount. There is a continuing need for minor construction and modification

of technical and support facilities and equipment to permit their utilization in the most effective manner. With the rapidly expanding activity at the MILA complex, it is estimated that requirements for minor construction and modifications will increase accordingly.

Launch operations as large and dynamic as that planned for the MILA complex will generate many changes in methods, procedures, and techniques of the checkout and launch phase. These changes will, in turn, generate requirements for minor construction and modifications. Funds provided for this purpose will permit the Center to react immediately to these requirements which would otherwise have to wait for the next annual authorization bill.

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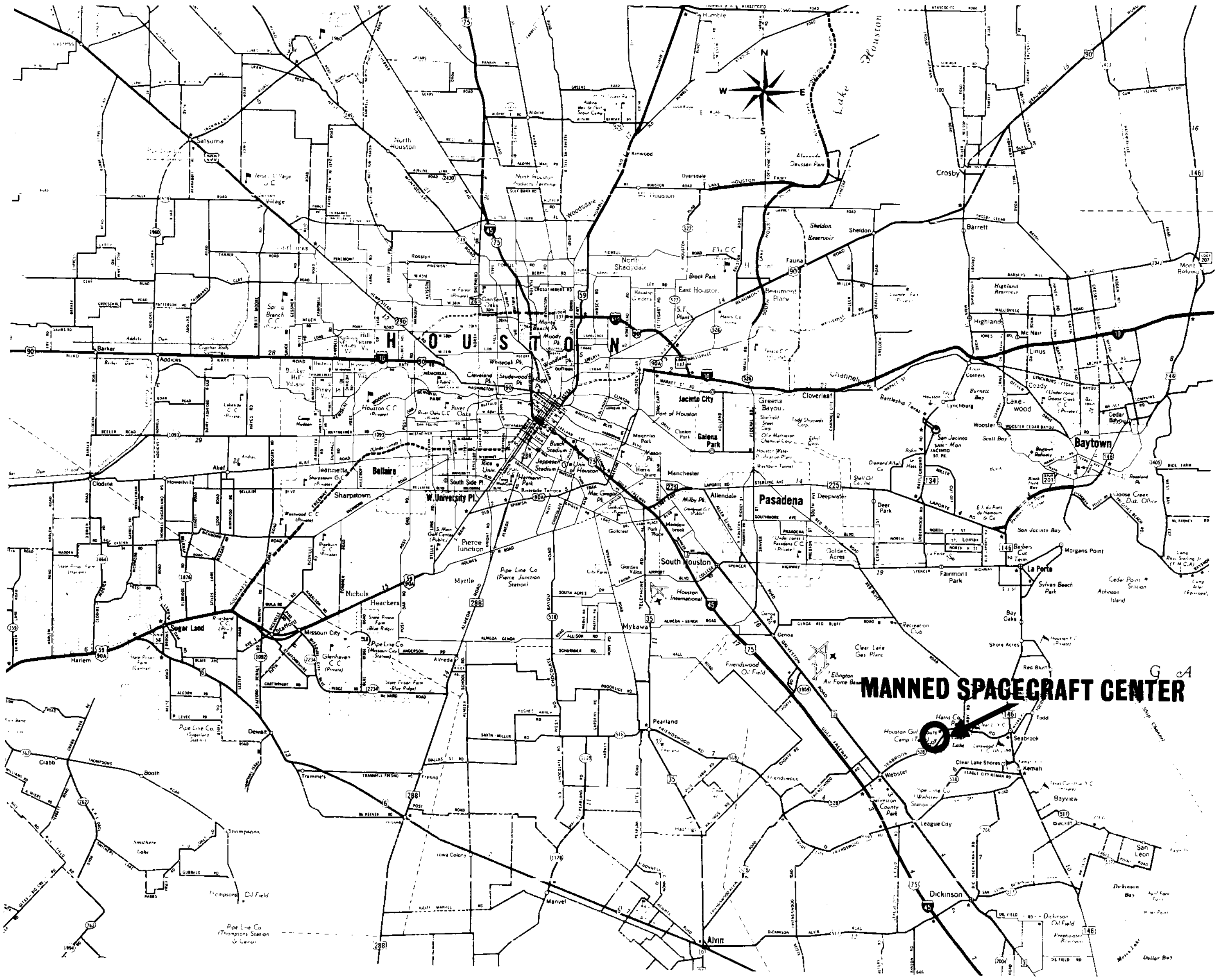
MANNED SPACECRAFT CENTER
H O U S T O N
N
S
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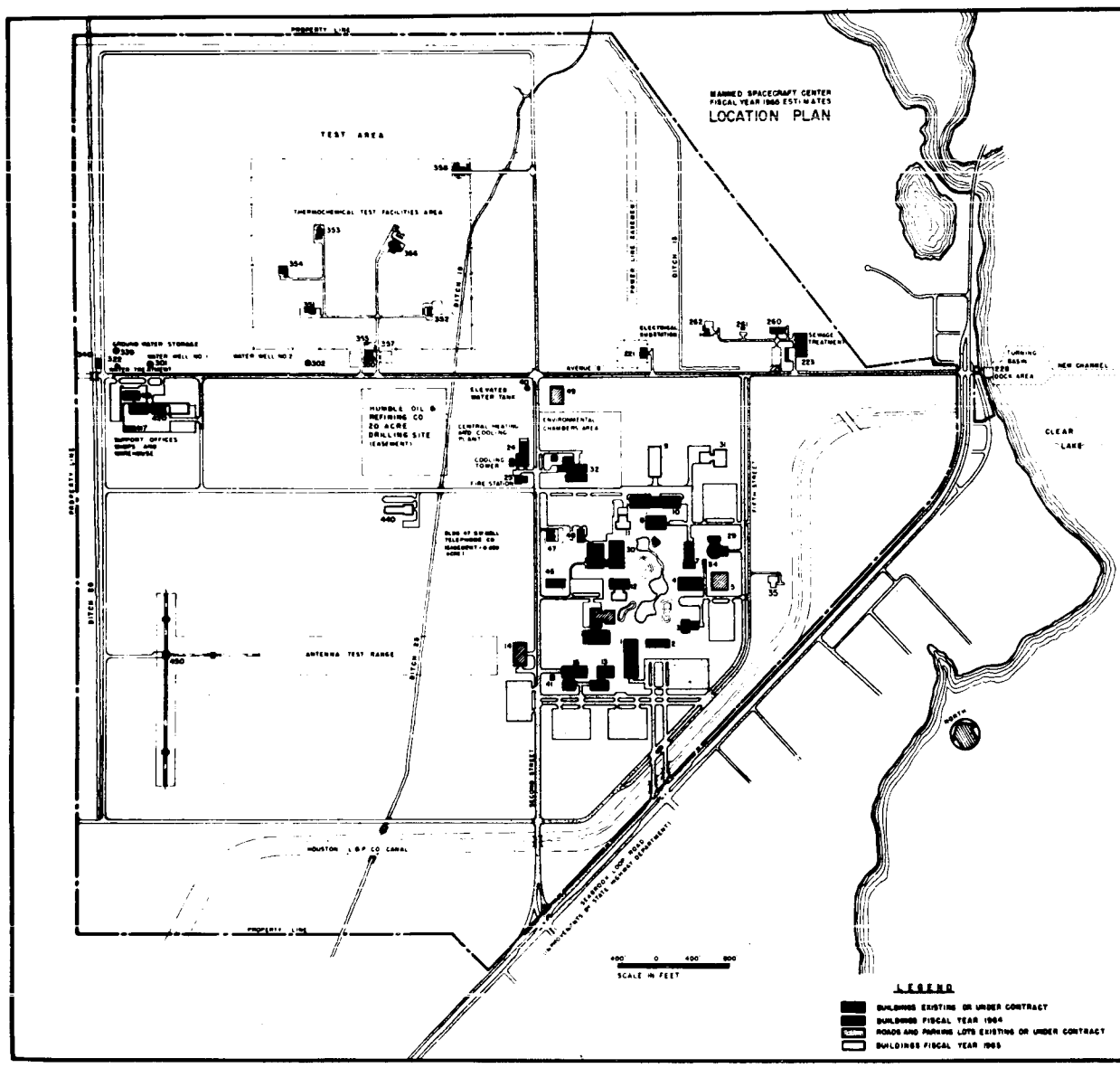
Humble
Satsuma
North Houston
Crosby
Barrett
Sheldon
Highlands
Barker
Addicks
Bellaire
Sharpstown
W. University Pl.
South Side Pl.
Jacinto City
Galena Park
Pasadena
Baytown
La Porte
Deer Park
South Houston
Sugar Land
Stafford
Missouri City
Harlem
Dewalt
Crabb
Booth
Thompsons
Fresno
Manvel
Alvin
Pearland
Webster
League City
Dickinson
Kemah
Seabrook
Bayview
San Leon
Clear Lake Shores
Clodine
Myrtle
Nichols
Dyersdale
Cloverleaf
Lynchburg
Genoa
Mykawa
Friendswood
Morgans Point
Shore Acres
Bay Oaks
Fairmont Park
Golden Acres
Deepwater



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2 PROJECT MANAGEMENT FY 62
3 CENTRAL CAFETERIA FY 62
4 FLIGHT OPERATIONS OFFICE FY 62
5 MISSION SIMULATION AND TRAINING FACILITY
7 LIFE SYSTEMS LABORATORY FY 62
8 TECHNICAL SERVICES OFFICE FY 62
10 TECHNICAL SERVICES SHOP FY 62
12 CENTRAL DATA OFFICE FY 62
13 SYSTEMS EVALUATION LABORATORY FY 62
14 ANECHOIC CHAMBER TEST FACILITY FY 64
15 INSTRUMENTATION AND ELECTRONIC SYSTEMS LABORATORY FY 62
16 SPACECRAFT RESEARCH OFFICE AND LABORATORY FY 62 & 64
24 CENTRAL HEATING AND COOLING PLANT FY 62, 63 & 64
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FISCAL YEAR 1965

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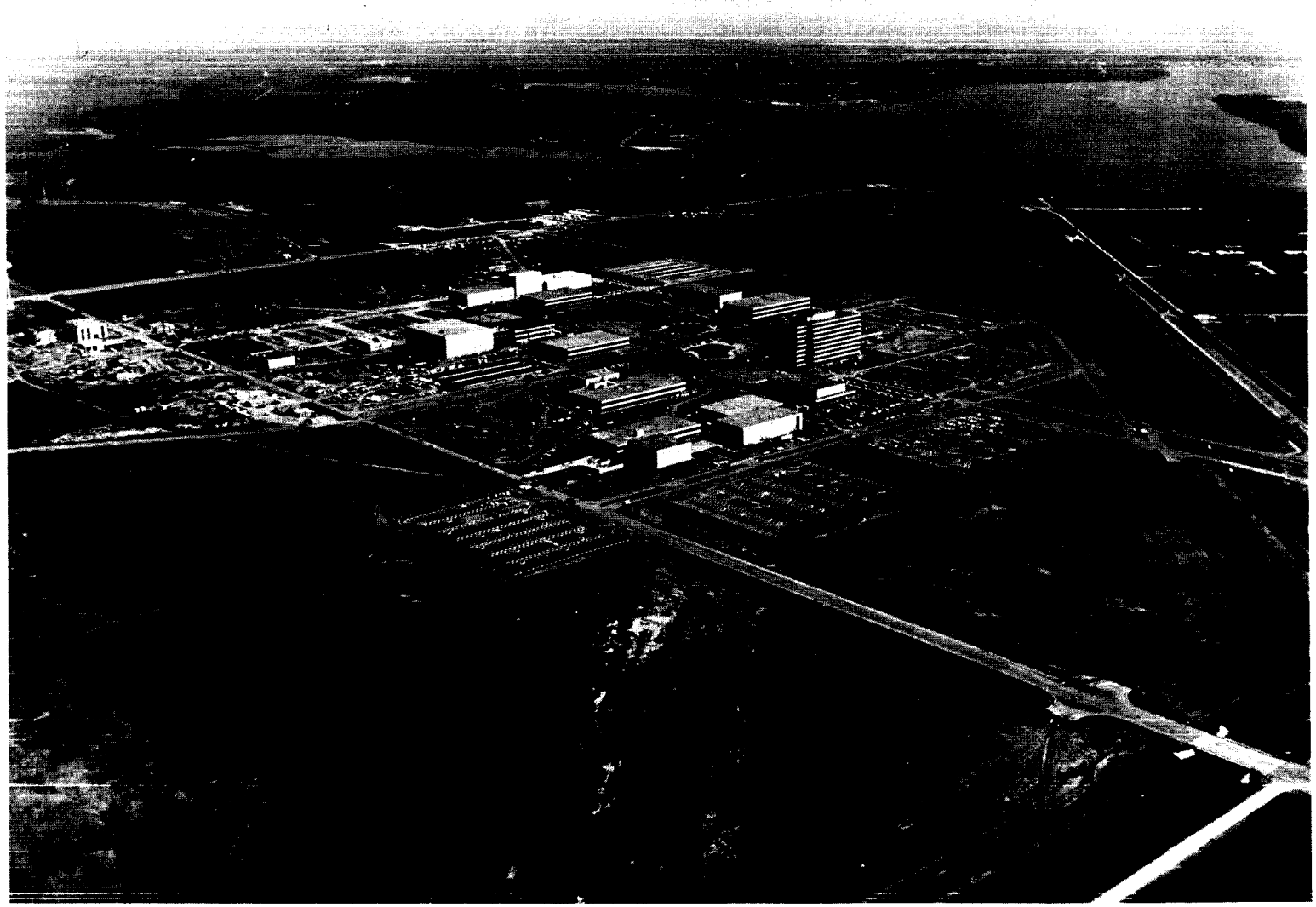
11 BRANCH CAFETERIA
12 CENTRAL DATA EXTENSION
24 CENTRAL HEATING & COOLING PLANT EXTENSION
31 LUNAR MISSION & SPACE EXPLORATION FACILITY
32 MODIFICATIONS TO THE ENVIRONMENTAL TESTING LABORATORY
35 FLIGHT CREW OPERATIONS FACILITY
440 ELECTRONIC SYSTEMS COMPATABILITY FACILITY

FACILITIES DIVISION – JULY 26, 1963

MANNED SPACECRAFT CENTER



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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ORGANIZATION AND STAFFING CHART
MANNED SPACECRAFT CENTER

STAFFING SUMMARY

	64	65
Excepted	37	37
GS-15	175	211
GS-14	269	340
Other GS	3,352	3,713
Wage Board	337	360
Total	4,190	4,661

OFFICE OF THE DIRECTOR

	64	65
Excepted	4	4
GS-15	4	4
GS-14	4	4
Other GS	8	8
Total	20	20

ICE

	64	65
	0	0
	1	1
	2	3
	12	16
	15	20

PUBLIC AFFAIRS OFFICE

	64	65
Excepted	1	1
GS-15	1	1
GS-14	1	2
Other GS	47	48
Total	50	52

RELIABILITY AND QUALITY ASSURANCE OFFICE

	64	65
Excepted	1	1
GS-15	4	4
GS-14	6	8
Other GS	11	13
Total	22	26

CENTER MEDICAL OPERATIONS OFFICE

	64	65
Excepted	1	1
GS-15	1	1
GS-14	3	3
Other GS	30	30
Total	35	35

LEGAL OFFICE

	64	65
Excepted	0	0
GS-15	1	1
GS-14	2	3
Other GS	17	24
Total	20	28

GEMINI PROGRAM OFFICE

	64	65
Excepted	3	3
GS-15	20	23
GS-14	20	25
Other GS	108	137
Wage Board	14	14
Total	165	202

APOLLO PROGRAM OFFICE

	64	65
Excepted	7	7
GS-15	37	46
GS-14	54	68
Other GS	155	224
Total	253	345

CTOR FOR ATIONS

	64	65
	2	2
	17	20
	25	29
	377	401
	8	8
	429	460

ASSISTANT DIRECTOR FOR ADMINISTRATION

	64	65
Excepted	2	2
GS-15	0	0
GS-14	1	1
Other GS	17	20
Total	20	23

ASSISTANT DIRECTOR FOR ENGINEERING AND DEVELOPMENT

	64	65
Excepted	2	2
GS-15	3	4
GS-14	3	4
Other GS	15	13
Total	23	23

ASSISTANT DIRECTOR FOR FLIGHT CREW OPERATIONS

	64	65
Excepted	4	4
GS-15	12	13
GS-14	22	24
Other GS	128	157
Wage Board	9	9
Total	175	207

MANAGEMENT ANALYSIS DIVISION

	64	65
Excepted	0	0
GS-15	1	1
GS-14	3	3
Other GS	18	18
Total	22	22

CREW SYSTEMS DIVISION

	64	65
Excepted	0	0
GS-15	5	6
GS-14	12	14
Other GS	167	169
Wage Board	6	6
Total	190	195

INSTRUMENTATION AND ELECTRONIC SYSTEMS DIVISION

	64	65
Excepted	0	0
GS-15	2	6
GS-14	10	14
Other GS	217	230
Wage Board	18	24
Total	247	274

PROGRAM ANALYSIS AND RESOURCES MANAGEMENT DIVISION

	64	65
Excepted	2	2
GS-15	5	7
GS-14	9	11
Other GS	129	136
Total	145	156

PROCUREMENT AND CONTRACTS DIVISION

	64	65
Excepted	1	1
GS-15	7	9
GS-14	13	14
Other GS	186	185
Wage Board	1	1
Total	208	210

ADVANCED SPACECRAFT TECHNOLOGY DIVISION

	64	65
Excepted	2	2
GS-15	16	18
GS-14	25	27
Other GS	320	340
Total	363	387

COMPUTATION AND DATA REDUCTION DIVISION

	64	65
Excepted	1	1
GS-15	3	5
GS-14	7	9
Other GS	176	196
Total	187	211

PERSONNEL DIVISION

	64	65
Excepted	0	0
GS-15	1	1
GS-14	2	2
Other GS	79	85
Total	82	88

SECURITY DIVISION

	64	65
Excepted	0	0
GS-15	0	0
GS-14	1	1
Other GS	26	33
Total	27	34

GUIDANCE AND CONTROL STRUCTURES, MECHANICS PROPULSION AND ENERGY SYSTEMS DIVISION

	64	65
Excepted	2	2
GS-15	10	14
GS-14	19	23
Other GS	291	342
Wage Board	6	6
Total	328	387

OFFICE OF TECHNICAL AND ENGINEERING SERVICES

	64	65
Excepted	0	0
GS-15	5	5
GS-14	6	7
Other GS	189	214
Wage Board	111	124
Total	311	350

OFFICE OF ADMINISTRATIVE SERVICE

	64	65
Excepted	0	0
GS-15	1	1
GS-14	3	3
Other GS	219	222
Wage Board	72	72
Total	295	298

MANAGER WHITE SANDS MISSILE RANGE OPERATIONS

	64	65
Excepted	0	0
GS-15	3	3
GS-14	8	8
Other GS	80	85
Wage Board	8	12
Total	99	108

MANAGER FLORIDA OPERATIONS

	64	65
Excepted	2	2
GS-15	15	17
GS-14	28	30
Other GS	330	367
Wage Board	84	84
Total	459	500

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ORGANIZATION AND STAFFING CHART
MANNED SPACECRAFT CENTER

STAFFING SUMMARY

	64	65
Excepted	37	37
GS-15	175	211
GS-14	289	340
Other GS	3,352	3,713
Wage Board	337	360
Total	4,190	4,661

OFFICE OF THE DIRECTOR

	64	65
Excepted	4	4
GS-15	4	4
GS-14	4	4
Other GS	8	8
Total	20	20

AUDIT OFFICE

	64	65
Excepted	0	0
GS-15	1	1
GS-14	2	3
Other GS	12	16
Total	15	20

PUBLIC AFFAIRS OFFICE

	64	65
Excepted	1	1
GS-15	1	1
GS-14	1	2
Other GS	47	48
Total	50	52

RELIABILITY AND QUALITY ASSURANCE OFFICE

	64	65
Excepted	1	1
GS-15	4	4
GS-14	6	8
Other GS	11	13
Total	22	26

CENTER MEDICAL OPERATIONS OFFICE

	64	65
Excepted	1	1
GS-15	1	1
GS-14	3	3
Other GS	30	30
Total	35	35

LEGAL OFFICE

	64	65
Excepted	0	0
GS-15	1	1
GS-14	2	3
Other GS	17	24
Total	20	28

GEMINI PROGRAM OFFICE

	64	65
Excepted	3	3
GS-15	20	23
GS-14	20	25
Other GS	108	137
Wage Board	14	14
Total	165	202

APOLLO PROGRAM OFF

Excepted	
GS-15	
GS-14	
Other GS	
Total	

ASSISTANT DIRECTOR FOR FLIGHT OPERATIONS

	64	65
Excepted	2	2
GS-15	17	20
GS-14	25	29
Other GS	377	401
Wage Board	8	8
Total	429	460

ASSISTANT DIRECTOR FOR ADMINISTRATION

	64	65
Excepted	2	2
GS-15	0	0
GS-14	1	1
Other GS	17	20
Total	20	23

ASSISTANT DIRECTOR FOR ENGINEERING AND DEVELOPMENT

	64	65
Excepted	2	2
GS-15	3	4
GS-14	3	4
Other GS	15	13
Total	23	23

MANAGEMENT ANALYSIS DIVISION

	64	65
Excepted	0	0
GS-15	1	1
GS-14	3	3
Other GS	18	18
Total	22	22

CREW SYSTEMS DIVISION

	64	65
Excepted	0	0
GS-15	5	6
GS-14	12	14
Other GS	167	169
Wage Board	6	6
Total	190	195

INSTRUMENTATION AND ELECTRONIC SYSTEMS DIVISION

	64	65
Excepted	0	0
GS-15	2	6
GS-14	10	14
Other GS	217	230
Wage Board	18	24
Total	247	274

PROGRAM ANALYSIS AND RESOURCES MANAGEMENT DIVISION

	64	65
Excepted	2	2
GS-15	5	7
GS-14	9	11
Other GS	129	136
Total	145	156

PROCUREMENT AND CONTRACTS DIVISION

	64	65
Excepted	1	1
GS-15	7	9
GS-14	13	14
Other GS	186	185
Wage Board	1	1
Total	208	210

ADVANCED SPACECRAFT TECHNOLOGY DIVISION

	64	65
Excepted	2	2
GS-15	16	18
GS-14	25	27
Other GS	320	340
Total	363	387

COMPUTATION AND DATA REDUCTION DIVISION

	64	65
Excepted	1	1
GS-15	3	5
GS-14	7	9
Other GS	176	196
Total	187	211

PERSONNEL DIVISION

	64	65
Excepted	0	0
GS-15	1	1
GS-14	2	2
Other GS	79	85
Total	82	88

SECURITY DIVISION

	64	65
Excepted	0	0
GS-15	0	0
GS-14	1	1
Other GS	26	33
Total	27	34

GUIDANCE AND CONTROL STRUCTURES, MECHANICS PROPULSION AND ENERGY SYSTEMS DIVISION

	64	65
Excepted	2	2
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GS-14	19	23
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Wage Board	6	6
Total	328	387

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	64	65
Excepted	0	0
GS-15	5	5
GS-14	6	7
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OFFICE OF ADMINISTRATIVE SERVICE

	64	65
Excepted	0	0
GS-15	1	1
GS-14	3	3
Other GS	219	222
Wage Board	72	72
Total	295	298

MANAGER WHITE SANDS MISSILE RANGE OPERATIONS

	64	65
Excepted	0	0
GS-15	3	3
GS-14	8	8
Other GS	80	85
Wage Board	8	12
Total	99	108

MANAGER FLORIDA OPERATIONS

	64	65
Excepted	2	2
GS-15	15	17
GS-14	28	30
Other GS	330	367
Wage Board	84	84
Total	459	500

ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

MANNED SPACECRAFT CENTER

MISSION AND CAPABILITIES:

On November 5, 1958, the Space Task Group, later to become the Manned Spacecraft Center, was formally established to provide project management of the manned satellite program. The Space Task Group was located at the Langley Research Center and reported directly to NASA Headquarters at Washington, D. C. By the end of November, 1958, the manned satellite program was officially named Project Mercury. Because of the increased emphasis on and the expanded scope of the manned space flight effort, the Manned Spacecraft Center was established in November 1961. The Gemini project and the Apollo spacecraft development were assigned to this Center in addition to Project Mercury.

On July 1, 1962, the Manned Spacecraft Center had completed the move from Langley Air Force Base, Virginia, to Houston, Texas. The Center organizational elements moved into various temporary quarters in and around Houston awaiting completion of the permanent site at Clear Lake.

The Manned Spacecraft Center has as its primary mission the development of spacecraft for manned space flight programs and the conduct of manned flight operations. The Center is now carrying out two major space research and exploration projects:

Gemini - A series of flight missions using a two-man capsule to develop and demonstrate rendezvous and docking techniques in orbit, and a greater degree of maneuverability both in space and in landing.

Apollo - A series of flight missions using three-man spacecraft of modular concept capable of manned space flight in Earth and lunar orbits, achieving lunar landings in a lunar excursion module, and returning to Earth.

The Center's mission embraces an engineering, development, and operations capability to support these projects and to generate the knowledge required to advance the technology of space and manned spacecraft development. Efforts focus on the conception and implementation of a program of applied research and development in the areas of space research, space physics, life systems, and test and evaluation.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year	3,345	4,340	4,811
Administrative operations.....	$50,960,000	$68,071,000	$98,104,000

INSTALLATION DESCRIPTION:

The Manned Spacecraft Center is located on Road 528, two miles east of the town of Webster, Texas. The site is approximately 20 miles southeast of downtown Houston, 25 miles northwest of Galveston and 20 miles southwest of Baytown. A portion of the site borders on Clear Lake, which provides access by water to Galveston Bay and thence to the Intracoastal Canal and the Gulf of Mexico. Two railroads service the general areas in which the site is located. Galveston and Houston both offer excellent deep water ports and service to all parts of the world. Airline service is available with most major airline companies or connecting lines. Ellington Air Force Base, seven miles to the northwest, provides adequate military landing facilities.

Total area occupied is 1,600 acres. This land was acquired by two conveyances, one of 600 acres and the other of 1,020 acres, 20 acres of which are reserved for mineral rights by the Humble Oil Company. The property is subject to easements to the Houston Natural Gas Company, Harris County and the State of Texas.

The plant value of the Manned Spacecraft Center, as of June 30, 1963, was $53,334,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation....	$22,590,000	$35,295,000	$47,480,000
12.	Personnel benefits.....	1,475,000	2,284,000	3,100,000
	Total personnel costs...	$24,065,000	$37,579,000	$50,580,000
21.	Travel and transportation of persons.....	3,164,000	4,320,000	5,161,000
22.	Transportation of things..	1,179,000	1,188,000	813,000
23.	Rents, communications and utilities.....	3,273,000	6,345,000	6,906,000
24.	Printing and reproduction.	327,000	400,000	530,000
25.	Other services.....	5,392,000	10,323,000	11,268,000
26.	Supplies and materials....	4,990,000	5,317,000	7,457,000
31.	Equipment.....	7,688,000	2,112,000	14,936,000

	1963	1964	1965
32. Lands and structures.....	$882,000	$484,000	$450,000
42. Insurance claims and indemnities.....	---	3,000	3,000
TOTAL.....	$50,960,000	$68,071,000	$98,104,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$50,580,000
Positions, end of year.....	4,811

The personnel requirements of the Manned Spacecraft Center are directly related to its primary mission for the development of spacecraft for manned space flight programs and the conduct of manned flight operations. Fiscal year 1965 brings a major increase in spacecraft operations activity, including a number of spacecraft launches.

The Apollo program reaches a peak staffing requirement during the latter half of fiscal year 1964 and early fiscal year 1965. This is the period of principal design, development, manufacture, and test of the many critical systems and subsystems. It is also the period during which maximum integration effort is required. The engineering requirements associated with flight and integrated systems ground test will expand rapidly during this period. There will be an increase in ground testing of approximately 40 per cent in fiscal year 1965 over fiscal year 1964.

The Manned Spacecraft Center is working to bring into being the combination of facilities, contractors, and management needed to successfully accomplish the Gemini and Apollo programs within the scope and time scale presently approved. The program has many facets: a steady pace of progress for our spacecraft development contractors; ground and flight test programs at White Sands Missile Range; a heavy preflight test and checkout workload at Cape Kennedy; and the painstaking astronaut training, mission planning, and control required for frequent extended-duration flights.

This work cannot be done without the necessary trained employees to manage the program. Contractors must be supervised and their efforts coordinated. Flight and development test facilities must be built and operated. Spacecraft must be inspected, tested, and ready for flight. The Manned Spacecraft Center is now in the midst of acquiring and training personnel for these essential jobs. None of these efforts can be deferred.

The fiscal year 1965 personnel costs will increase by $13,001,000 over those for fiscal year 1964. This increase is due primarily to the increase of 1,175 man-years over fiscal year 1964, and funding for the civil service pay increase, effective January 5, 1964, for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Gemini	427	698	848
Apollo	1,309	1,954	2,159
Advanced missions	104	171	190
Completed missions	120	-	-
Advanced Research and Technology			
Basic research	44	75	79
Space Science and Applications			
Lunar and planetary exploration	-	20	23
Subtotal, direct positions	2,004	2,918	3,299
Support personnel			
Director and staff	84	105	120
Administration	688	799	831
Installation operations	189	311	350
Research and development support	29	57	61
Subtotal, support positions	990	1,272	1,362
Total, permanent positions	2,994	4,190	4,661
Other positions:			
Positions under cooperative training agreements	90	125	125
Other temporary positions	261	25	25
Total, all positions	3,345	4,340	4,811

Travel and transportation of persons - $5,161,000

The estimate for travel and transportation of persons for fiscal year 1965 represents an increase of $841,000. Although total travel costs are expected to increase in fiscal year 1965, the ratio of travel costs to Center population will remain at about the same level as during fiscal years 1963 and 1964. Additional space flight missions during fiscal year 1965 and normal progression of the Manned Space Flight program will increase the travel

costs to permit trips of longer duration such as to global tracking stations.

The fiscal year 1965 estimate reflects reductions in cost of travel to initial duty stations, temporary assignments and rental of passenger carrying vehicles.

Transportation of things - $813,000

The fiscal year 1965 estimate of $813,000 represents a reduction of $375,000 from the fiscal year 1964 estimate. This results from fewer new employees to be hired in fiscal year 1965 who are eligible for the movement of household goods at Government expense, and reduced costs for freight since the major costs of relocating to the Clear Lake site occur in fiscal year 1964.

Rents, communications and utilities - $6,906,000

The fiscal year 1965 estimate reflects an increase of $561,000 over fiscal year 1964, which is primarily attributable to communications and utilities costs at the White Sands Missile Range and the Clear Lake site, which will be funded for a full year in fiscal year 1965. To partially offset the increased costs for communications and utilities, a reduction has been planned for the lease of electronic data processing equipment, as a result of the decision to purchase certain computer systems by mid-fiscal year 1965. Also, the move to Clear Lake will reduce the number of structures that will be rented in the Houston area.

Printing and reproduction - $530,000

This estimate of $530,000 is required for printing, duplicating, binding, and microfilming. The increase of $130,000 over fiscal year 1964 will provide for contract costs of microfilming Gemini and Apollo records and documentation.

Other services - $11,268,000

This estimate provides for services on a contract basis by other Government agencies and private contractors on a continuing, non-recurring, or seasonal basis, as required for the operation of this Center. The services are grouped in the following categories: service contracts; services of other agencies; maintenance, repairs, and alterations; custodial services; and other contractual services. The increase of $945,000 in fiscal year 1965 for this object class is primarily attributable to increased costs for contracts to provide engineering services such as design specifications, shop drawings, and models of spacecraft systems and hardware to support projects Gemini and Apollo. Other increases are due to the procurement of computer programming which is beyond the capacity of the Center staff, and additional electronic accounting machine service to augment in-house data processing capability.

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Supplies and materials - $7,457,000

The estimate for supplies and materials is $2,140,000 more than the fiscal year 1964 estimate. Most of this increase is attributable to the greater requirement for cryogenics and pressurants to operate facilities at the Clear Lake site which will become operational in fiscal years 1964 and 1965. The remainder is required to support the increased personnel complement on a full year basis and to provide a normal build-up of inventory to an adequate operating level.

Equipment - $14,936,000

The amount requested in fiscal year 1965 is significantly higher than the amount required for fiscal year 1964. This is attributable, primarily, to the decision to purchase electronic data processing equipment in lieu of continued rental. Approximately $11,608,000 is included for purchase of this equipment. The items of equipment planned for procurement during fiscal year 1965 are those which could be amortized over a four-year period.

The balance of the increase in this object class is attributable to the purchase of shop machinery and equipment to fulfill follow-on requirements of completed buildings at the Manned Spacecraft Center Clear Lake site.

Land and structures - $450,000

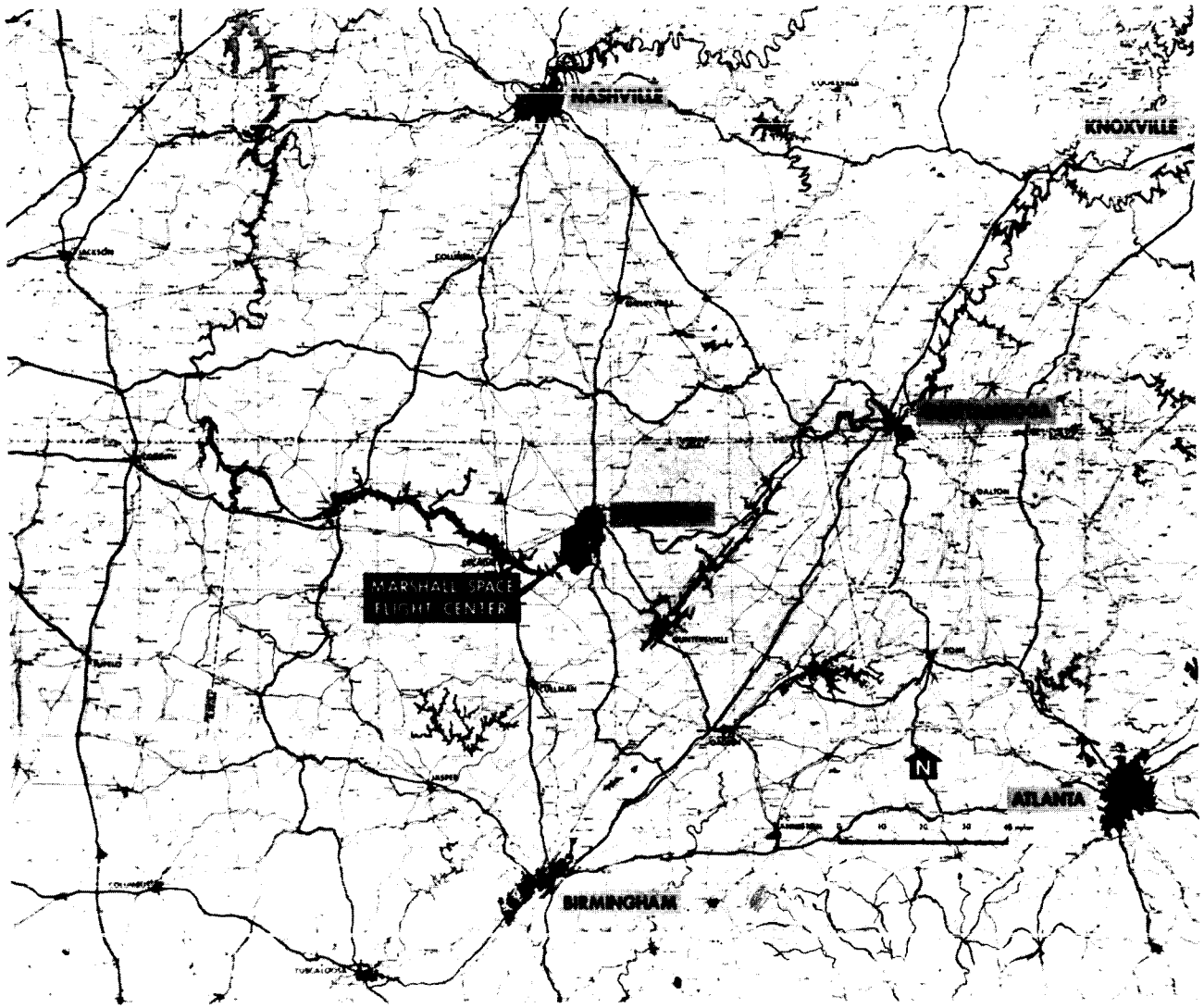
The estimate for modification, alteration, and minor construction is $34,000 less than for fiscal year 1964. As the Center nears completion, it is necessary to meet the demands that occur in the Gemini and Apollo projects, as well as other research and development changes. This necessitates modifications to existing facilities to meet these requirements. Modifications and alterations must be continued to satisfy project requirements, as well as to protect the Government's investment in real property.

Insurance claims and indemnities - $3,000

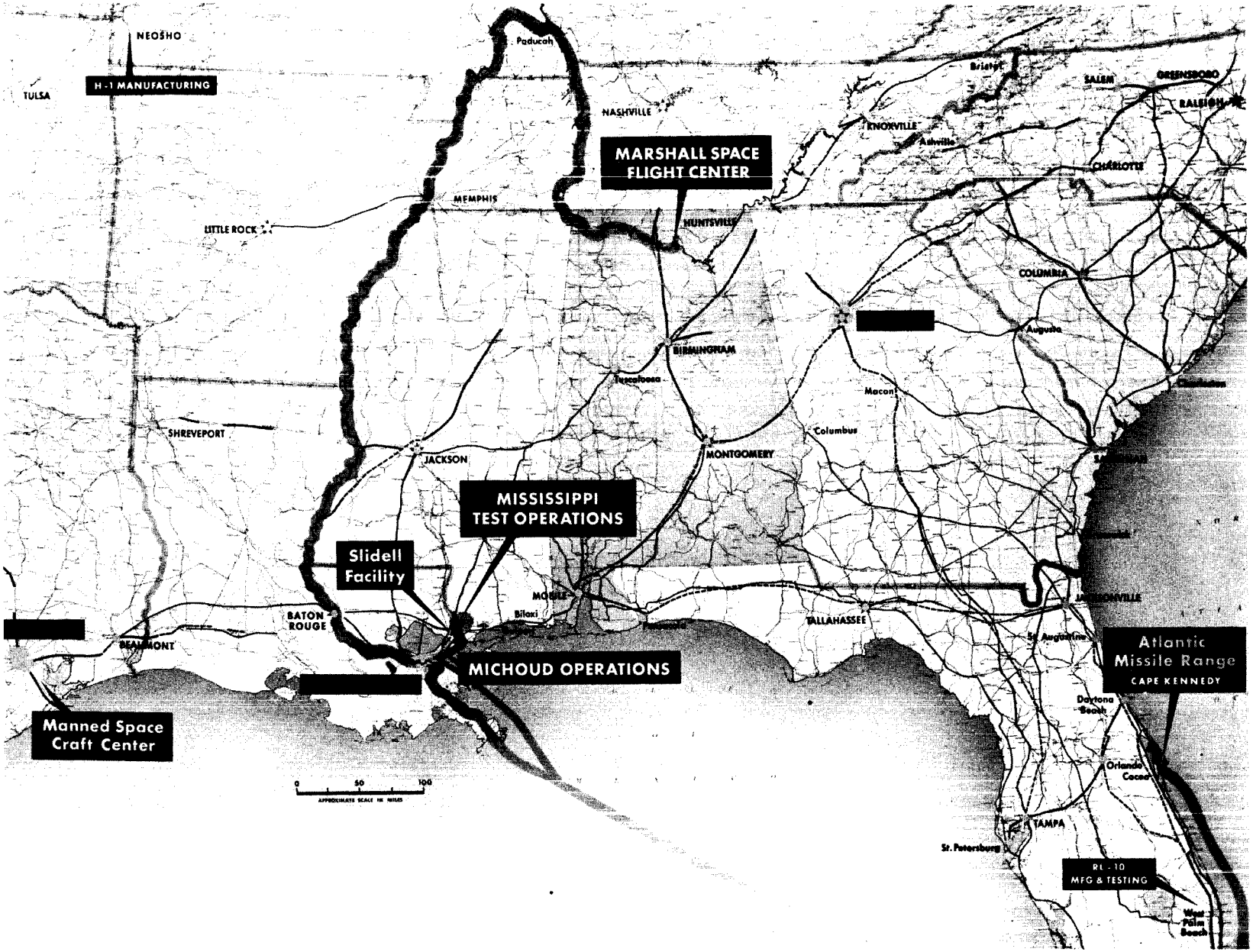
Funds requested are for settlement of insurance claims and indemnities. This requirement is estimated to remain at the fiscal year 1964 level.

GEORGE C. MARSHALL SPACE FLIGHT CENTER

Huntsville, Alabama



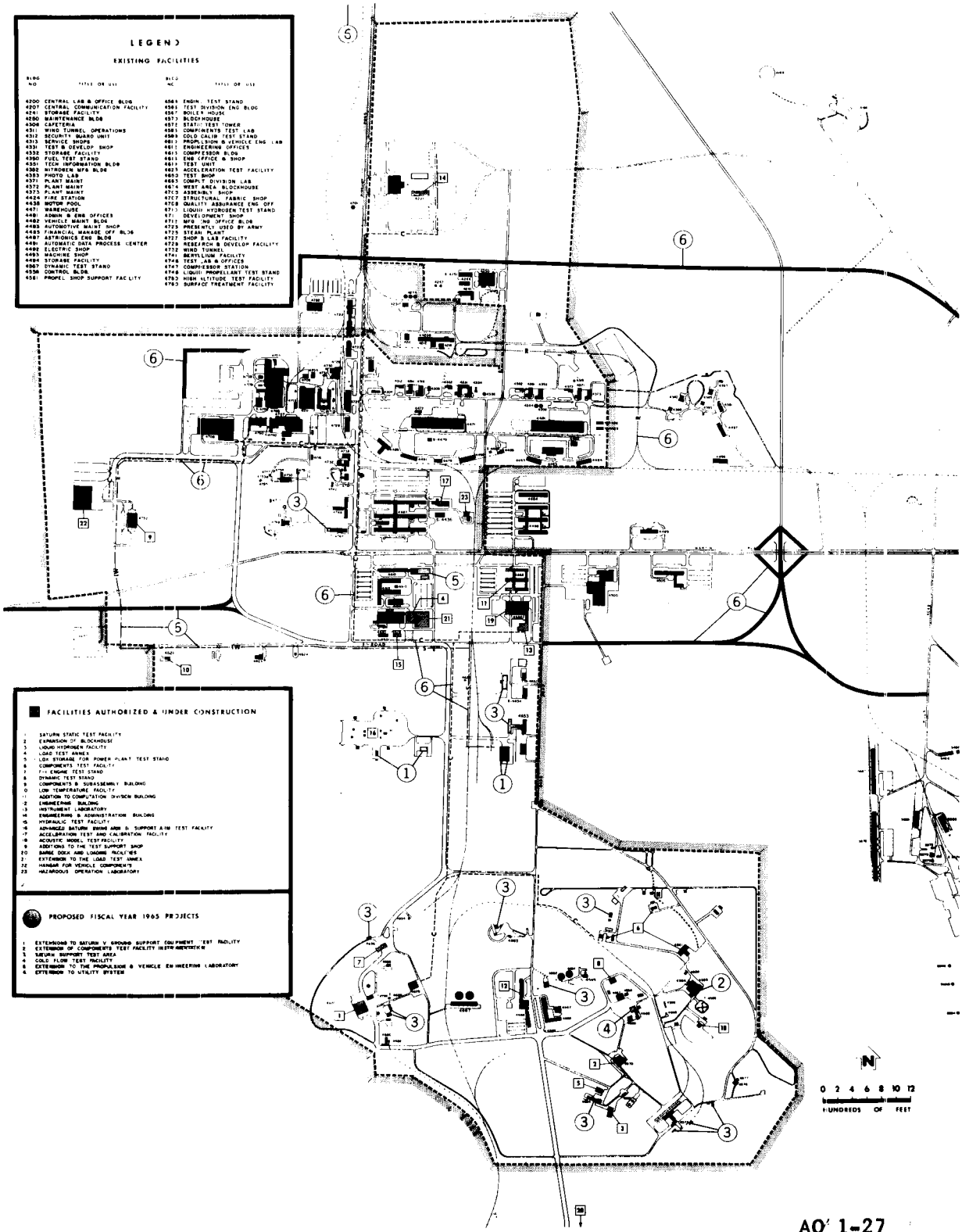
REGIONAL MAP


NEOSHO
H-1 MANUFACTURING
TULSA
Paducah
NASHVILLE
MARSHALL SPACE FLIGHT CENTER
MEMPHIS
LITTLE ROCK
HUNTSVILLE
Bristol
SALEM
GREENSBORO
RALEIGH
KNOXVILLE
Asheville
CHARLOTTE
COLUMBIA
Augusta
BIRMINGHAM
Tuscaloosa
Macon
Columbus
SHREVEPORT
JACKSON
MONTGOMERY
MISSISSIPPI TEST OPERATIONS
Slidell Facility
MOBILE
Biloxi
BATON ROUGE
BEAUMONT
TALLAHASSEE
JACKSONVILLE
St. Augustine
MICHOUD OPERATIONS
Atlantic Missile Range
CAPE KENNEDY
Daytona Beach
Orlando
Cocoa
TAMPA
St. Petersburg
RL-10 MFG & TESTING
West Palm Beach
Manned Space Craft Center
0
50
100
APPROXIMATE SCALE IN MILES

MARSHALL SPACE FLIGHT CENTER

FISCAL YEAR 1965 ESTIMATES

LOCATION PLAN



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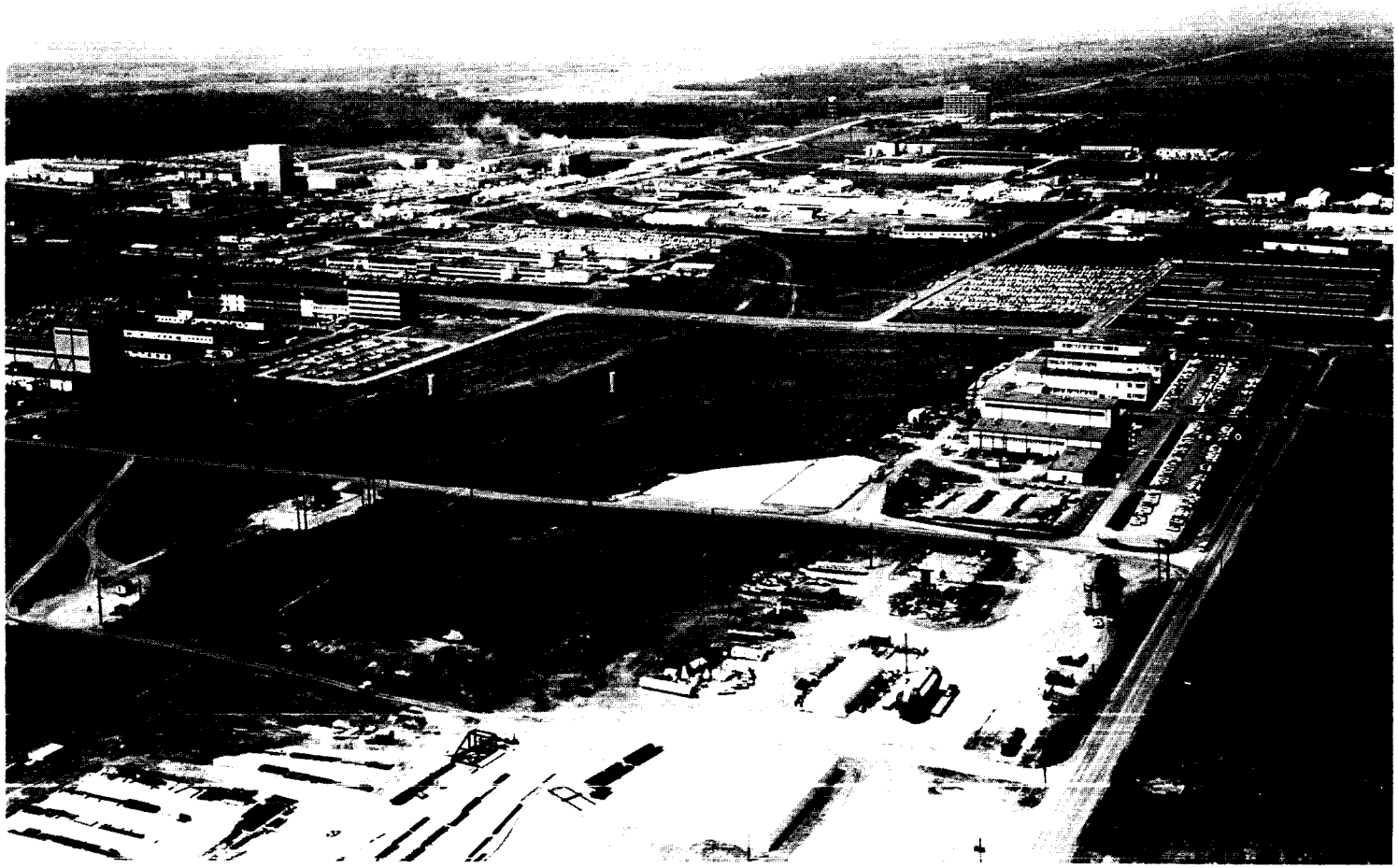
MARSHALL SPACE FLIGHT CENTER



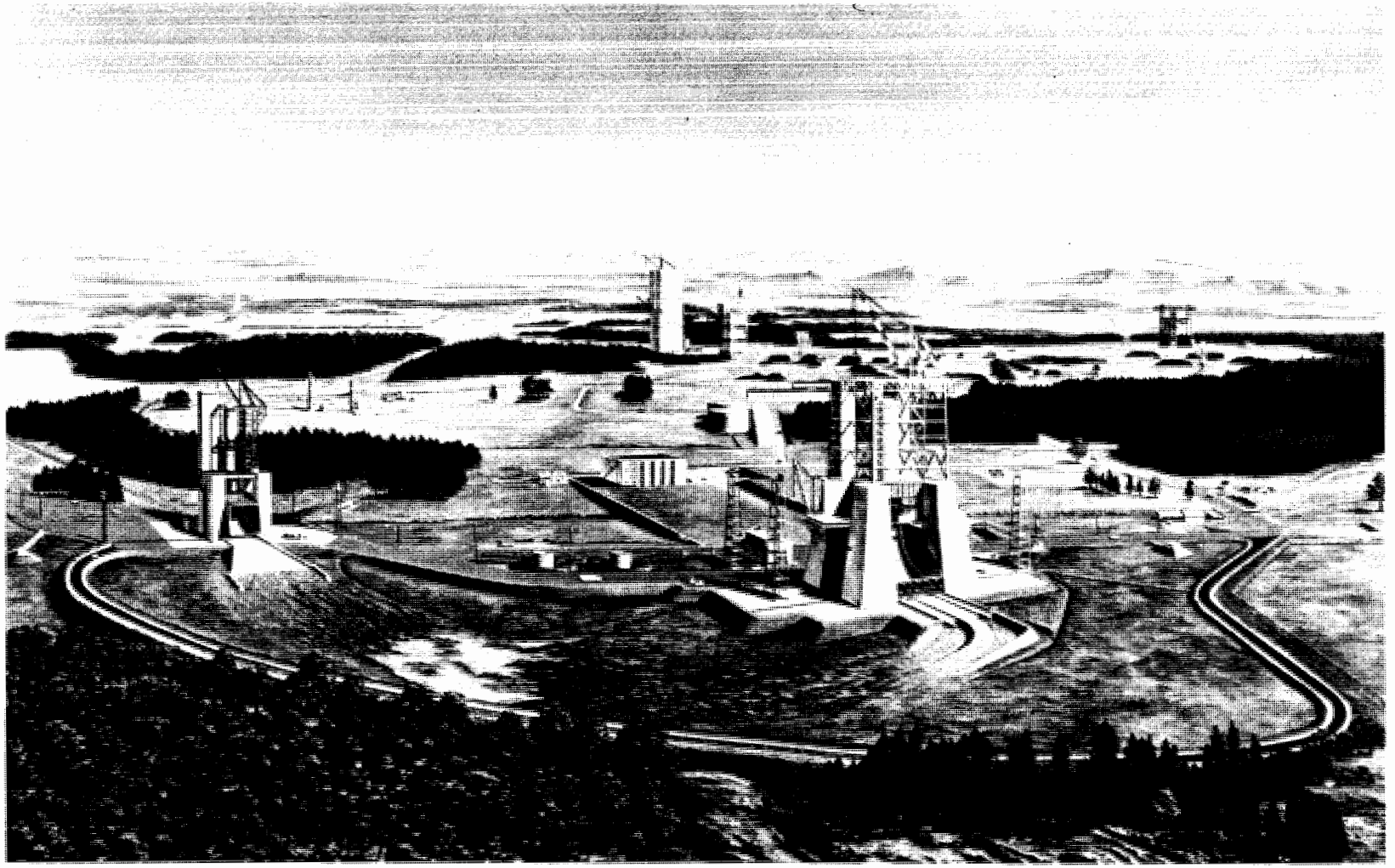
ALL DIVISIONS EXCEPT TEST AND QUALITY ASSURANCE

MARSHALL SPACE FLIGHT CENTER

MANUFACTURING ENGINEERING DIVISION AND HYDROSTATIC TEST FACILITIES

TEST TOWER FOR SATURN V BOOSTER

MARSHALL SPACE FLIGHT CENTER



TEST LABORATORY FACILITIES

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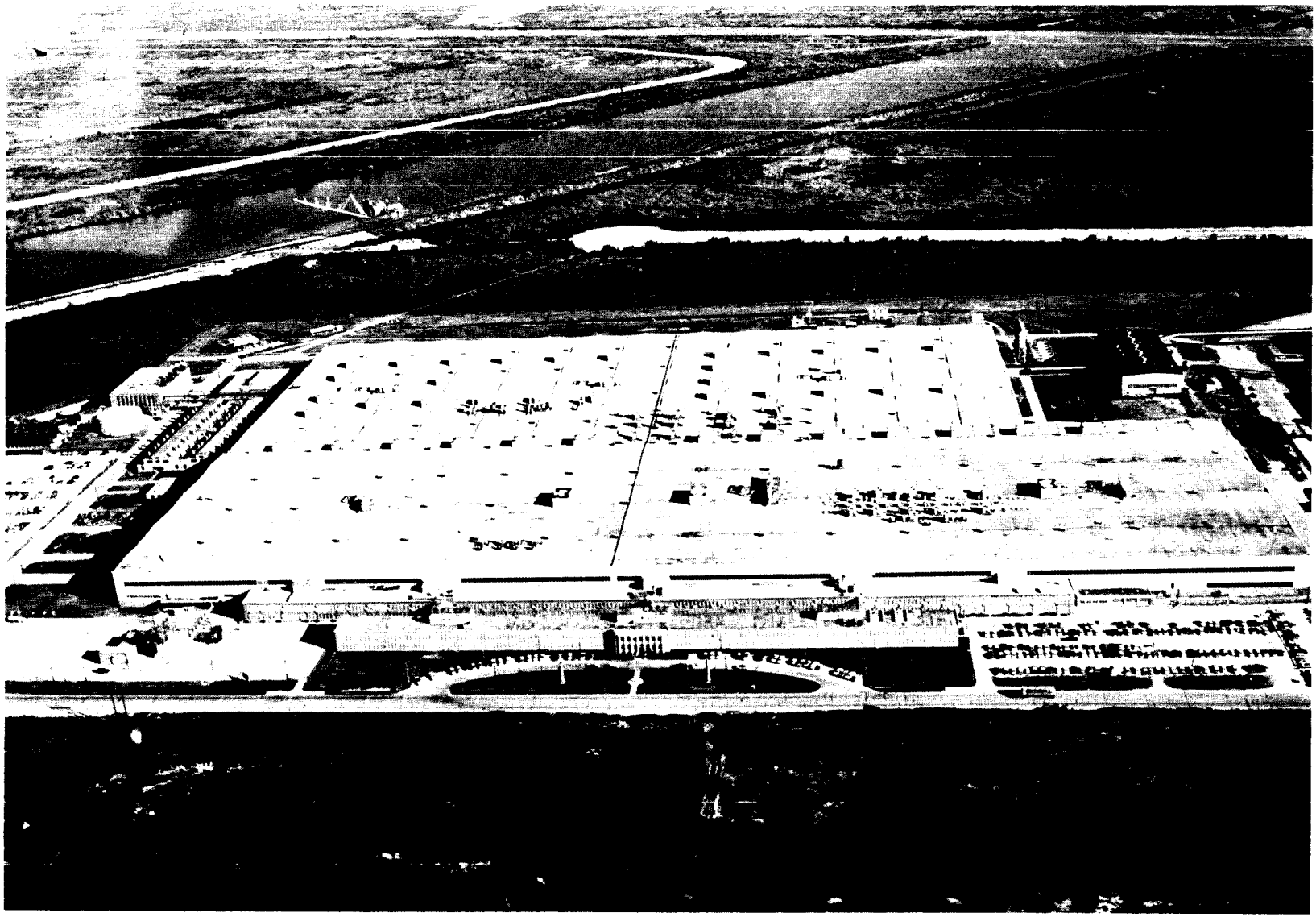
MICHOUD PLANT



AERIAL VIEW

MISSISSIPPI TEST OPERATIONS
SITE PLAN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

MARSHALL SPACE FLIGHT CENTER

STAFFING SUMMARY

	64	65
Excepted	54	54
GS-16	4	4
GS-15	391	392
GS-14	708	709
Other GS	4,757	4,755
Wage Board	1,550	1,550
Total	7,464	7,464

ASST. DIR FOR S&TA
ASST. DIR FOR FAC ENGR
ASST. DIR FOR P&C

	64	65
Excepted	2	2
GS-15	1	1
Other GS	3	3
Total	6	6

EXECUTIVE STAFF

	64	65
Excepted	1	1
GS-15	12	12
GS-14	19	19
Other GS	54	54
Total	86	86

DIRECTOR
DEPUTY DIRECTOR
TECH. DEP. DIR. ADMIN.

	64	65
Excepted	6	6
GS-15	4	4
GS-14	2	2
Other GS	13	13
Total	25	25

PUBLIC AFFAIRS OFFICE

	64	65
GS-15	1	1
GS-14	1	1
Other GS	25	25
Wage Board	1	1
Total	28	28

CHIEF COUNSEL

	64	65
GS-15	2	2
GS-14	4	4
Other GS	18	18
Total	24	24

LABOR RELATIONS OFFICE

	64	65
GS-15	1	1
Other GS	3	3
Total	4	4

PERSONNEL OFFICE

	64	65
GS-15	1	1
GS-14	7	7
Other GS	92	92
Total	100	100

MANAGEMENT SERVICES OFFICE

	64	65
Excepted	1	1
GS-15	2	2
GS-14	6	6
Other GS	173	173
Wage Board	36	36
Total	218	218

TECHNICAL SERVICES OFFICE

	64	65
GS-15	2	2
GS-14	8	8
Other GS	258	258
Wage Board	332	332
Total	600	600

PURCHASING OFFICE

	64	65
GS-15	1	1
GS-14	6	6
Other GS	211	211
Total	218	218

FACILITIES AND DESIGN OFFICE

	64	65
GS-15	8	8
GS-14	20	20
Other GS	84	84
Total	112	112

FINANCIAL MANAGEMENT OFFICE

	64	65
GS-15	6	6
GS-14	9	9
Other GS	171	171
Total	186	186

NASA AUDIT OFFICE

	64	65
GS-15	1	1
GS-14	2	2
Other GS	23	23
Total	26	26

DIRECTOR
RESEARCH & DEVELOPMENT OPERATIONS

	64	65
Excepted	2	2
GS-15	2	2
Other GS	4	4
Total	8	8

FUTURE PROJECTS OFFICE

	64	65
Excepted	1	1
GS-15	6	6
GS-14	7	7
Other GS	16	16
Total	30	30

SATURN-APOLLO SYSTEMS OFFICE

	64	65
Excepted	2	2
GS-15	4	4
GS-14	6	6
Other GS	13	13
Total	25	25

RESOURCES MANAGEMENT OFFICE

	64	65
GS-15	3	3
GS-14	2	2
Other GS	15	15
Total	20	20

AERO-ASTRODYNAMICS LABORATORY

	64	65
Excepted	4	4
GS-16	1	1
GS-15	40	40
GS-14	41	41
Other GS	254	254
Wage Board	14	14
Total	354	354

ASTRIONICS LABORATORY

	64	65
Excepted	8	8
GS-16	1	1
GS-15	59	59
GS-14	100	100
Other GS	566	566
Wage Board	222	222
Total	956	956

COMPUTATION LABORATORY

	64	65
Excepted	4	4
GS-15	12	12
GS-14	24	24
Other GS	134	134
Total	174	174

MANUFACTURING ENGINEERING LABORATORY

	64	65
Excepted	3	3
GS-15	17	15
GS-14	40	35
Other GS	376	301
Wage Board	426	426
Total	862	780

PROPULSION AND VEHICLE ENGINEERING LABORATORY

	64	65
Excepted	5	5
GS-16	1	1
GS-15	64	64
GS-14	123	123
Other GS	532	532
Wage Board	105	105
Total	830	830

QUALITY AND RELIABILITY ASSURANCE LABORATORY

	64	65
Excepted	3	3
GS-15	31	31
GS-14	67	67
Other GS	484	484
Wage Board	23	23
Total	608	608

RESEARCH PROJECTS LABORATORY

	64	65
Excepted	2	2
GS-16	1	1
GS-15	12	12
GS-14	27	27
Other GS	59	59
Total	101	101

TEST LABORATORY

	64	65
Excepted	4	4
GS-15	27	27
GS-14	44	44
Other GS	281	281
Wage Board	391	391
Total	747	747

DIRECTOR
INDUSTRIAL OPERATIONS

	64	65
Excepted	2	2
GS-15	1	1
Other GS	3	3
Total	6	6

CONTRACTS OFFICE

	64	65
GS-15	2	2
GS-14	10	10
Other GS	123	123
Total	135	135

FACILITIES PROJECTS OFFICE

	64	65
GS-15	3	3
GS-14	8	8
Other GS	44	45
Total	55	56

PROJECT LOGISTICS OFFICE

	64	65
GS-15	2	2
GS-14	5	5
Other GS	8	10
Total	15	17

RESOURCES MANAGEMENT OFFICE

	64	65
GS-15	1	1
GS-14	9	9
Other GS	30	32
Total	40	42

SATURN I/IB PROJECT OFFICE

	64	65
GS-15	12	11
GS-14	20	19
Other GS	99	71
Total	131	101

SATURN V PROJECT OFFICE

	64	65
Excepted	2	2
GS-15	19	21
GS-14	27	29
Other GS	135	178
Total	183	230

ENGINE PROJECT OFFICE

	64	65
Excepted	1	1
GS-15	15	15
GS-14	25	25
Other GS	64	64
Total	105	105

MICHOUD PLANT

	64	65
Excepted	1	1
GS-15	14	15
GS-14	30	31
Other GS	305	319
Total	350	366

MISSISSIPPI TEST FACILITY

	64	65
GS-15	3	4
GS-14	9	13
Other GS	84	123
Total	96	140

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

MARSHALL SPACE FLIGHT CENTER

MISSION AND CAPABILITIES:

The Marshall Space Flight Center, which became part of NASA on July 1, 1960, has a long and distinguished history in the field of rocketry which underlies its technical capabilities in the performance of its basic mission. A depth of technical experience has been accumulated as a result of the research and development work conducted on the V2, Redstone, Jupiter, and Pershing missiles. The early success of the Saturn program stems directly from the practical know-how gained through the years on these earlier systems.

The primary mission of this center is to develop and provide launch vehicle and space transportation systems to meet the space program requirements. This responsibility begins with the conception and extends through all phases of the design, fabrication, testing, and production, to the integration and coordination of launching of the vehicle; and includes studies and research in the general fields of astronautics. The largest responsibility, however, is the execution of the overall vehicle systems engineering and systems integration responsibility. This function is essential in assuring that the various components of the launch vehicles adhere to specified technical design guidelines to insure uniformity of design principles. Other activities include basic research, product improvement, the advancement of launch vehicle technology, particularly in the areas of multi-engine vehicles, and nuclear and electrical propulsion.

Major functions currently assigned to this Center include:

a. Project management for developing and producing the family of large launch vehicles.

   (1) The Saturn I advanced the large launch vehicle technology, including the clustered engine principle, liquid hydrogen propulsion and guidance and instrumentation.

   (2) The Saturn IB advances large booster technology in support of Saturn V, assists in Apollo spacecraft development and qualification, and provides the nation with a carrier for large scientific satellite payloads (32,000 lbs).

(3) The Saturn V to accomplish manned lunar landing mission, lunar logistics missions, planetary escape missions, and provide the nation with a carrier for large scientific satellite payloads (240,000 lbs).

b. Project management for developing propulsion systems for Saturn and other launch vehicles including:

(1) First stage application:

(a) F-1 engine, 1,500,000 pounds thrust.

(b) H-1 engine, 200,000 pounds thrust.

(2) Upper stage application:

(a) RL-10 engine, 15,000 pounds thrust.

(b) J-2 engine, 200,000 pounds thrust.

c. Project management for the development of micrometeoroid satellites which will be flown on Saturn I vehicles to obtain data on frequency and penetration of micrometeoroids in low earth orbit.

d. Advancing the state-of-the-art in large launch vehicles and space systems.

Marshall has an integrated complex of engineering, laboratory, fabrication, and test facilities essential in providing project managers with technical support capability for vehicle systems engineering and for successful management and technical evaluation of contractors' activities. In addition, Marshall's scientific-engineering personnel perform work in-house on carefully selected projects to maintain a high level of technical proficiency across a wide technological range. They initiate and conduct studies on advanced systems and perform a variety of research and development projects to advance the state-of-the-art.

Marshall is responsible for directing operations at Mississippi Test Facility, Michoud Plant, and several major contractor plants. The mission of Mississippi Test Facility is the static test firing and evaluation of large vehicle stages and propulsion systems. The mission of Michoud Plant is the manufacture of booster stages for the Saturn family of launch vehicles.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year.....	7,332	7,658	7,658
Administrative operations.....	$112,576,000	$128,834,000	$158,589,000

INSTALLATION DESCRIPTION:

Operations of the Marshall Space Flight Center are conducted at four primary locations. The main Marshall Space Flight Center is near Huntsville, Alabama, on Army property at Redstone Arsenal. The Center occupies 1,786 acres under a non-revocable use permit from the Army. Facilities, including major equipment, were valued at $149,030,000 as of June 30, 1963. Certain facilities such as the Redstone Arsenal Army Air Field and some utilities are used jointly by NASA and the Army. Within the Center complex, the total area of specialized and support buildings amounts to 2,472,000 square feet. Another 634,000 square feet of warehouse facilities belonging to the Army at Redstone Arsenal are used by the Center. In addition to the above areas, the Center leases approximately 239,700 gross square feet of building space at four locations in downtown Huntsville. The Huntsville location has deep water access via the Tennessee River, Ohio River, and Mississippi River.

The Mississippi Test Facility is located in southwest Mississippi, approximately 50 miles east of New Orleans, Louisiana. The total area of the facility will be 141,950 acres, of which 13,424 acres will be owned by NASA and 128,526 acres will be held under easement as a buffer area. As of June 1963, the total acreage acquired or on easement amounted to 18,738 acres. Transactions on the remaining acreage are now being processed. Total plant value of the Mississippi Test Facility as of June 1963, was $12,371,000. This includes nineteen buildings, acquired with the land, which are being used as office, storage, or industrial buildings. Most of the test and support facilities to be constructed are now being designed and construction has started on the first increment of those facilities. Test stands will include a dual position stand for testing the 7.5 million pound thrust Saturn IC booster stage and two stands for testing the 1.0 million pound thrust Saturn II stages. The site has deepwater access for booster transportation via the Pearl River and the Intra-coastal Waterway.

The Michoud Plant is located 15 miles east of the center of New Orleans, Louisiana. The plant occupies 825 improved acres. Facilities, including major government-owned equipment, were valued at $77,578,000 as of June, 1963. Facilities at the plant comprise a total of 2,410,800 gross square feet, including the main assembly plant that covers an area of 40 acres under one roof. In addition to the plant facilities, office space comprising a total of 297,000 square feet has been leased at two downtown New Orleans locations

by the major contractors at Michoud. Under construction at Michoud is a 215 foot building which will be used for the vertical assembly of the Saturn IC boosters. The Michoud Plant is located on the Gulf Intra-coastal Waterway and has access to deep water via the Mississippi River.

The central computer facility supporting the Michoud Plant and the Mississippi Test Facility is located at Slidell, Louisiana, 20 miles northeast of the Michoud Plant. The building is located on a 14 acre lot and was valued at $2,918,000 as of June 1963. The building has 59,497 gross square feet housing the computer installation.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$65,324,000	$73,039,000	$77,302,000
12.	Personnel benefits.....	4,319,000	4,911,000	5,098,000
	Total, personnel costs...	$69,643,000	$77,950,000	$82,400,000
21.	Travel and transportation of persons.....	$3,504,000	$4,439,000	$4,944,000
22.	Transportation of things...	930,000	816,000	836,000
23.	Rents, communications and utilities.....	10,827,000	13,904,000	10,285,000
24.	Printing and reproduction..	613,000	1,378,000	1,464,000
25.	Other services.....	15,193,000	21,370,000	24,348,000
26.	Supplies and materials.....	6,710,000	5,934,000	7,926,000
31.	Equipment.....	3,448,000	1,893,000	25,385,000
32.	Lands and structures.....	1,708,000	1,149,000	1,000,000
42.	Insurance claims and indemnities.....	---	1,000	1,000
	TOTAL.....	$112,576,000	$128,834,000	$158,589,000

JUSTIFICATIONS BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$82,400,000
Positions, end of year.....	7,658

The critical manpower requirements at the Marshall Space Flight Center for fiscal years 1964 and 1965 result from the Saturn IB and the Saturn V projects moving into their peak workload levels in the areas of manufacturing and acceptance testing.

Establishment of the necessary acceptance testing facilities and activities is underway. Each of the major systems, that is, the Saturn IC, II, IVB stages and the engines, requires elaborate acceptance testing. The

number of engines delivered increases each year - fiscal year 1963 - 103, fiscal year 1964 - 132, fiscal year 1965 - 190. This testing is performed at Edwards Air Force Base, Rocketdyne, Canoga Park Facilities, the Sacramento Test Facility, and the Mississippi Test Facility. Government personnel are required to supervise these activities. In Mississippi only a small staff is presently assigned during the construction phase, however, in 1965 this large test site becomes operational with static testing of the huge vehicle stages. This increase is due primarily to the increase of 387 man-years over fiscal year 1964 and funding of the civil service pay increase, effective January 5, 1964, for a full fiscal year.

PERSONNEL DISTRIBUTION

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Apollo	4,556	5,145	5,188
Advanced missions	153	190	190
Space Science and Applications			
Meteorological satellites	1	1	1
Geophysics and astronomy	3	3	3
Lunar and planetary exploration	-	20	20
Advanced Research and Technology			
Space vehicle systems	240	261	232
Electronic systems	80	86	86
Human factor systems	-	7	7
Nuclear-electric systems	3	3	3
Nuclear rockets	132	21	7
Chemical propulsion	28	30	30
Space power	12	15	15
Aeronautics	2	2	2
Tracking and Data Acquisition	30	32	32
Technology Utilization and Policy Planning	15	15	15
Subtotal, direct positions	5,255	5,831	5,831

	1963	1964	1965
Support personnel			
Director and staff.....	166	173	173
Administration.....	708	748	748
Installation operations.....	692	712	712
Research and development support....	-	-	-
NASA-wide support.....	-	-	-
Subtotal, support positions.....	1,566	1,633	1,633
Total, permanent positions.....	6,821	7,464	7,464
Other positions:			
Positions under cooperative training agreements.....	183	169	169
Other temporary positions.....	328	25	25
Total, all positions.....	7,332	7,658	7,658

Travel and transportation of persons - $4,944,000

The increase for the travel and transportation of persons estimate is $505,000, of which the major portion is required for coordination of program activities with other government agencies, contractors, and the scientific community. A number of major factors generate the need for additional travel funds in fiscal year 1965. The growth of activity at the Michoud Plant and Mississippi Test Facility contributes significantly to this requirement. The number and complexity of Saturn launches with live upper stages will increase during fiscal year 1965. Associated with these launches is the increase in testing activities. The stage, engine, and component development program will be at a level in fiscal year 1965 that will require the highest degree of quality control and inspection. Therefore, the level of effort required for quality control and inspection will increase during this period, and will require increased visits to contractor plants.

Transportation of things - $836,000

The fiscal year 1965 requirement is slightly higher than fiscal year 1964 and is attributable to the increased costs for freight, express, drayage, and parcel post. The increase in this area is partially offset by a reduction

in the transportation of household goods and personal effects, which result from a level personnel complement in fiscal year 1965. Requirements will be reduced for rental of trucks and other transportation equipment, since the majority of all cargo vehicles required will be owned by Marshall Space Flight Center.

Rents, communications, and utilities - $10,285,000

The estimates for rents, communications and utilities is $3,619,000 less than in fiscal year 1964 due to the planned purchase of the major portion of the electronic data processing equipment in lieu of continuing to lease. This reduction does not represent the full year's cost for lease, since it is necessary to continue on a lease basis for part of the year until the transition from lease to purchase can be effected.

The fiscal year 1965 requirement for rental of office space will remain at the same level as that of fiscal year 1964. The projected growth in mission support contractors will require the use of space vacated by the transfer of center personnel from leased space in downtown Huntsville to the Center.

The requirement for communications is higher than in fiscal year 1964. Local service and long-distance toll charges are expected to be less than in fiscal year 1964. The decrease of long-distance toll charges results from the implementation of the Centrex which permits personnel located in downtown Huntsville to have access to leased line service. Local service costs will be reduced in fiscal year 1965 as more personnel are moved to space within the Center. However, the increase in leased lines cost will more than offset these decreases. The increase in the number of leased lines will be more economical than the regular commercial long-distance lines.

Utilities at the Marshall Space Flight Center are procured from the Department of the Army at Redstone Arsenal. It is estimated that the costs for electricity will increase by $122,000 over fiscal year 1964. The estimate is based on current Army prices and is projected to reflect the increase in buildings that must be serviced in fiscal year 1965. The growth in building area is the result of facilities projects that will be completed during fiscal years 1964 and 1965. The cost of other utilities, including water, steam, and sewerage, also furnished by the Army, will increase by $175,000 over the amount required for fiscal year 1964. This increase is primarily for steam, and attributable to the increased building area that must be serviced in fiscal year 1965. As in the case of electricity, estimates for these services were also projected on current Army prices.

Printing and reproduction - $1,464,000

The amount required in fiscal year 1965 is $86,000 higher than the fiscal year 1964 estimate. This increase is primarily attributable to the reproduction of computer masters for engineering changes, master part lists, drawing release records, and assembly status reports.

Other services - $24,348,000

Contractor and other Government agency services to supplement the in-house capabilities are furnished on a continuing, non-recurring, seasonal or intermittent basis as required by the Center. An additional $2,978,000 will be required in fiscal year 1965 to provide for these services.

It is estimated that the cost of engineering services, computer programming and operations services, and consulting and management services will increase $594,000 over fiscal year 1964. The major portion of this increase is in computer programming and operations services which are necessary for handling the increased data reduction requirements generated by the ground test programs and static test firings of the Saturn IB and Saturn V.

An additional $1,382,000 is required to provide for maintenance and repair of buildings and grounds, instruments and research equipment, office and shop equipment, and maintenance of motor vehicles. The major portion of this increase is attributable to increased maintenance cost of new items of research and test equipment. Termination of warranties and increased labor and material costs also contribute to increased maintenance costs.

An increase of $597,000 is required for chemical cleaning, security guard, janitorial, refuse handling, laundry, and other miscellaneous custodial services. The increase in chemical cleaning in fiscal year 1965 is associated with the planned ground test program and static test firings of the Saturn V and Saturn IB stages. Expanded chemical cleaning services and facilities will be necessary to accommodate the Saturn program. Security guard, janitorial services, and refuse handling will increase as additional floor space is occupied and the number of refuse pick-up points increase.

An increase of $251,000 is requested for technical motion picture services, aircraft services, chart and related art work, electric accounting machine services, tuition and other miscellaneous services. The increasing demand on technical and scientific personnel to remain cognizant of advances made in their respective fields and be aware of the continuing changes in the state-of-the-art generate increases in the tuition costs. The additional photographic support is related to an increase of three Saturn IB technical film reports, plus increased photographic support in the micrometeoroid program.

The cost of engineering services, computer operations services, maintenance and repair of buildings and grounds, fire protection, technical library service, and other miscellaneous services provided by other Government agencies, mainly the Army at Redstone Arsenal, will increase by $154,000. The largest part of the increase is for computer operations services to meet the additional demands of data reduction requirements. Fire protection and custodial services increase with the occupation of additional floor space.

Supplies and materials - $7,926,000

An increase of $1,992,000 is requested for supplies and materials to prevent further reductions in the inventory levels. The inventory level will have decreased from $6,900,000 at the end of fiscal year 1962 to an estimated $5,600,000 by the end of fiscal year 1964. With the $1,992,000 requested increase, and projected issues during 1965, the estimated year end inventory for 1965 will be approximately $5,700,000. A reduction in inventory below the estimated fiscal year 1964 and 1965 levels would result in an inefficient and uneconomical supply operation. An inadequate inventory level increases the number of items that must be procured on an individual and line item basis at considerably higher cost. Normally, supplies and materials are purchased in bulk lots on a competitive bid basis.

Equipment - $25,385,000

The amount requested is higher than the amount estimated for fiscal year 1964. This is due to the planned purchase of electronic data processing equipment in lieu of continued rental. Approximately $24,000,000 is included in the equipment estimate for these purchases. The items of equipment planned for procurement during fiscal year 1965 are those which would be amortized over a four-year period.

The combined lease-purchase of equipment planned for fiscal year 1965 reflects a decrease in equipment items from fiscal year 1964 resulting from the planned replacement of certain small-scale computers with larger scale computers comparable in size to the IBM 7094, 1410, and 1401. An increase in computer capacity is necessary to handle the increased volume of both technical and administrative data.

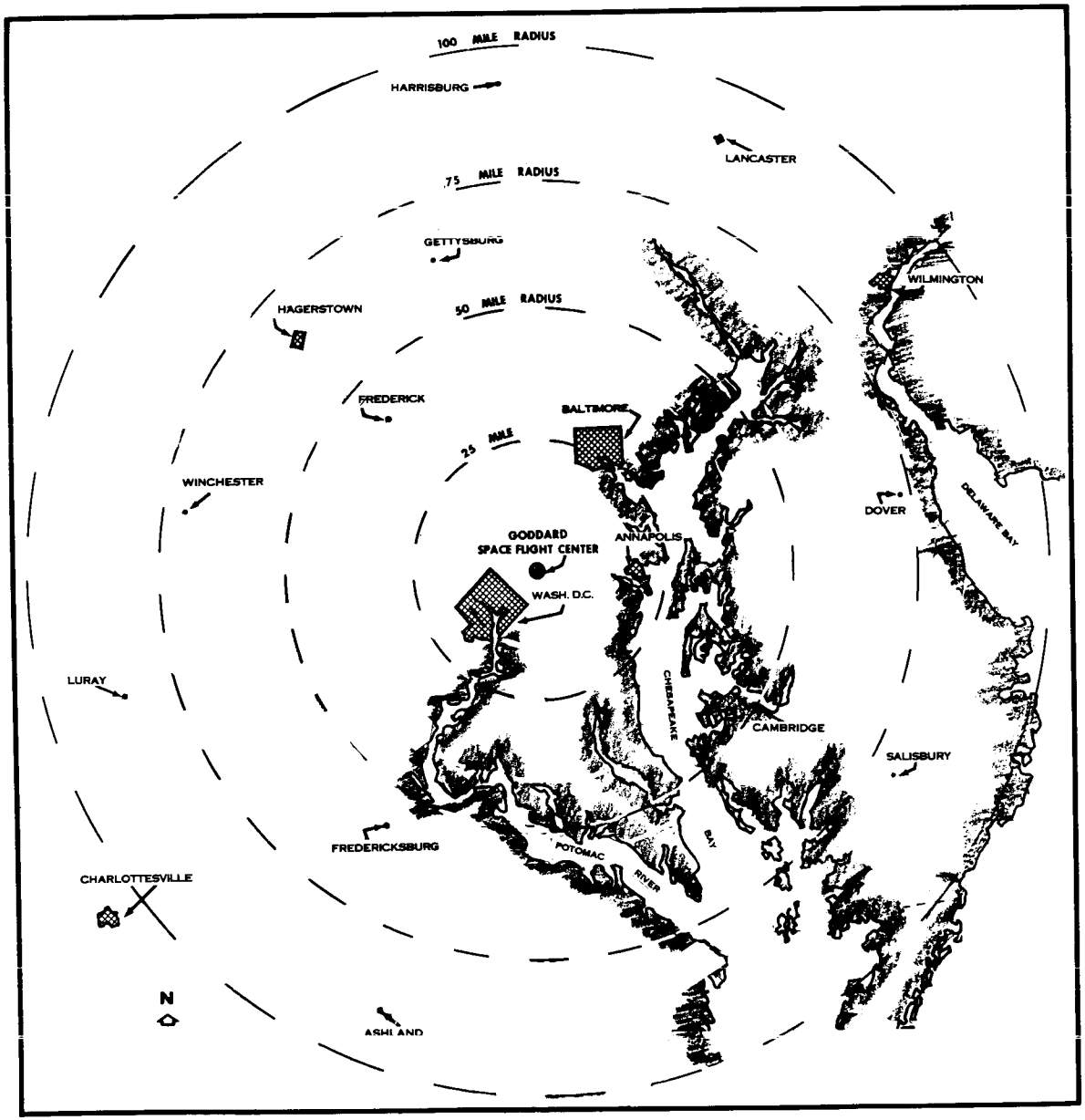
In addition to electronic data processing equipment, funds are also included for procurement of electrical accounting machines. Due to the infrequent change in these machines, it is considered more economical to procure the equipment than to continue their use on a rental basis.

Lands and structures - $1,000,000

The estimate for minor construction is $149,000 less than that for fiscal year 1964. Many of the facilities at Marshall were originally designed to meet the demands of a research and development program of a different nature. As the program assigned to the center changes these facilities need to be modified to meet the current requirements. The fiscal year 1965 funds will provide for such modification, alteration, and minor construction projects.

Insurance claims and indemnities - $1,000

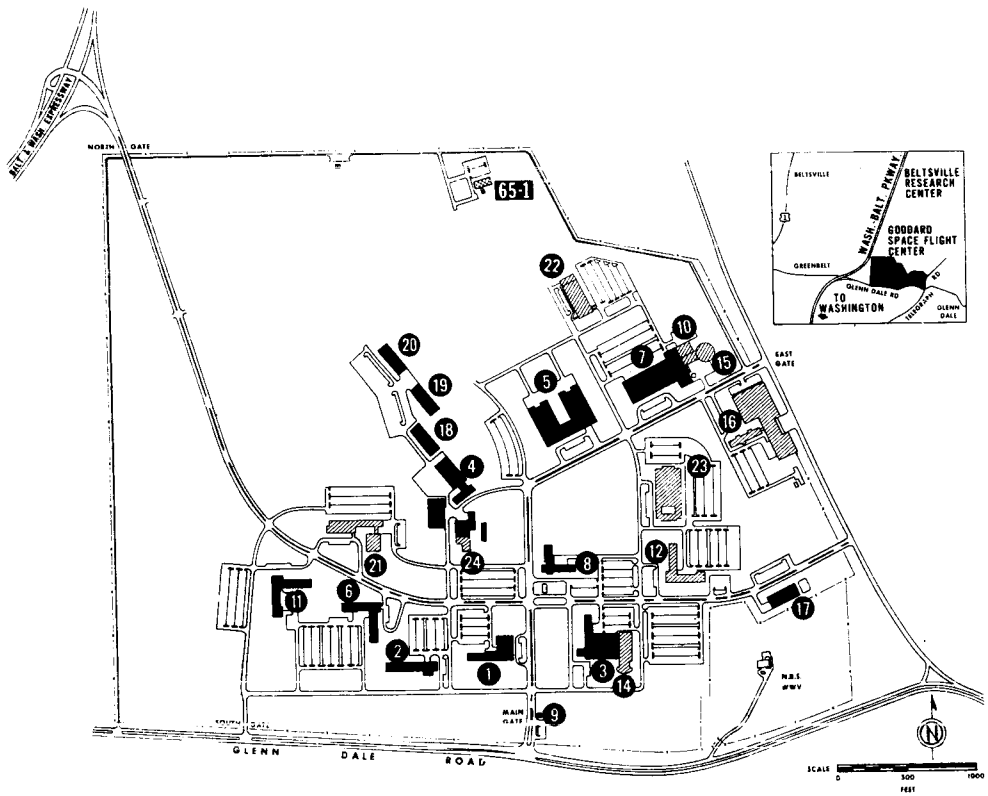
Funds requested are for settlement of insurance claims and indemnities. This requirement is expected to remain at the fiscal year 1964 level.



GODDARD SPACE FLIGHT CENTER AND VICINITY

GODDARD SPACE FLIGHT CENTER
FISCAL YEAR 1965 ESTIMATES

LOCATION PLAN



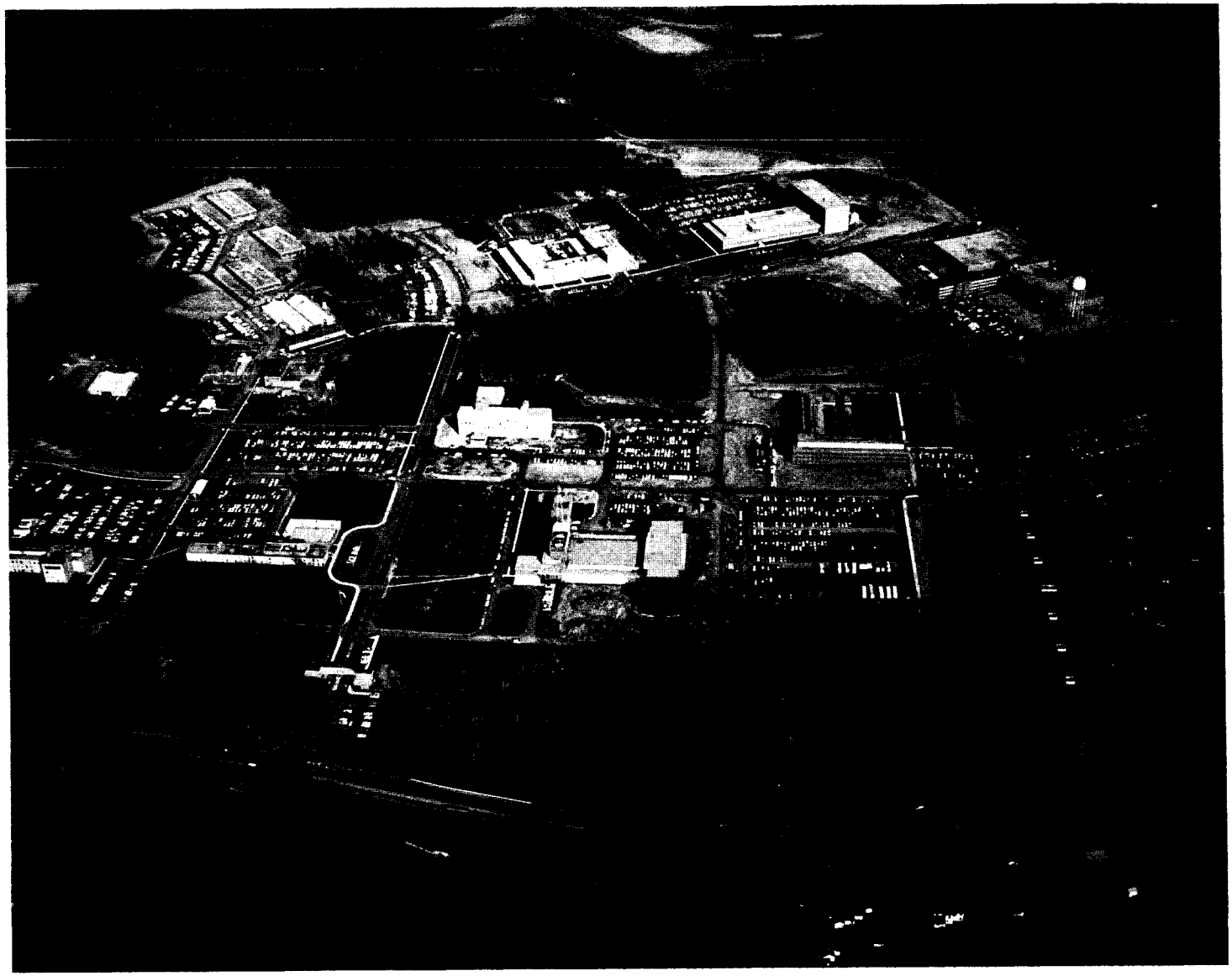
1. SPACE PROJECTS BUILDING
2. RESEARCH PROJECTS LABORATORY
3. CENTRAL FLIGHT CONTROL AND RANGE OPERATIONS LABORATORY
4. BOILER HOUSE AND ELECTRIC SUBSTATION
5. INSTRUMENT CONSTRUCTION AND INSTALLATION LABORATORY
6. SPACE SCIENCES LABORATORY
7. PAYLOAD TESTING FACILITY
8. SATELLITE SYSTEMS LABORATORY
9. GATE HOUSE
10. ENVIRONMENTAL TESTING LABORATORY
11. APPLIED SCIENCES LABORATORY
12. TRACKING AND TELEMETRY LABORATORY
14. SPACECRAFT OPERATIONS FACILITY
15. LAUNCH PHASE SIMULATOR
16. DEVELOPMENT OPERATIONS BUILDING
17. MULTI-PURPOSE BUILDING
18. MULTI-PURPOSE BUILDING
19. MULTI-PURPOSE BUILDING
20. MULTI-PURPOSE BUILDING
21. METEOROLOGICAL SYSTEMS DEVELOPMENT LABORATORY
22. MECHANICAL TEST FACILITY AND QUALITY ASSURANCE LABORATORY
23. DATA INTERPRETATION LABORATORY
24. ADDITION TO CENTRAL HEATING AND REFRIGERATION PLANT

EXISTING FACILITIES
FACILITIES UNDER CONSTRUCTION
FACILITIES PROPOSED IN 1965 ESTIMATES

FACILITIES PROPOSED IN 1965 ESTIMATES

65-1 MANNED FLIGHT TRAINING FACILITY (WALLOPS ISLAND)

GODDARD SPACE FLIGHT CENTER



AERIAL VIEW

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

GODDARD SPACE FLIGHT CENTER

STAFFING SUMMARY

	64	65
Excepted	39	39
GS-15	178	178
GS-14	330	330
Other GS	2,792	2,785
Wage Board	273	280
Total	3,612	3,612

OFFICE OF THE DIRECTOR ASSOCIATE DIRECTOR

	64	65
Excepted	2	2
Other GS	6	6
Total	8	8

ASSISTANT DIRECTOR FOR ADMINISTRATION

	64	65
Excepted	2	2
GS-15	2	2
GS-14	7	7
Other GS	47	47
Total	58	58

PROGRAM SUPPORT DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	81	78
Total	88	85

FINANCIAL MANAGEMENT DIVISION

	64	65
GS-15	2	2
GS-14	1	1
Other GS	111	111
Total	114	114

ORGANIZATION & PERSONNEL DIVISION

	64	65
GS-15	1	1
GS-14	2	2
Other GS	74	74
Total	77	77

MANAGEMENT SERVICES & SUPPLY DIVISION

	64	65
GS-14	3	3
Other GS	119	119
Wage Board	20	20
Total	142	142

PROCUREMENT DIVISION

	64	65
Excepted	1	1
GS-15	1	1
GS-14	12	12
Other GS	268	287
Total	282	301

TECHNICAL INFORMATION DIVISION

	64	65
Other GS	67	67
Wage Board	18	18
Total	85	85

CHIEF OF TECHNICAL SERVICES

	64	65
Excepted	1	1
Other GS	6	7
Total	7	8

FACILITIES ENGINEERING DIVISION

	64	65
Excepted	1	1
GS-15	1	1
GS-14	6	6
Other GS	61	48
Wage Board	104	111
Total	173	167

TEST & EVALUATION DIVISION

	64	65
Excepted	1	1
GS-15	7	7
GS-14	26	26
Other GS	218	196
Total	252	230

FABRICATION DIVISION

	64	65
GS-15	1	1
GS-14	2	2
Other GS	29	25
Wage Board	131	131
Total	163	159

ASSISTANT DIRECTOR TRACKING & DATA SYSTEMS

	64	65
Excepted	2	2
GS-15	7	7
GS-14	13	13
Other GS	79	80
Total	101	102

ADVANCED DEVELOPMENT DIVISION

	64	65
Excepted	1	1
GS-15	15	15
GS-14	25	25
Other GS	95	97
Total	136	138

DATA SYSTEMS DIVISION

	64	65
Excepted	3	3
GS-15	10	10
GS-14	22	22
Other GS	265	266
Total	300	301

NETWORK ENGINEERING & OPERATIONS DIVISION

	64	65
Excepted	1	1
GS-15	13	13
GS-14	20	20
Other GS	194	215
Total	228	249

MANNED FLIGHT OPERATIONS DIVISION

	64	65
GS-15	16	16
GS-14	15	15
Other GS	97	97
Total	128	128

NASA COMMUNICATIONS DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	53	49
Total	60	56

ASSISTANT DIRECTOR SPACE SCIENCES & SATELLITE APPLICATIONS

	64	65
Excepted	2	2
GS-15	2	2
GS-14	2	2
Other GS	9	12
Total	15	18

INSTITUTE FOR SPACE STUDIES

	64	65
Excepted	1	1
GS-15	1	1
GS-14	1	1
Other GS	33	39
Total	36	42

SPACECRAFT INTEGRATION AND SOUNDING ROCKET DIVISION

	64	65
Excepted	1	1
GS-15	10	10
GS-14	27	27
Other GS	171	168
Total	209	206

SPACE SCIENCES DIVISION

	64	65
Excepted	6	6
GS-15	13	13
GS-14	20	20
Other GS	146	146
Total	185	185

SPACECRAFT SYSTEMS & PROJECTS DIVISION

	64	65
Excepted	7	7
GS-15	26	26
GS-14	53	53
Other GS	224	230
Total	310	316

SPACECRAFT TECHNOLOGY DIVISION

	64	65
Excepted	1	1
GS-15	15	15
GS-14	16	16
Other GS	113	103
Total	145	135

THEORETICAL DIVISION

	64	65
Excepted	2	2
GS-15	9	9
GS-14	4	4
Other GS	75	67
Total	90	82

AERONOMY AND METEOROLOGY DIVISION

	64	65
Excepted	4	4
GS-15	24	24
GS-14	41	41
Other GS	151	151
Total	220	220

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

GODDARD SPACE FLIGHT CENTER

MISSION AND CAPABILITIES:

During calendar year 1963, NASA successfully launched eight major satellites. Five of these, Syncom I and II, Explorer XVII, Tiros VII, and Explorer XVIII, were under the direct project management responsibility of the Goddard Space Flight Center. In addition, Goddard directly supported the remaining three by acting as launch vehicle agent for Telstar II, under Bell Telephone project management, launch and tracking of the CENTAUR, and by providing the tracking, communications, and computing requirements for NASA's manned space flight, Mercury Atlas IX.

Goddard has recorded other significant accomplishments during calendar year 1963; providing scientific experiments for 100 sounding rockets to conduct experiments in and beyond the Earth's atmosphere; the launching of six Goddard-managed DELTA vehicles, adding to a total of 21 consecutive successful launches; the successful orbiting of the world's first 24-hour communication satellite, Syncom II, about the Earth and keeping it on station 22,300 miles above the Earth, which is the most significant demonstration of precise guidance and control systems yet conducted in space.

Goddard's current mission is concerned with the following major programs:

Sounding Rockets. Responsibility for aerodynamic design, integration of payloads and flight test firings of packaged scientific experiments in and beyond the Earth's atmosphere.

Scientific Satellites. Project management responsibility for the unmanned orbiting laboratories which study the Earth, Sun, and stellar system and measure radiation, magnetic fields, meteorites, atmospheric composition, density, pressure, and temperature.

Meteorological Satellites. Project management responsibility for the two major meteorological satellite systems, Tiros and Nimbus, and for the spacecraft and the on-board equipment to obtain and handle the data and satellite-to-Earth communication systems. Research and development is being conducted on advanced meteorological satellites.

Communication Satellites. Some effort will be devoted to development of advanced passive satellites, while prime effort will be devoted to active satellite systems such as Relay and Syncom.

Tracking and Data Acquisition. The tracking, telemetry, data acquisition and storage, and data reduction are the responsibility of the Goddard Space Flight Center. The 13 remotely located Minitrack Stations will continue to provide precise tracking, command and telemetry data for unmanned scientific satellites. Goddard has the responsibility for operating the global network for tracking, telemetry, and voice communications for manned flights. Goddard's Space Control Center will determine and predict satellite orbits, make constant flight contingency recommendations, predict flight paths, determine reentry time, and predict the impact point of manned capsules on a near-instantaneous and continuous basis during each mission.

Goddard Launch Teams. The Goddard launch teams located at the Atlantic and Pacific Missile Ranges provide for the management and technical direction of the field efforts connected with launches of Goddard-managed projects and are responsible for supervising, monitoring and coordinating all facets of a launch to insure proper operation of all systems.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year.	3,487	3,660	3,660
Administrative operations.....	$52,810,000	$62,620,000	$83,156,000

INSTALLATION DESCRIPTION:

The Goddard Space Flight Center is situated on a 530 acre main site obtained from the Department of Agriculture. Three separate areas consisting of 426 acres located within two miles of the Center, obtained on a revocable permit granted by the Department of Agriculture, are utilized for the antenna test range, magnetic test facility, minitrack facility, and the attitude control test facility. The plant value as of June 30, 1963 was $84,300,000.

The Center is located near Greenbelt, Maryland, 15 miles northeast of Washington, D.C., and 30 miles southwest of Baltimore, Maryland.

Initial building occupancy of the Greenbelt site occurred in the fall of 1960 and has since expanded into nine major buildings housing the scientific, technical and administrative personnel and facilities. Several of the major buildings are primarily utilized for research and development in the space science and applications satellite programs, fabrication, environmental testing, payload testing, and tracking, telemetry, data acquisition and data reduction.

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ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

	1963	1964	1965
11. Personnel compensation.....	$24,958,000	$32,361,000	$36,392,000
12. Personnel benefits.....	1,702,000	2,139,000	2,488,000
Total, personnel costs...	$26,660,000	$34,500,000	$38,880,000
21. Travel and transportation of persons.....	2,141,000	2,650,000	2,917,000
22. Transportation of things...	2,038,000	1,017,000	1,176,000
23. Rents, communications and utilities.....	9,856,000	14,044,000	8,326,000
24. Printing and reproduction..	338,000	161,000	180,000
25. Other services.....	5,148,000	4,445,000	5,462,000
26. Supplies and materials.....	2,115,000	1,927,000	2,050,000
31. Equipment.....	3,855,000	3,150,000	23,352,000
32. Lands and structures.....	659,000	726,000	813,000
TOTALS.....	$52,810,000	$62,620,000	$83,156,000

JUSTIFICATIONS BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$38,880,000
Positions, end of year.....	3,660

The research and development program assigned to Goddard Space Flight Center is oriented around the scientific and application satellite programs, geophysics and astronomy, meteorology, communications, and advanced technological satellites. In addition, substantial effort is applied to space research, launch support of the Delta, Agena, and Centaur vehicles, and operation of the major NASA tracking and data acquisition networks. Since there is no increase in personnel projected for fiscal year 1965, the changing emphasis requires that personnel be reassigned from programs and projects where workload is declining to those where the workload is being increased.

During fiscal year 1965, the orbiting astronomical observatory and orbiting geophysical observatory, will be entering the final assembly, testing, and flight stages leading to the initial launches. In addition, the third orbiting solar observatory satellite will be launched in fiscal year 1965. The second generation solar observatory will be entering the initial hardware development stage. The workload of the Explorer program will be at about the same level in fiscal year 1965 as in fiscal year 1964.

The major satellite development effort in communications and meteorology

will be nearing completion in fiscal year 1965. Further effort in these programs will be aimed at supporting research and component development. The resources becoming available as these programs near completion, will be applied to the development of the advanced technological satellite.

In fiscal year 1965 extensive effort will be applied to complete the modifications of the manned tracking network preparatory to the first manned Gemini launch. The satellite tracking network (Minitrack) operations will continue at increased levels over fiscal year 1964.

The effort applied to supporting research will remain at a relatively constant level.

The fiscal year 1965 personnel costs will increase by $4,380,000 over fiscal year 1964. This increase is due primarily to the increase of 236 man-years over fiscal year 1964 and funding of the Civil Service pay increase, effective January 5, 1964, for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Space Science and Applications			
Meteorological satellites.....	219	248	238
Communications satellites.....	121	97	69
Advanced technological satellites..	-	42	82
Geophysics and astronomy.....	833	997	995
Lunar and planetary.....	24	26	21
Launch vehicle development.....	65	95	96
Advanced Research and Technology.			
Space vehicle systems.....	27	25	25
Electronic systems.....	58	55	55
Basic research program.....	26	25	24
Nuclear electric systems.....	6	6	6
Chemical propulsion.....	7	7	7
Space power.....	27	25	25
Tracking and Data Acquisition	524	662	662
Subtotal, direct positions.....	1,937	2,310	2,305

	1963	1964	1965
Support personnel			
Director and staff.....	6	8	8
Administration.....	552	693	693
Installation operations.....	308	310	311
Research and development support.....	299	291	295
Subtotal, support positions.....	1,165	1,302	1,307
Total, permanent positions.....	3,102	3,612	3,612
Other positions:			
Positions under cooperative training agreements.....	13	36	36
Other temporary positions.....	372	12	12
Total, all positions.....	3,487	3,660	3,660

Travel and transportation of persons - $2,917,000

The increase of $267,000 over fiscal year 1964 for travel and transportation of persons is primarily related to travel involving the coordination and direction of program activities with other Government agencies, contractors and educations institutions. Another major portion of the increase is directly related to the travel of technicians to the world-wide tracking stations to supervise the calibration, modification, and installation of tracking, telemetry, and data acquisition equipment to meet the changing needs created by new and improved spacecraft and satellite systems. The construction of additional tracking stations requires periodic inspection until the stations become fully operational.

Transportation of things - $1,176,000

The increase for transportation of things of $159,000 is necessitated by the planned relocation of personnel into permanent space, shipment of equipment for repair and calibration, and for shipment of equipment received from surplus.

Rents, communications and utilities - $8,326,000

The $5,718,000 decrease for rents, communications, and utilities results primarily from the planned purchase of selected computer equipment. However,

this decrease is partially offset by increased costs for data processing services to effect the acquisition and reduction of experimental data. Additional costs will be incurred for electricity and heat required in the additional buildings to be occupied in fiscal year 1965. It is anticipated that costs for local, long-distance telephone service, and telegraph service will increase in fiscal year 1965.

Printing and reproduction - $180,000

The increase of $19,000 for printing and reproduction services in fiscal year 1965 is required to cover the cost of printing administrative reports.

Other services - $5,462,000

An increase of $1,017,000 over fiscal year 1964 funding is required to cover the increasing cost of various contractual efforts. The major areas of increase are those required for equipment, maintenance and repair, and for security and custodial services. The aging of equipment requires more frequent and more extensive repair and maintenance. In addition, warranty periods will expire on many items of equipment necessitating the initiation of maintenance contracts. New buildings occupied in fiscal year 1965 will require the cleaning and maintenance of an additional 371,000 square feet of space. Guard services for these new buildings will require an additional 5 man-years in fiscal year 1965. The costs entailed in this object class are closely related to the growth of the Center and to the increasing need for computer programming services, documentation services, chart and related art work, and services received from other Government agencies.

Supplies and materials - $2,050,000

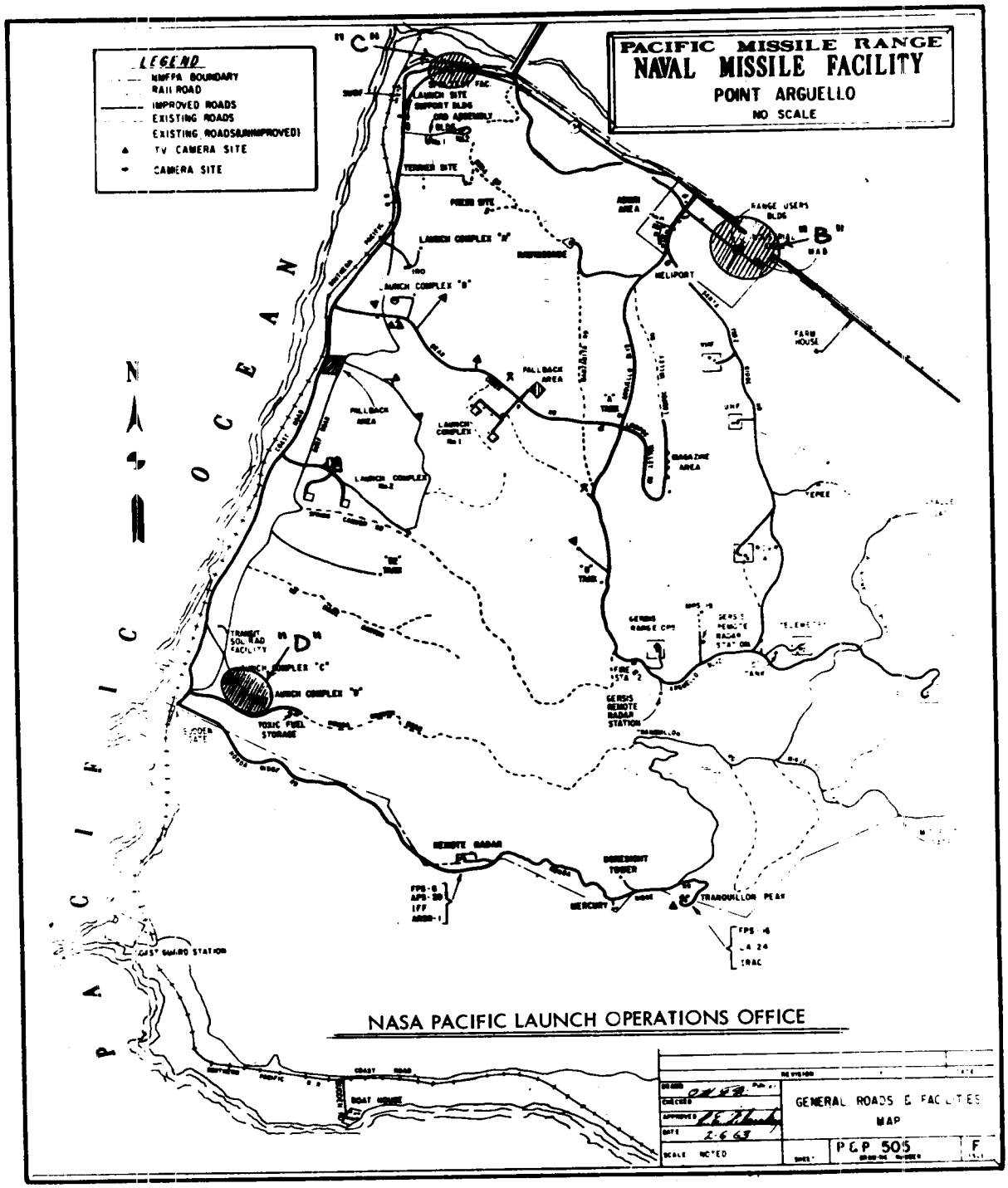
The estimate for fiscal year 1965, which is $123,000 more than fiscal year 1964, and is based on experience factors that can be related to scheduled or variable requirements. In this respect, the cost of fuel oil continues to increase as new buildings are occupied, office supplies can be related to personnel complement, and cleaning supplies can be related to the types of buildings and total areas requiring cleaning. A large portion of the supplies and materials fall into the preventive maintenance or routine use category requiring fairly constant expenditure.

Equipment - $23,352,000

The increase of $20,260,000 in fiscal year 1965 is primarily attributable to the planned purchase of electronic data processing equipment. It is estimated that the purchase of this equipment will amount to $20,000,000. The balance of the increased costs requested in fiscal year 1965 is required for laboratory and electronic equipment and cargo-carrying vehicles for use at the Center and the field tracking stations.

Lands and structures - $813,000

The increase in the land and structures category will be utilized to effect minor alterations and modification of office laboratory workshop areas consistent with functional, organizational, and workload requirements.


PACIFIC MISSILE RANGE
NAVAL MISSILE FACILITY
POINT ARGUELLO
NO SCALE
LEGEND
NMFPA BOUNDARY
RAIL ROAD
IMPROVED ROADS
EXISTING ROADS(UNIMPROVED)
TV CAMERA SITE
CAMERA SITE
PACIFIC OCEAN
N
LAUNCH SITE
SUPPORT BLDG
AND ASSEMBLY
BLDG
TERMINAL SITE
PIERS SITE
LAUNCH COMPLEX "A"
LAUNCH COMPLEX "B"
LAUNCH COMPLEX No. 1
LAUNCH COMPLEX No. 2
FALLBACK AREA
HELIPORT
RANGE USERS BLDG
FARM HOUSE
MAGAZINE AREA
TRANSIT SOL RAD FACILITY
LAUNCH COMPLEX "C"
LAUNCH COMPLEX "D"
TOXIC FUEL STORAGE
GERSIS RANGE CPS
GERSIS REMOTE RADAR STATION
REMOTE RADAR
FPS-6
APS-20
IFF
ARDC-1
DOWNRIGHT TOWER
MERCURY
TRANQUILLON PEAK
FPS-16
LA 24
TRAC
EAST RADIO STATION
BOAT HOUSE
COAST ROAD
NASA PACIFIC LAUNCH OPERATIONS OFFICE
GENERAL ROADS & FACILITIES MAP
P&P 505
SCALE NOTED
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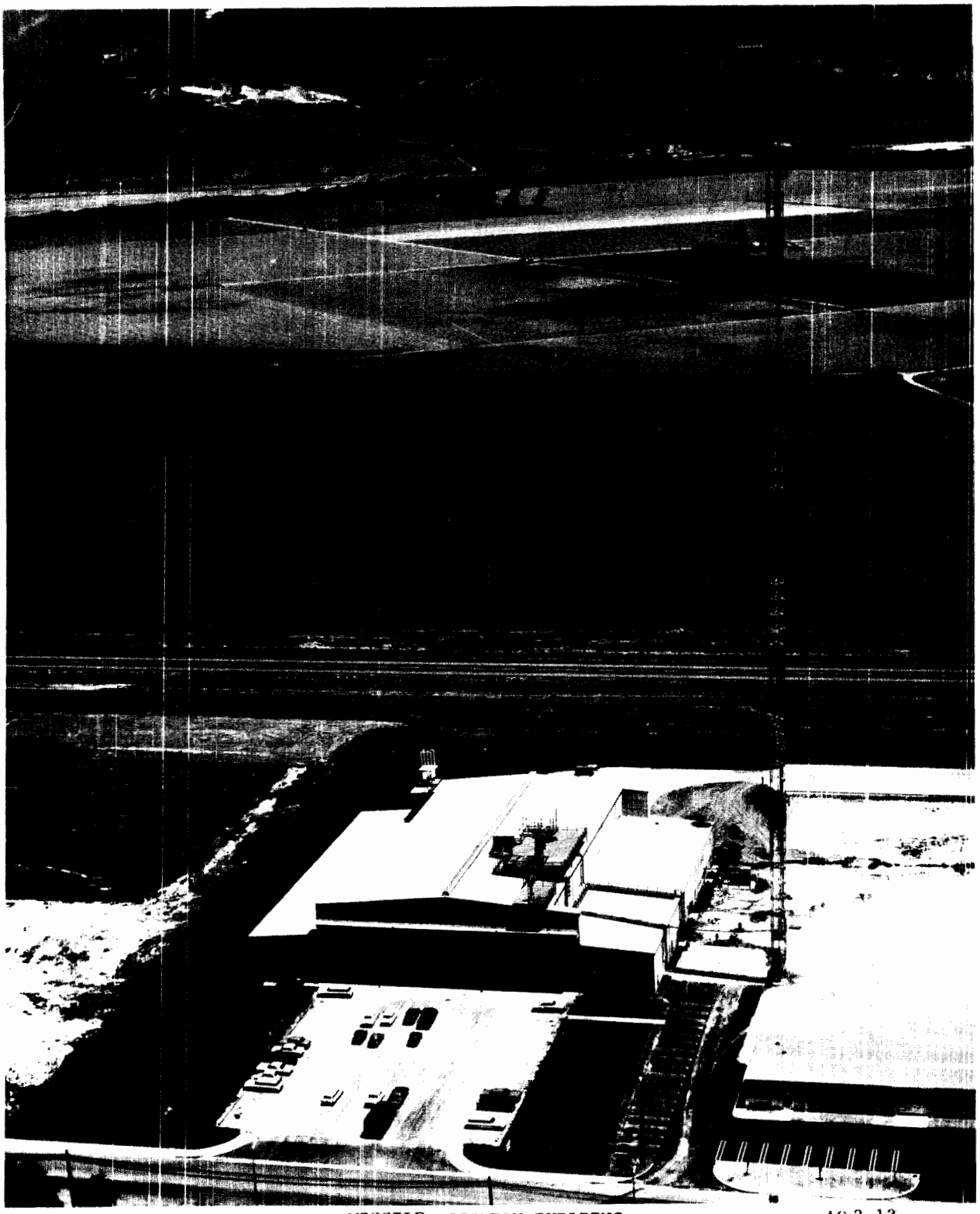
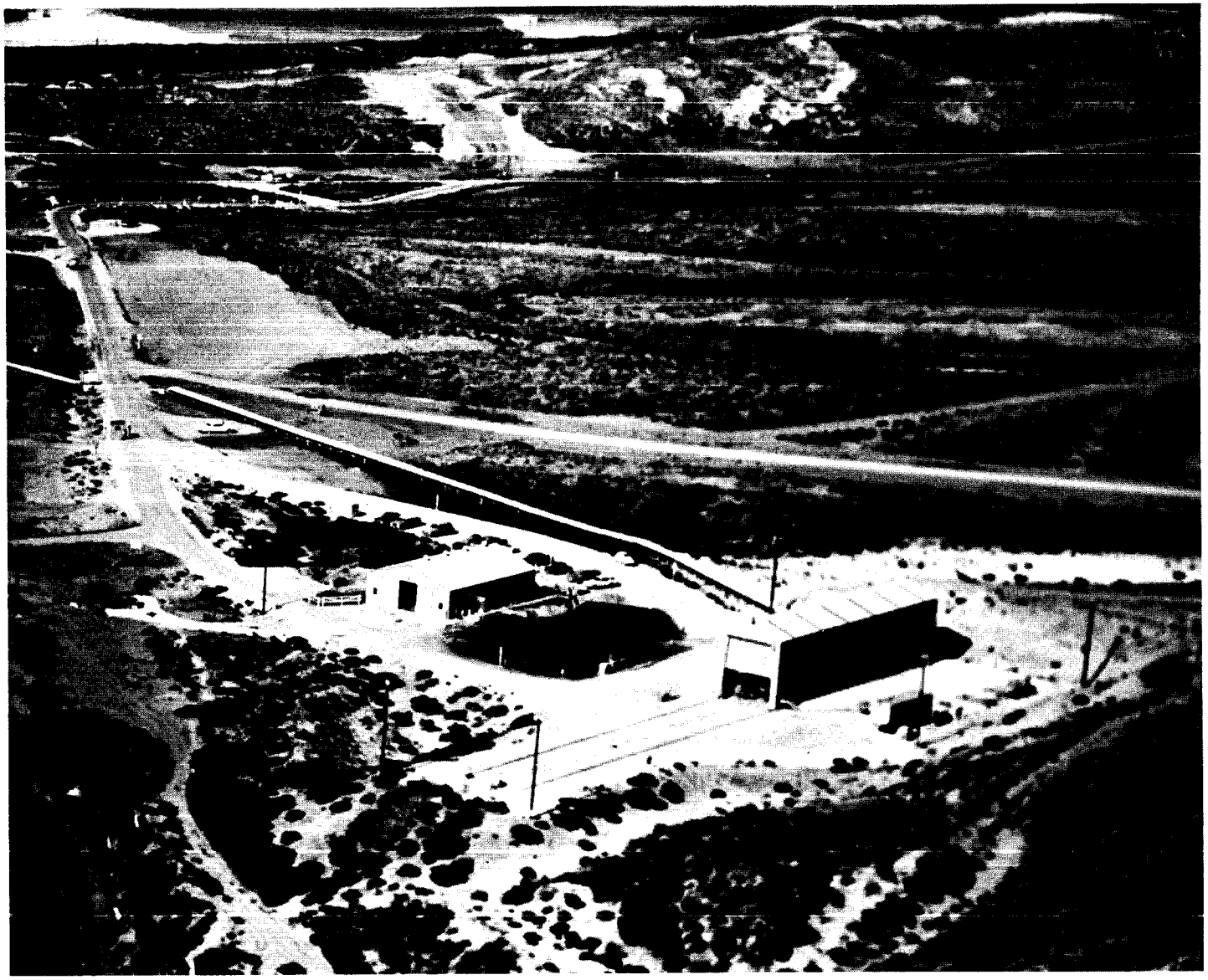
PACIFIC LAUNCH OPERATIONS OFFICE



MISSILE ASSEMBLY BUILDING

AC 2-13

PACIFIC LAUNCH OPERATIONS OFFICE



SCOUT COMPLEX

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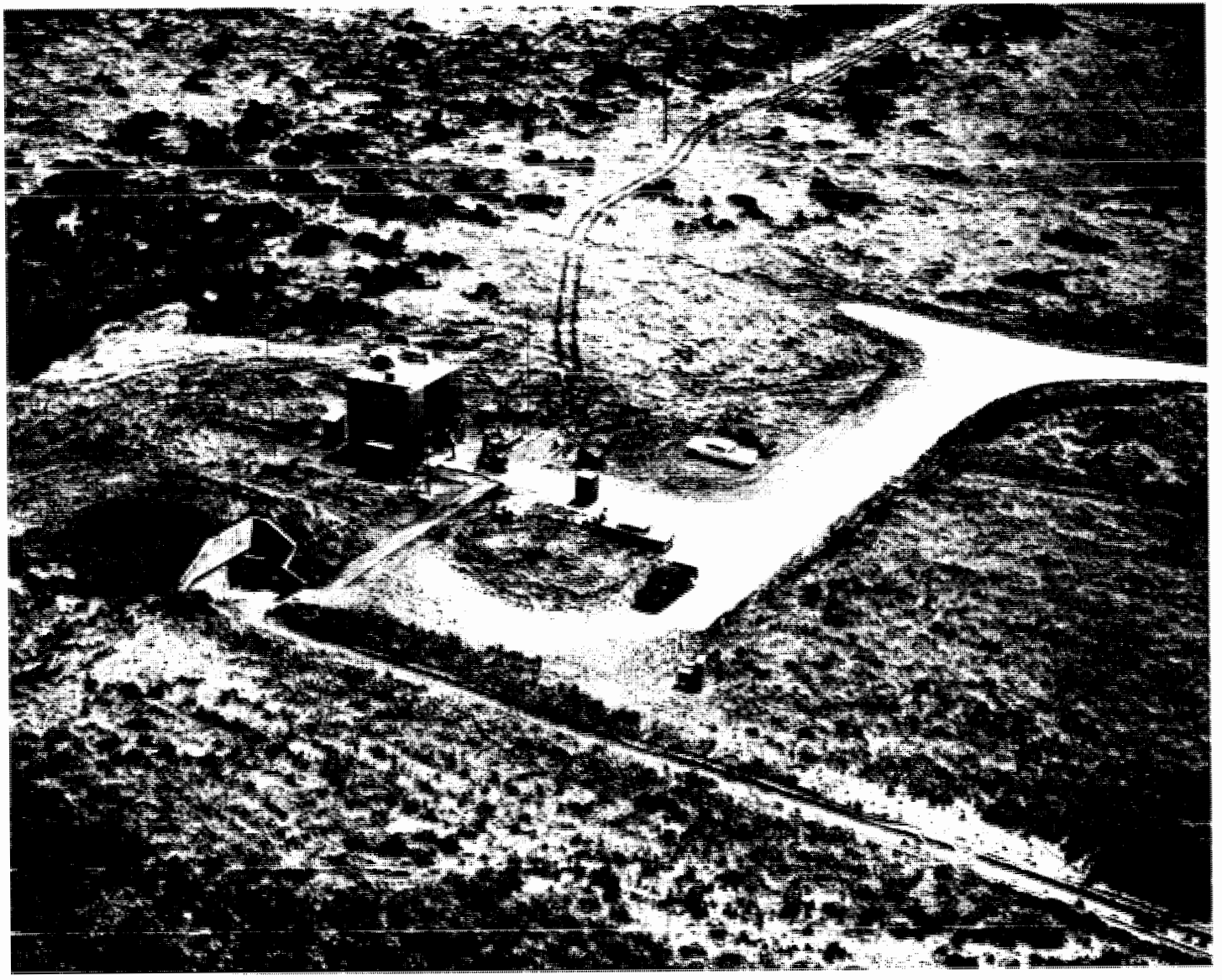
PACIFIC LAUNCH OPERATIONS OFFICE



SPIN TEST FACILITY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

PACIFIC LAUNCH OPERATIONS OFFICE

STAFFING SUMMARY

	64	65
GS-15	1	5
GS-14	4	2
Other GS	14	12
Total	19	19

DIRECTOR

	64	65
GS-15	1	1
Other GS	1	1
Total	2	2

EXECUTIVE ASSISTANT

	64	65
GS-15	-	1
GS-14	1	-
Total	1	1

PUBLIC SERVICES & INFORMATION DIVISION

	64	65
GS-14	-	-
Other GS	1	1
Total	1	1

ADMINISTRATIVE SERVICES DIVISION

	64	65
Other GS	7	7
Total	7	7

INSTRUMENTATION & COMMUNICATIONS DIVISION

	64	65
GS-15	-	1
GS-14	1	1
Other GS	1	-
Total	2	2

SUPPORT REQUIREMENTS DIVISION

	64	65
GS-15	-	1
GS-14	1	1
Other GS	3	2
Total	4	4

FACILITIES & EQUIPMENT DIVISION

	64	65
GS-15	-	1
GS-14	1	-
Other GS	1	1
Total	2	2

ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

PACIFIC LAUNCH OPERATIONS OFFICE

MISSION AND CAPABILITIES:

The Pacific Launch Operations Office was established as a field installation at the Pacific Missile Range on March 7, 1962, discontinuing the former NASA Test Support Office, Point Mugu, California.

The mission of the Pacific Launch Operations Office covers two broad areas: representing NASA, as a single point of contact, in its relationships with the Pacific Missile Range, including negotiating for coordinating the use of range services and facilities to support requirements developed at NASA Centers by their local field project groups; and providing or arranging for administrative, logistic, and technical support for NASA programs and projects at the Pacific Missile Range.

The Pacific Launch Operations Office provides general support services for all NASA programs and projects at the Pacific Missile Range including launch vehicles and propulsion systems, meteorological satellites, communication satellites, geophysics and astronomy, and the manned space flight effort. The projected flight schedule at the Pacific Missile Range which Pacific Launch Operations Office will support includes in calendar years 1964 and 1965 the launching of 17 Scout vehicles and 7 Thor-Agena vehicles.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year.....	17	22	22
Administrative operations.....	$641,000	$720,000	$883,000

INSTALLATION DESCRIPTION:

The Pacific Launch Operations Office is located at Point Arguello, California, within the Naval Missile Facility. Part of the Pacific Launch Operations Office organization is stationed at Point Mugu, California, to maintain direct contact with the Headquarters staff, Pacific Missile Range. During fiscal year 1965 it is anticipated that management of the Point Arguello facility will be assumed by the Air Force and that a major portion of the contact maintained at Point Mugu will subsequently be maintained with Vandenberg Air Force Base. Consequently, it is planned to reduce operations at the Point Mugu office accordingly and transfer these operations to the Point Arguello office. Point Mugu is approximately 60 miles north of Los Angeles; Point Arguello is approximately 120 miles northwest of Point Mugu.

Both Point Mugu and Point Arguello are on the coast line of the Pacific Ocean. Just south of Point Arguello, the coast line runs east and west. This permits direct launchings into polar and high inclination orbits without overflying or endangering inhabited areas of the Western Hemisphere.

The value of the NASA plant at the Pacific Missile Range, including downrange sites, as of June 30, 1963 was $12,720,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11	Personnel compensation	$150,000	$211,000	$243,000
12	Personnel benefits	10,000	14,000	17,000
	Total, personnel costs	$160,000	$225,000	$260,000
21	Travel and transportation of persons	17,000	28,000	32,000
22	Transportation of things	5,000	10,000	6,000
23	Rents, communications and utilities	72,000	75,000	75,000
24	Printing and reproduction	21,000	30,000	15,000
25	Other services	189,000	164,000	273,000
26	Supplies and materials	60,000	65,000	82,000
31	Equipment	75,000	80,000	80,000
32	Lands and structures	42,000	43,000	60,000
	TOTAL	$641,000	$720,000	$883,000

JUSTIFICATIONS BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs	$260,000
Positions, end of year	22

The tempo of activity at the Pacific Launch Operations Office will be higher in fiscal year 1965 as projects such as Nimbus, reach the flight stage. The increase of $35,000 in personnel costs is attributable to the pay raise effective January 5, 1964 for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Support personnel			
Director and staff.....	4	4	4
Administration.....	3	7	7
Installation operation.....	8	8	8
Total, support positions.....	15	19	19
Total, permanent positions.....	15	19	19
Other positions:			
Positions under cooperative training agreement.....	-	-	-
Other temporary positions.....	2	3	3
Total, all positions.....	17	22	22

Travel and transportation of persons - $32,000

The increase in the estimate for fiscal year 1965 is based upon an increase in travel to conferences at NASA Headquarters, NASA centers, and other locations in connection with scheduled NASA-Pacific Missile Range operations.

Other services - $273,000

The increase in fiscal year 1965 represents increased costs related to the contractual operation and maintenance of the NASA-PMR motor pool, communications center, and general support services. Reimbursable support services provided by Vandenberg Air Force Base will increase as a result of increased NASA activity at the Pacific Missile Range and an increasing emphasis on the part of range management to insure that range users are billed for all appropriate services.

Supplies and materials - $82,000

The increase in fiscal year 1965 is based on the increased activity in launch schedules and general support requirements.

Lands and structures - $60,000

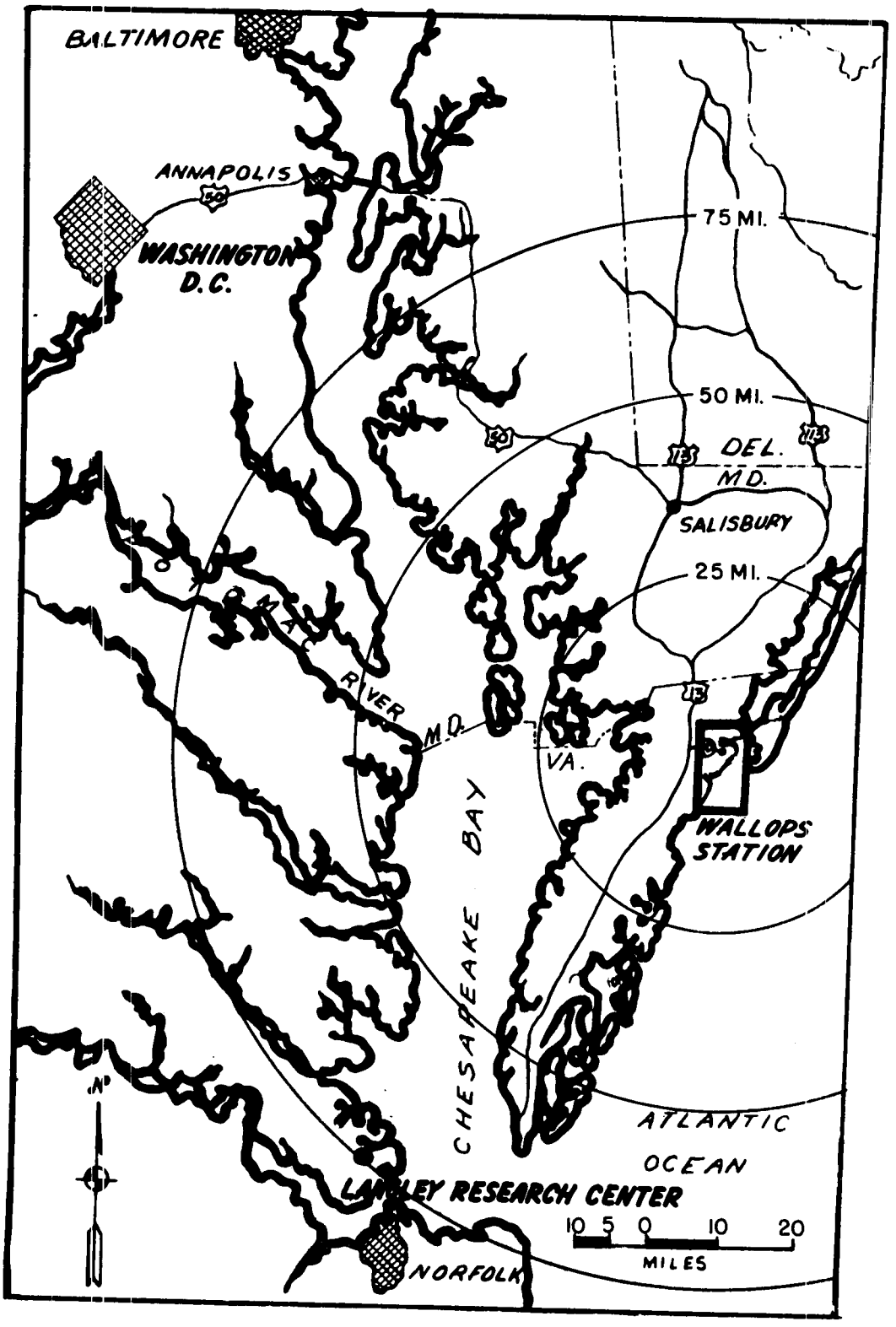
The fiscal year 1965 estimate for modifications, alterations and minor construction will include a shop facility and an addition to the blockhouse

of the Spin Test Facility.

Other costs -- $176,000

Costs for transportation of things, rents, communications, and utilities, printing and reproduction, and equipment are at or below the fiscal year 1964 levels.

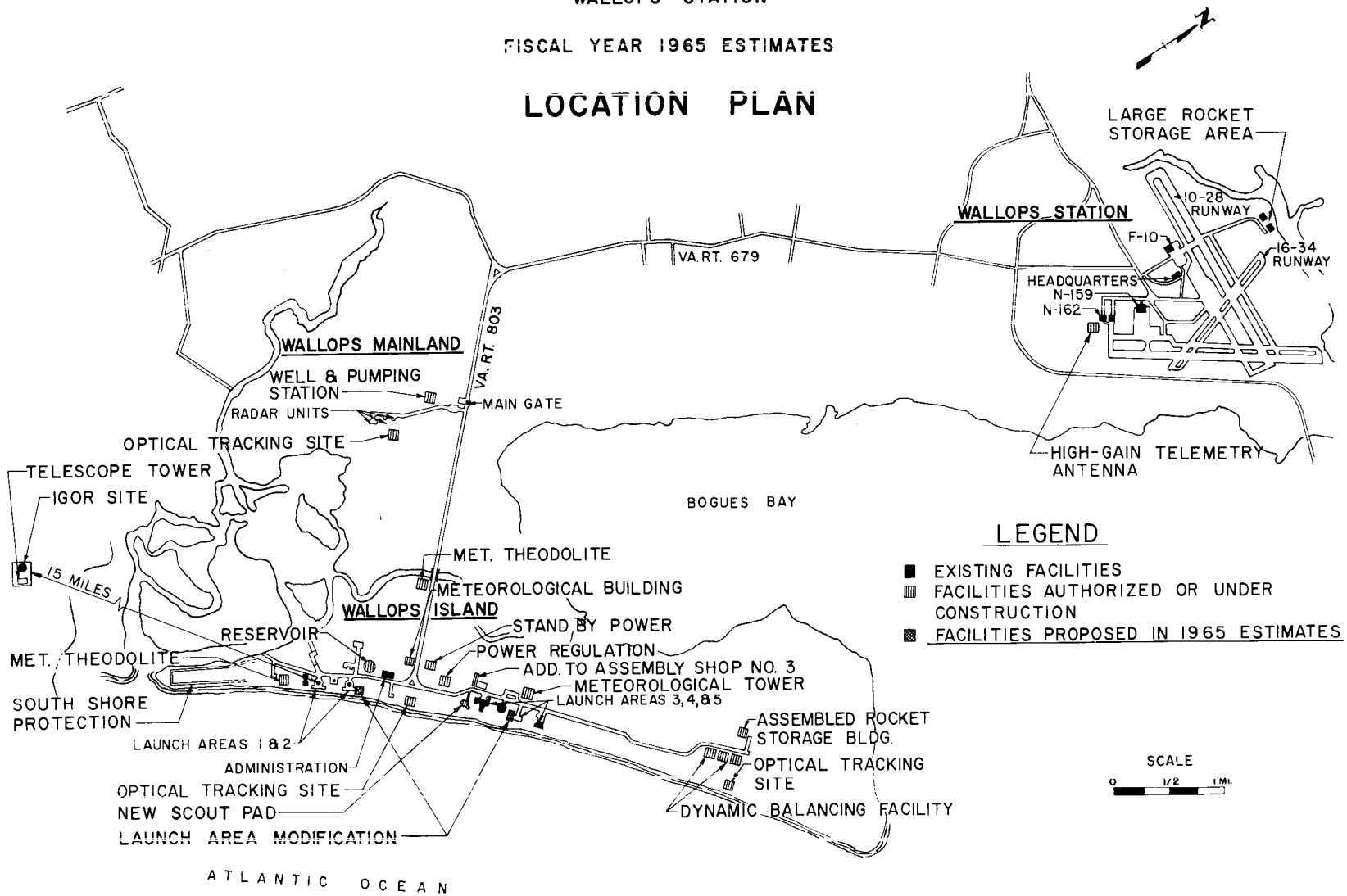
WALLOPS STATION LOCATION



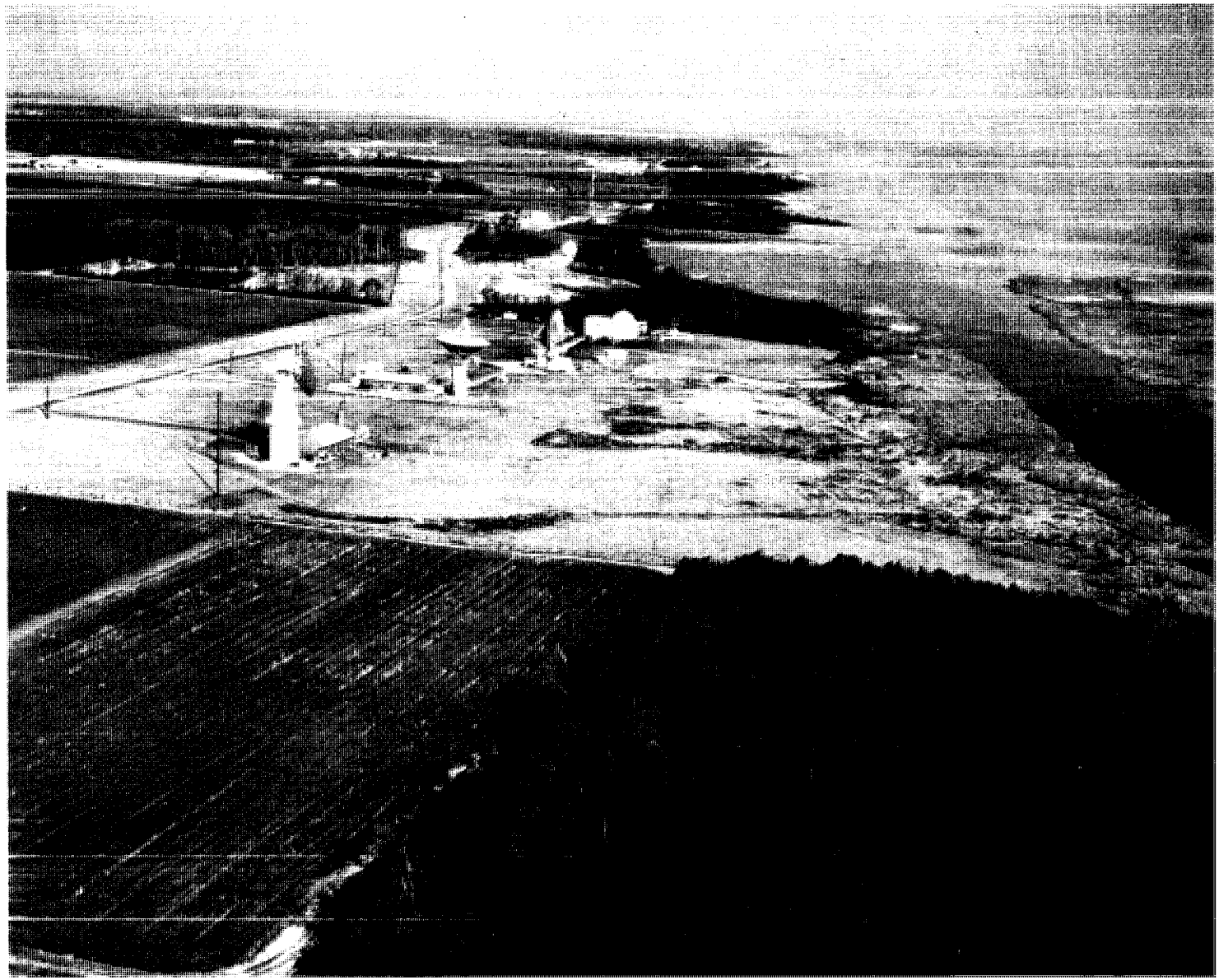
WALLOPS STATION

FISCAL YEAR 1965 ESTIMATES

LOCATION PLAN



Aerial View of Wallops Station



Aerial View of Radars Mainland - Spandar, MIT, FPQ6

Aerial view of Wallops Island south looking north

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

WALLOPS STATION

STAFFING SUMMARY

	64	65
Excepted	2	2
GS-15	3	4
GS-14	8	9
All Other GS	236	234
Wage Board	269	269
Total	518	518

DIRECTOR

	64	65
Excepted	1	1
GS-14	1	1
All other GS	3	3
Total	5	5

FLIGHT TEST DIVISION

	64	65
Excepted	1	1
GS-15	1	1
GS-14	3	3
All Other GS	55	55
Wage Board	100	100
Total	160	160

RANGE ENGINEERING DIVISION

	64	65
GS-15	2	3
GS-14	2	3
All Other GS	76	74
Wage Board	10	10
Total	90	90

ADMINISTRATIVE MANAGEMENT DIVISION

	64	65
GS-14	1	1
All Other GS	70	70
Wage Board	37	37
Total	108	108

TECHNICAL SERVICES DIVISION

	64	65
GS-14	1	1
All Other GS	32	32
Wage Board	122	122
Total	155	155

ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

WALLOPS STATION

MISSION AND CAPABILITIES:

A launch site was established on Wallops Island in 1945 by the Langley Research Center, then a field station of the National Advisory Committee for Aeronautics. Designated the Pilotless Aircraft Research Station, Wallops' early mission was to supplement wind tunnel and laboratory investigations relating to problems of flight. When the National Aeronautics and Space Administration was established in 1958, the Pilotless Aircraft Research Station was redesignated as Wallops Station.

Since 1945, Wallops has launched more than 5,000 research vehicles of one to seven rocket stages to obtain scientific information on the flight characteristics of airplanes, launch vehicles and spacecraft and to increase the nation's knowledge of the upper atmosphere and the space environment. The launch vehicles used vary in size and power from the small Arcas and Hasp meteorological rockets to the four-stage Scout vehicle with orbital capability. The Station will conduct some 300 launches a year including sounding rockets, scientific satellites and re-entry vehicles.

The basic mission is to prepare, assemble and launch scientific experiments, achieve the desired position and velocity in space, track, and acquire and record the data sought. These data are processed, reduced to meaningful form, and analyzed. Other research and development activities are: supporting aeronautical research in areas such as re-entry physics and materials studies; conducting components and systems development tests; and rendering assistance to NASA centers, education institutions, government agencies and foreign nations, by training and advising on launch techniques and operations.

Wallops is an operational base for launching scientific experiments conceived and for the most part designed and built by scientists and engineers all over the United States and in many other countries. About half of the personnel complement consists of engineers and technicians specializing in the techniques of vehicle preparation, launching, tracking and data acquisition.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year...	493	530	530
Administrative operations.....	$8,881,000	$9,400,000	$9,910,000

INSTALLATION DESCRIPTION:

Wallops Station, located on the eastern shore of Virginia, approximately 40 miles southeast of Salisbury, Maryland, consists of three areas: (1) the main base (formerly the Chincoteaque Naval Air Station), which is the location of the administrative offices, technical service support shops, and such facilities as the Range Control Center and main telemetry building; (2) Wallops Island, off the coast of Virginia, approximately 7 miles southeast of the main base, separated from the mainland by two miles of marsh and inland waterway and connected with the mainland by a causeway and bridge. The island is approximately five miles long and about one-half mile in width at its widest point. The launch sites, assembly shops, blockhouses, rocket storage buildings and related facilities are on the island; (3) the Wallops mainland, a half-mile strip at the opposite end of the causeway behind the island, which is the location of a long range radar and optical tracking site. A total area of 6,478 acres is occupied, of which 2,230 acres are occupied by the main base, 108 acres by the mainland area, 3,000 acres by the island and 1,140 acres is marsh land. All of this land is government owned. The plant value as of June 30, 1963, was $38,716,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$3,391,000	$3,725,000	$4,093,000
12.	Personnel benefits.....	222,000	250,000	267,000
	Total, personnel costs.....	$3,613,000	$3,975,000	$4,360,000
21.	Travel and transportation of persons.....	88,000	148,000	150,000
22.	Transportation of things.....	94,000	85,000	83,000
23.	Rents, communications and utilities.....	691,000	811,000	874,000
24.	Printing and reproduction....	3,000	15,000	15,000
25.	Other services.....	1,734,000	2,080,000	2,100,000
26.	Supplies and materials.....	1,097,000	1,025,000	1,025,000
31.	Equipment.....	1,095,000	1,025,000	1,000,000
32.	Lands and structures.....	466,000	235,000	302,000
42.	Insurance claims and indemnities.....	-0-	1,000	1,000
	TOTAL.....	$8,881,000	$9,400,000	$9,910,000

JUSTIFICATIONS BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs	$4,360,000
Positions, end of year	530

The level of activity at Wallops will increase in fiscal year 1965 with about 300 launches, including the launching of Scout orbital and re-entry probes. In addition, personnel will be extensively engaged in assisting other government agencies and educational institutions.

The fiscal year 1965 personnel costs will increase by $385,000 over those for fiscal year 1964. This increase is due primarily to the increase of 15 man-years over fiscal year 1964 and funding of the Civil Service pay increase, effective January 5, 1964, for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Space Science and Applications			
Meteorological satellites	14	19	20
Geophysics and astronomy	48	60	66
Advanced Research and Technology			
Space vehicle systems	13	17	19
Electronic systems	6	8	8
Basic research	9	12	12
Space power	13	16	17
Aeronautics	13	17	17
Tracking and Data Acquisition	35	41	42
Subtotal, direct positions	151	190	201
Support personnel			
Director and staff	3	5	5
Administration	110	108	108
Installation operations	133	155	155
Research and development support	50	60	49
Subtotal, support positions	296	328	317

	1963	1964	1965
Total, permanent positions.....	447	518	518
Other positions:			
Positions under cooperative training agreements.....	15	12	12
Other temporary positions.....	31	-	-
Total, all positions.....	493	530	530

Travel and transportation of persons - $150,000

It is expected that the costs for travel and transporation of persons will level off in fiscal year 1965. Participation in the International Program of the Agency requires travel of range personnel to foreign sites. The remote location of Wallops adds to the number of local travel requests and toll charges.

Rents, communications, and utilities - $874,000

An increase of $63,000 is requested in this classification. It is planned to update existing data processing equipment to provide real time capability. The geographic location of Wallops requires that all but local calls on the Station be long-distance toll calls. Where volume of message traffic makes it more economical and advantageous to the government, lines are leased rather than using commercial long-distance toll lines. The steady completion and acceptance of electronic equipment and facilities at the main base, at Wallops Island, and at down range tracking and camera sites adds to the electric power requirements. The rate per kilowatt hour ranges from 1.7¢ per kilowatt hour at Wallops Station to 4.3¢ per kilowatt hour at remote camera and tracking sites.

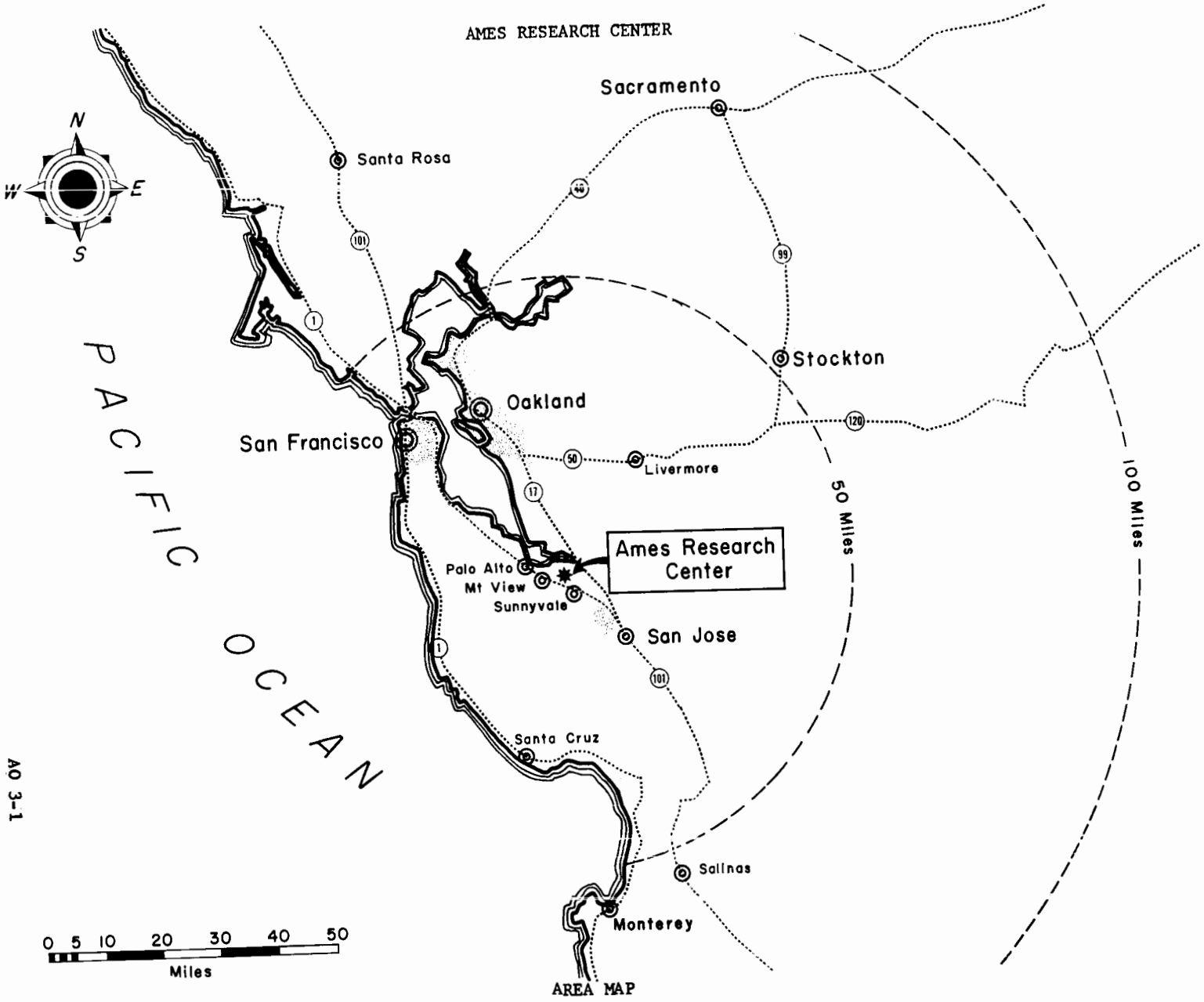
Lands and structures - $302,000

In fiscal year 1965 the modification, alteration, and minor construction program will include parking areas for instrumentation vans and along roads at remote sites, enlargement of the present stock room, erection of towers to place astrodomes for cameras at optical sites, and construction of a facility for static testing the structural strength of vehicles.

Other costs - $4,224,000

Costs for transportation of things, printing and reproduction, other services, supplies and materials, equipment and insurance claims and indemnities are essentially the same in fiscal years 1964 and 1965.

AMES RESEARCH CENTER



AREA MAP

AMES RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

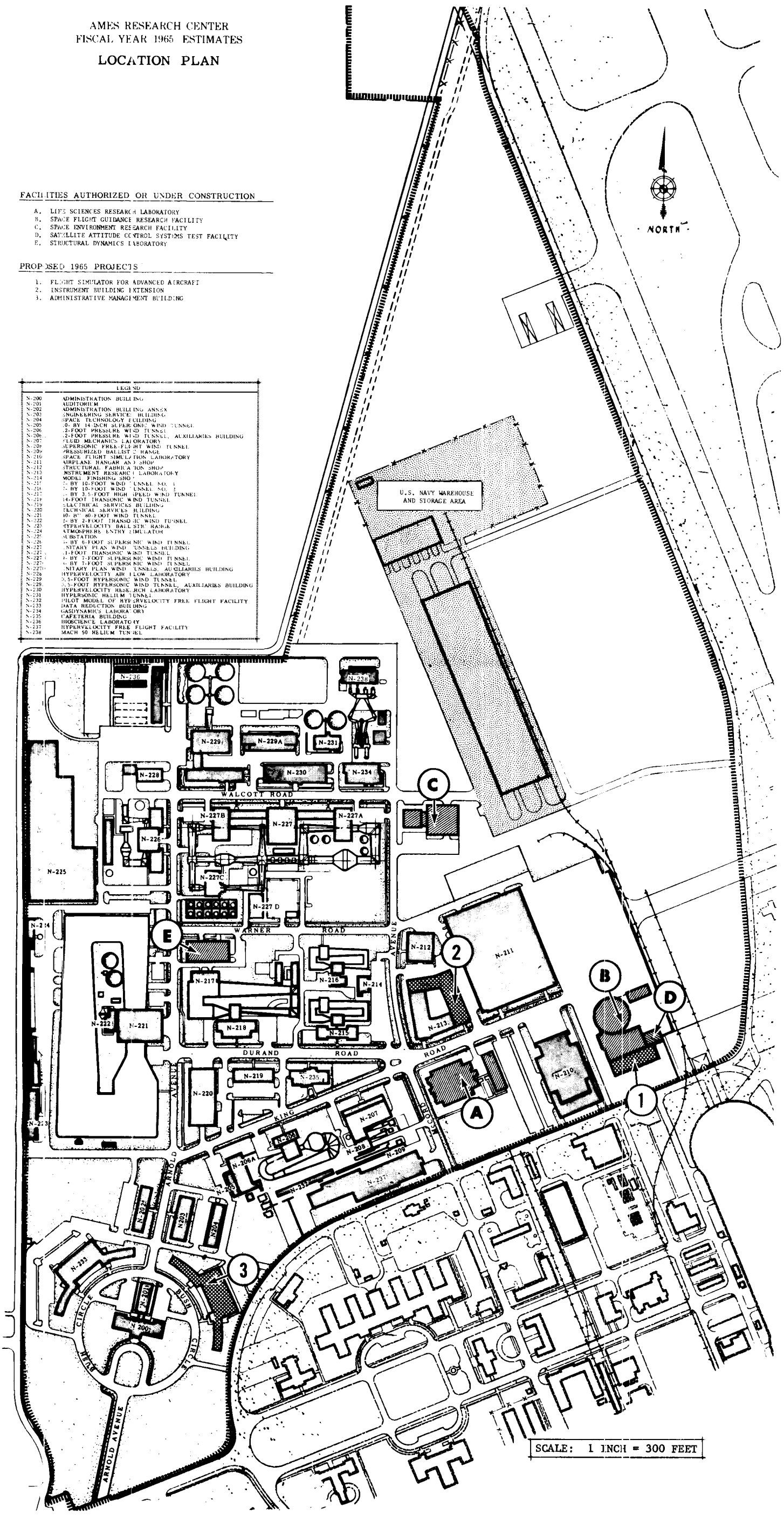
LOCATION PLAN

FACILITIES AUTHORIZED OR UNDER CONSTRUCTION

A. LIFE SCIENCES RESEARCH LABORATORY
B. SPACE FLIGHT GUIDANCE RESEARCH FACILITY
C. SPACE ENVIRONMENT RESEARCH FACILITY
D. SATELLITE ATTITUDE CONTROL SYSTEMS TEST FACILITY
E. STRUCTURAL DYNAMICS LABORATORY

PROPOSED 1965 PROJECTS

1. FLIGHT SIMULATOR FOR ADVANCED AIRCRAFT
2. INSTRUMENT BUILDING EXTENSION
3. ADMINISTRATIVE MANAGEMENT BUILDING



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

AMES RESEARCH CENTER

STAFFING SUMMARY

	64	65
Excepted	29	29
GS-15	108	112
GS-14	133	135
All other GS	1,121	1,115
Wage Board	785	785
Total	2,176	2,176

DIRECTOR

	64	65
Excepted	2	2
GS-15	1	1
All other GS	6	6
Total	9	9

RESOURCES MANAGEMENT OFFICE

	64	65
GS-15	1	1
GS-14	1	1
All other GS	1	1
Total	3	3

TECHNOLOGY UTILIZATION OFFICE

	64	65
GS-15	1	1
All other GS	3	3
Total	4	4

PUBLIC INFORMATION OFFICE

	64	65
GS-14	1	1
All other GS	4	4
Total	5	5

ASSISTANT DIRECTOR AERONAUTICS AND FLIGHT MECHANICS

	64	65
Excepted	1	1
GS-14	1	1
All other GS	1	1
Total	3	3

AERONAUTICS DIVISION

	64	65
Excepted	1	1
GS-15	5	5
GS-14	12	12
All other GS	70	70
Wage Board	58	58
Total	146	146

FULL SCALE AND SYSTEMS RESEARCH DIVISION

	64	65
Excepted	2	2
GS-15	16	16
GS-14	17	17
All other GS	92	92
Wage Board	21	21
Total	148	148

INSTRUMENTATION DIVISION

	64	65
Excepted	2	2
GS-15	6	6
GS-14	16	16
All other GS	111	111
Wage Board	128	128
Total	257	257

ASSISTANT DIRECTOR ASTRONAUTICS

	64	65
Excepted	1	1
GS-15	1	1
All other GS	1	1
Total	3	3

THERMO AND GAS DYNAMICS DIVISION

	64	65
Excepted	4	4
GS-15	13	13
GS-14	15	15
All other GS	90	90
Wage Board	50	50
Total	172	172

VEHICLE ENVIRONMENT DIVISION

	64	65
Excepted	1	1
GS-15	12	13
GS-14	11	11
All other GS	93	92
Wage Board	40	40
Total	157	157

SPACE SCIENCE DIVISION

	64	65
Excepted	1	1
GS-15	7	9
GS-14	9	9
All other GS	39	37
Wage Board	15	15
Total	71	71

ASSISTANT DIRECTOR LIFE SCIENCES

	64	65
Excepted	1	1
GS-15	1	1
All other GS	2	2
Wage Board	3	3
Total	7	7

EXOBIOLOGY DIVISION

	64	65
Excepted	1	1
GS-15	5	5
GS-14	4	6
All other GS	37	35
Total	47	47

ENVIRONMENTAL BIOLOGY DIVISION

	64	65
Excepted	2	2
GS-15	5	5
GS-14	7	7
All other GS	51	51
Total	65	65

BIOTECHNOLOGY DIVISION

	64	65
Excepted	2	2
GS-15	4	4
GS-14	7	7
All other GS	35	35
Total	48	48

ASSISTANT DIRECTOR DEVELOPMENT

	64	65
Excepted	1	1
All other GS	1	1
Total	2	2

SYSTEMS ENGINEERING DIVISION

	64	65
GS-15	3	3
GS-14	4	4
All other GS	15	15
Total	22	22

PROJECT PIONEER

	64	65
Excepted	1	1
GS-15	1	2
GS-14	8	8
All other GS	17	16
Total	27	27

PROJECT BIOSATELLITE

	64	65
Excepted	2	2
GS-15	4	4
GS-14	4	4
All other GS	52	52
Wage Board	5	5
Total	67	67

ASSISTANT DIRECTOR R AND D ANALYSIS AND PLANNING

	64	65
Excepted	1	1
GS-15	2	2
All other GS	2	2
Total	5	5

MISSION ANALYSIS DIVISION

	64	65
Excepted	1	1
GS-15	3	3
GS-14	5	5
All other GS	14	14
Total	23	23

TECHNICAL PLANNING DIVISION

	64	65
GS-15	5	5
All other GS	2	2
Total	7	7

ADVANCED PIONEER STUDY

	64	65
GS-15	2	2
GS-14	1	1
All other GS	1	1
Total	4	4

ASSISTANT DIRECTOR ADMINISTRATION

	64	65
Excepted	1	1
GS-15	1	1
All other GS	1	1
Total	3	3

ADMINISTRATIVE SERVICES DIVISION

	64	65
All other GS	57	57
Wage Board	10	10
Total	67	67

FISCAL DIVISION

	64	65
GS-14	1	1
All other GS	75	75
Total	76	76

PERSONNEL DIVISION

	64	65
GS-15	1	1
GS-14	2	2
All other GS	53	53
Total	56	56

LEGAL OFFICE

	64	65
GS-15	1	1
GS-14	1	1
All other GS	1	1
Total	3	3

RESEARCH FACILITIES AND EQUIPMENT DIVISION

	64	65
Excepted	1	1
GS-15	5	5
GS-14	8	8
All other GS	125	125
Wage Board	69	69
Total	208	208

TECHNICAL SERVICES DIVISION

	64	65
GS-15	1	1
GS-14	1	1
All other GS	2	2
Wage Board	364	364
Total	368	368

PROCUREMENT AND SUPPLY DIVISION

	64	65
GS-15	1	1
GS-14	2	2
All other GS	67	67
Wage Board	22	22
Total	93	93

718-895 O-64 (Follow p. AO 3-3)

ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

AMES RESEARCH CENTER

MISSION AND CAPABILITIES:

The mission of the Ames Research Center has been broadened significantly since the establishment of NASA and now includes a major research responsibility in the life sciences and a flight-project management responsibility in addition to the traditional research mission in the physical sciences. In the current and budget years, Ames has flight-project management responsibility for the Pioneer and Biosatellite projects. Pioneer will provide scientific observations of phenomena in interplanetary space from an unmanned spacecraft, and the Biosatellite project will explore the biological effects of the space environment on primates and other Earth organisms.

Research in the physical sciences includes studies in atmosphere entry and environmental physics, guidance and control systems, and aeronautics. The work in entry and environmental physics includes basic studies of the physics of high-temperature gases, the stability, control, and performance of a wide range of spacecraft configurations, and of materials and structures for spacecraft. In the area of gas physics, particular emphasis is placed on problems associated with flight into Earth and other planetary atmospheres. Through this effort, significant contributions have been made to the design of the Mercury, Gemini, and Apollo spacecraft, the design of Mars entry vehicles, and the design of ballistic missiles. The work in guidance and control systems is broad in nature and is applicable to manned and unmanned spacecraft, as well as aircraft. Current emphasis in guidance systems is directed mainly at manned vehicles and in particular Apollo and follow-on manned missions. This includes an intensive effort in the area of mid-course navigation and terminal guidance with a smaller effort directed at studies involving lunar approach, lunar landing, and rendezvous. The research in control systems is directed at examining various techniques applicable to satellite attitude stabilization and techniques applicable to vertical and short take-off (V/STOL) aircraft, the supersonic transport, and the Apollo spacecraft. The research program in aeronautics is directed at studies of the problems associated with supersonic aircraft with particular emphasis on the supersonic transport, a wide variety of V/STOL vehicles and with hypersonic research aircraft. This includes studies of piloting problems with numerous fixed-base, moving-base, and flight simulators.

Research in the space sciences includes studies in the field of solar physics, planetary environments, and geophysics. This includes ground-based and sounding rocket experiments as well as experiments requiring specialized instruments aboard satellites and space probes. The work covers studies pertaining to magnetic fields and plasmas in space, and studies to determine the composition and structure of planets and of planetary and stellar

atmospheres.

Research in the life sciences is conducted in three major areas: basic research in the physiological and behavioral sciences concerned with obtaining a basic understanding of the effects of terrestrial and extraterrestrial environments and of space flight stresses upon living organisms; studies in exobiology oriented towards the prediction, detection, and study of extraterrestrial life forms; and research in the human factors aspects of the relationships between man and the machines which will transport him into space and support him during lunar and planetary exploration.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year	2,116	2,196	2,196
Administrative operations.....	$25,550,000	$28,968,000	$31,806,000

INSTALLATION DESCRIPTION:

The Ames Research Center was established in 1940 and is located at the southern end of San Francisco Bay on land contiguous to the U. S. Naval Air Station, Moffett Field, California. Its physical plant comprises many specialized facilities for aerospace research in the traditional physical sciences as well as the space sciences and life sciences, all of which are included in the mission of the Center. These include conventional wind tunnels, entry-heating simulators, and free-flight ballistic test facilities capable of conducting tests at speeds up to and above earth escape speed as well as laboratories equipped to study solar and geophysical phenomena, life synthesis, life detection, and life environmental factors. Ames occupies about 235 acres of land of which 115 acres are owned by NASA and the remainder is made available through a use permit with the Department of the Navy. Certain other facilities, such as the utilities and airfield runways, are used jointly by NASA and the Navy. The physical plant value as of June 30, 1963 was $140,701,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation....	$15,429,000	$18,080,000	$19,385,000
12.	Personnel benefits.....	1,129,000	1,320,000	1,415,000
	Total, personnel costs..	$16,558,000	$19,400,000	$20,800,000
21.	Travel and transportation of persons.....	465,000	576,000	603,000

		1963	1964	1965
22.	Transportation of things...	$95,000	$65,000	$60,000
23.	Rents, communications and utilities.....	4,223,000	4,499,000	4,283,000
24.	Printing and reproduction..	42,000	77,000	80,000
25.	Other services.....	1,309,000	1,650,000	1,804,000
26.	Supplies and materials.....	1,899,000	1,719,000	1,300,000
31.	Equipment.....	739,000	792,000	2,451,000
32.	Lands and structures.....	220,000	190,000	425,000
	TOTAL.....	$25,550,000	$28,968,000	$31,806,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits:

Personnel costs.....	$20,800,000
Positions, end of year.....	2,196

In fiscal year 1965 substantial effort will be devoted to the management of the Biosatellite and Pioneer projects. The first Pioneer spacecraft will be launched in fiscal year 1965 and the first Biosatellite spacecraft is scheduled to fly in calendar year 1965. Continued effort will be applied to research in space technology, space science, and life science. As the workload shifts and areas of emphasis change, personnel are reassigned to meet the new program demands.

The fiscal year 1965 personnel costs will increase by $1,400,000 over those for fiscal year 1964. This increase is due primarily to the increase of 49 man-years over fiscal year 1964 and funding of the Civil Service pay increase, effective January 5, 1964, for a full fiscal year.

Personnel Distribution:

	1963	1964	1965
Direct personnel by program			
Manned space flight			
Apollo.....	-	3	3

	1963	1964	1965
Space Science and Applications			
Geophysics and astronomy.....	55	63	54
Lunar and planetary exploration.....	93	126	134
Bioscience.....	188	270	276
Advanced Research and Technology			
Space vehicle systems.....	228	221	254
Electronic systems.....	242	252	251
Human factor systems.....	99	126	118
Basic research.....	432	420	408
Space power.....	11	11	11
Aeronautics.....	319	315	298
Subtotal, direct positions.	1,667	1,807	1,807
Support personnel			
Director and staff.....	19	21	21
Administration.....	251	298	298
Research and development support.....	48	50	50
Subtotal, support positions	318	369	369
Total, permanent positions.	1,985	2,176	2,176
Other positions:			
Positions under cooperative training agreements.....	1	1	1
Other temporary positions..	130	19	19
Total all positions.....	2,116	2,196	2,196

Travel and transportation of persons - $603,000

The increase of $27,000 in travel for fiscal year 1965 over 1964 is due to a requirement for technical management and contractor monitoring of the expanding contractual research and development programs. Notable in this area are the Pioneer and Biosatellite projects and the growth of contractual research in the Human Factor Systems and Bioscience programs.

Rents, communications and utilities - $4,283,000

The cost of leasing automatic data processing equipment will be $189,000

less than in fiscal year 1964 because of the decision to buy selected pieces of equipment. Included in the fiscal year 1965 estimates are sufficient funds to provide for the rental of that equipment recommended for purchase for part of the year until the transfer from leased to NASA-owned equipment can be effected. Other costs for rents, communications, and utilities are estimated approximately at the same level as in fiscal year 1964.

Other services - $1,804,000

The estimated increase in the cost for contractual services is required largely for maintenance of purchased electronic data processing equipment and for maintenance and custodial services for new facilities becoming operational in fiscal years 1964 and 1965.

Supplies and materials - $1,300,000

Requirements for supplies and materials for fiscal year 1965 will be somewhat lower than the level required for fiscal year 1964. The reduced level is designed to effect operational economy by reducing inventory levels of selected items which are in abundant supply. In addition, the changing emphasis in program activity will induce lower requirements, particularly for chemicals, metals, electronic items, and general operating supplies.

Equipment - $2,451,000

The increase in estimated cost of equipment is due to the planned purchase of automatic data processing equipment in fiscal year 1965. The estimated cost for other equipment will remain at about the fiscal year 1964 level.

Lands and structures - $425,000

The increase of $235,000 is required to provide modifications to existing utility installations and research facilities. The major requirements include modernization of the Moffett Field sewage and waste disposal system supported jointly by NASA and the Naval Air Station, and the modernization of the electrical distribution system.

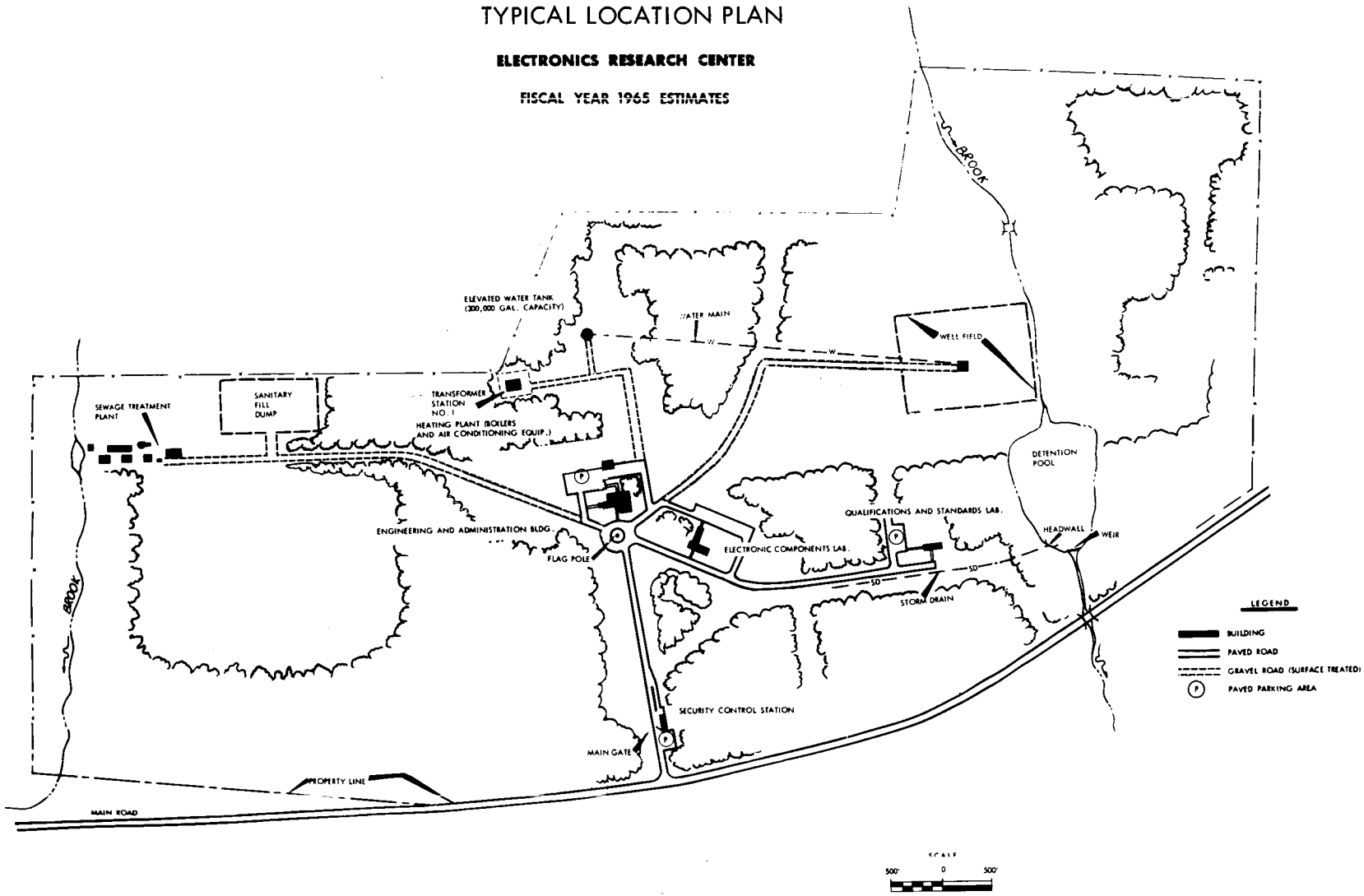
Other costs - $140,000

The estimated costs for transportation of things and for printing and reproduction will be at approximately the fiscal year 1964 level during fiscal year 1965.

TYPICAL LOCATION PLAN

ELECTRONICS RESEARCH CENTER

FISCAL YEAR 1965 ESTIMATES



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

ELECTRONICS RESEARCH CENTER

STAFFING SUMMARY

	64	65
Excepted	7	7
GS-15	11	17
GS-14	9	52
Other GS	23	174
Total	50	250

OFFICE OF THE DIRECTOR

	64	65
Excepted	2	2
GS-15	1	1
GS-14	1	5
Other	4	8
Total	8	16

ADMINISTRATIVE DIVISION

	64	65
Excepted	-	-
GS-15	-	1
GS-14	4	5
Other GS	12	28
Total	16	34

ELECTRONICS DIVISION

	64	65
Excepted	3	3
GS-15	6	8
GS-14	1	25
Other GS	2	78
Total	12	114

TECHNICAL SERVICES DIVISION

	64	65
Excepted	-	-
GS-15	1	3
GS-14	3	2
Other GS	4	21
Total	8	27

GUIDANCE AND CONTROL DIVISION

	64	65
Excepted	2	2
GS-15	3	4
GS-14	-	14
Other GS	1	39
Total	6	59

ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

ELECTRONICS RESEARCH CENTER

MISSION AND CAPABILITIES:

The mission of the Electronics Research Center will be to increase the agency's capability in space electronics by providing the groundwork of knowledge and advanced technology needed to overcome present deficiencies. It will meet this responsibility in two principal ways:

First, it will organize, manage, and conduct comprehensive programs of basic and applied research in areas not now adequately covered in order to: (a) establish performance characteristics, test procedures, and specifications for space electronics components, and investigate new concepts for making space electronics equipment inherently more reliable; (b) investigate techniques and lay the fundamental technological groundwork for space electronics equipment of reduced weight, size, power drain, and complexity, capable of withstanding the temperatures, radiation, vacuum, and other harsh conditions found in space; and (c) devise new concepts and techniques and prove their feasibility, both analytically and experimentally, for space electronics equipment capable of achieving levels of performance far beyond those of today.

Second, it will provide a focal point for the national capability in space electronics and coordinate nationwide research efforts. In this capacity, it will: (a) respond to the needs of specific space programs for new techniques, concepts, and devices, and help shape future electronics research to resolve anticipated problems; (b) distribute the results of basic and applied research relating to space electronics within NASA and also to industry, universities, and other members of the scientific community, thus encouraging work to advance the state-of-the-art on a broad front; (c) become the principal link between NASA, industry, and the universities in setting objectives for research in space electronics; and (d) make available to future NASA programs and projects an expert cadre of specialists who can adequately define the state-of-the-art in electronics and realistically project its growth. This technically experienced counsel will greatly enhance the accuracy of future project planning.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year..	---	50	250
Administrative operations.....	---	$394,000	$2,561,000

LOCATION:

The Electronics Research Center will be located at a site which is to be selected on the basis of a detailed study required by Section 1 (h) of the NASA Authorization Act, 1964 (77 Stat. 141-142).

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation....	---	$161,000	$1,564,000
12.	Personnel benefits.....	---	12,000	101,000
	Total, personnel costs.	---	$173,000	$1,665,000
21.	Travel and transportation of persons.....	---	32,000	181,000
22.	Transportation of things..	---	15,000	140,000
23.	Rents, communications and utilities.....	---	25,000	247,000
24.	Printing and reproduction.	---	3,000	15,000
25.	Other services.....	---	47,000	90,000
26.	Supplies and materials....	---	40,000	107,000
31.	Equipment.....	---	59,000	116,000
	TOTAL.....	---	$394,000	$2,561,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$1,665,000
Positions, end of year.....	250

The personnel level requested for fiscal year 1965 represents the hard core requirements needed during the period of organization of the Center.

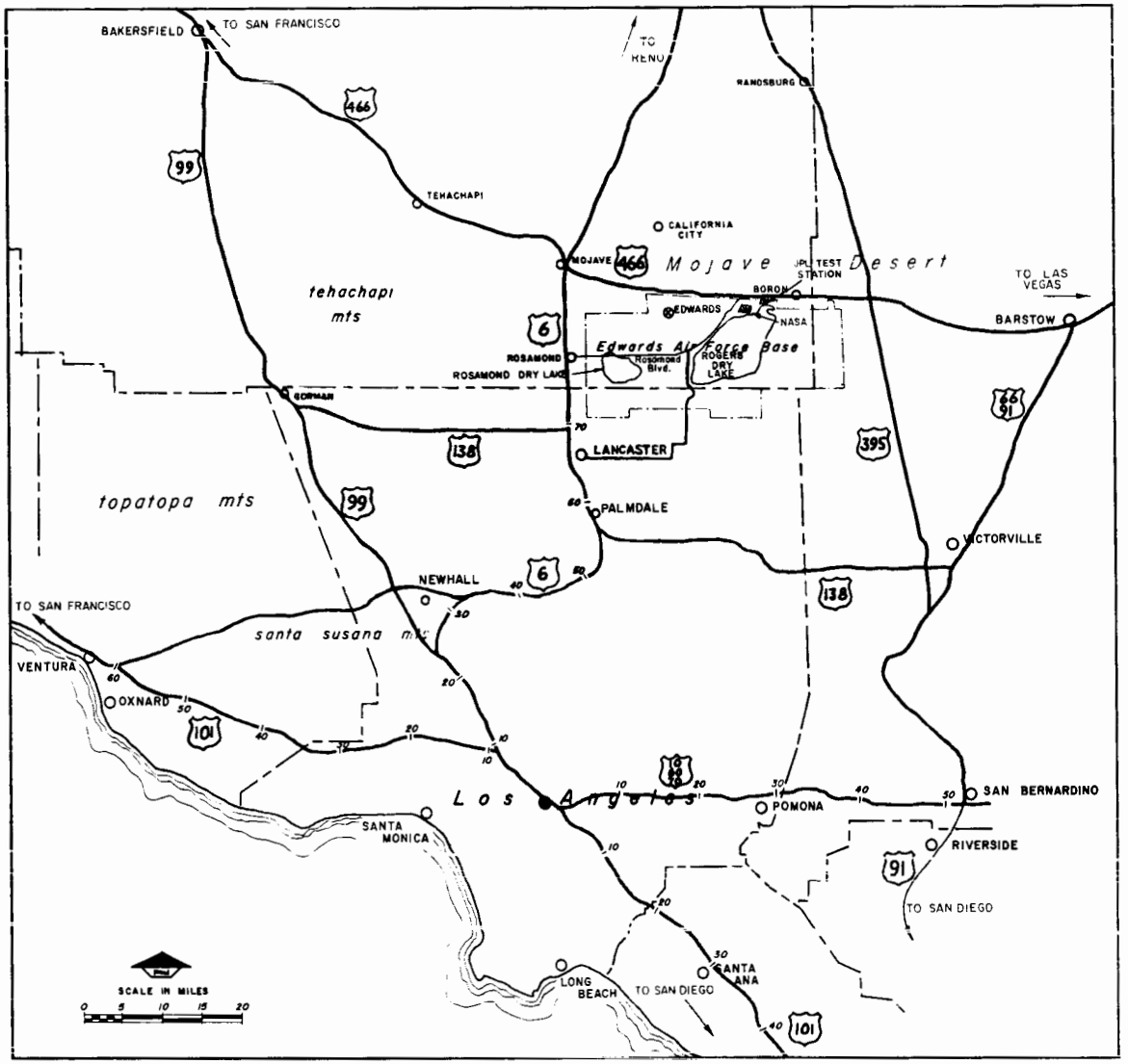
The funding level requested for fiscal year 1965 represents a conservative assessment of the requirements necessary to support an installation during the initial stage of operations. Pending the outcome of site selection, the estimates submitted are considered commensurable with the mission and staffing projection for the Electronics Research Center, based on selected judgment factors and proven estimating criteria.

Personnel Distribution

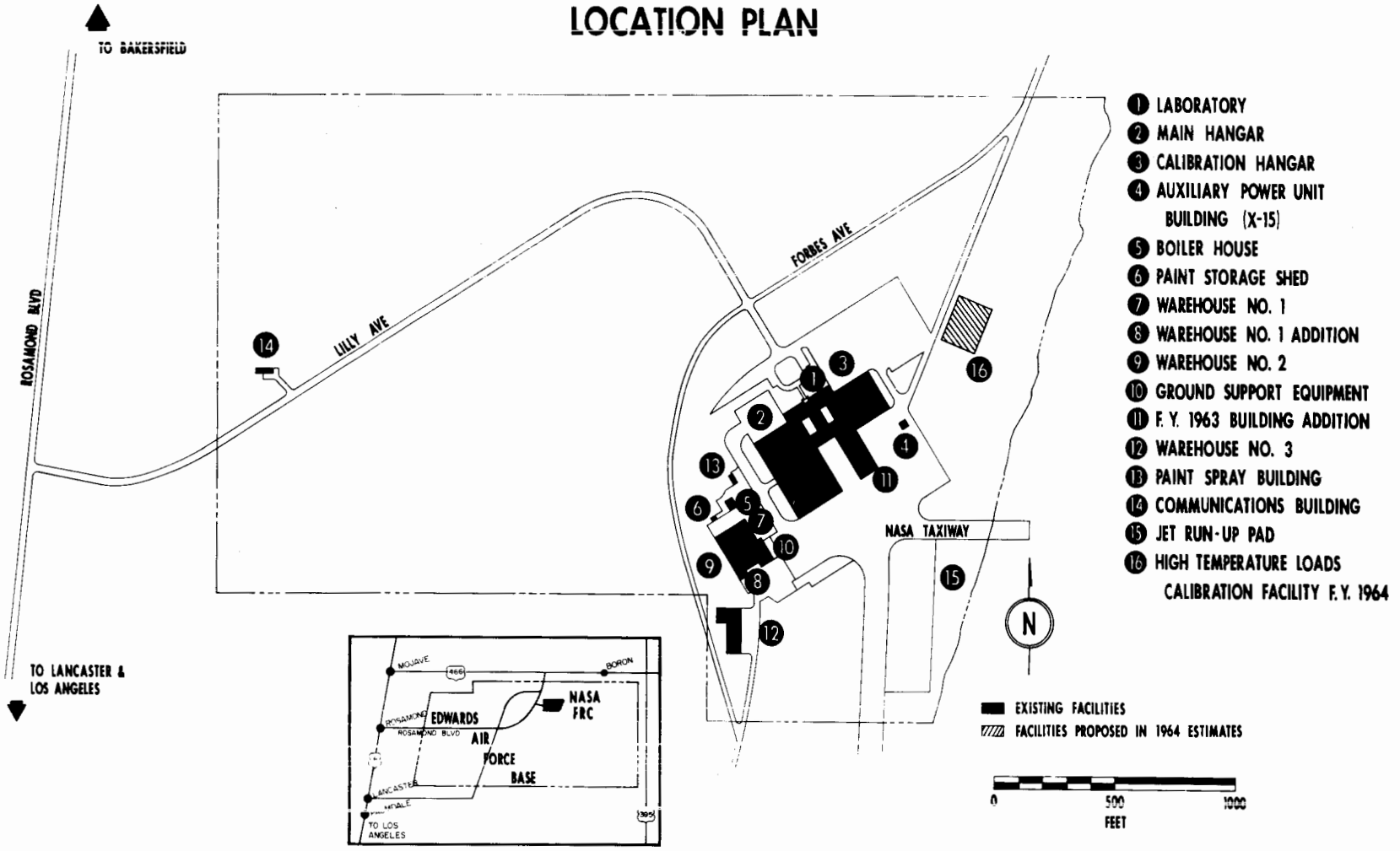
	1963	1964	1965
Direct personnel by program			
Advanced Research and Technology			
Electronic systems.....	-	26	200
Subtotal, direct positions.....	-	26	200
Support personnel			
Director and staff.....	-	8	16
Administration.....	-	16	34
Subtotal, support positions.....	-	24	50
Total, permanent positions.....	-	50	250
Other positions			
Positions under cooperative training agreements.....	-	-	-
Other temporary positions.....	-	-	-
Total, all positions.....	-	50	250

FLIGHT RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

VICINITY MAP



FLIGHT RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES
LOCATION PLAN



1. LABORATORY
2. MAIN HANGAR
3. CALIBRATION HANGAR
4. AUXILIARY POWER UNIT BUILDING (X-15)
5. BOILER HOUSE
6. PAINT STORAGE SHED
7. WAREHOUSE NO. 1
8. WAREHOUSE NO. 1 ADDITION
9. WAREHOUSE NO. 2
10. GROUND SUPPORT EQUIPMENT
11. F. Y. 1963 BUILDING ADDITION
12. WAREHOUSE NO. 3
13. PAINT SPRAY BUILDING
14. COMMUNICATIONS BUILDING
15. JET RUN-UP PAD
16. HIGH TEMPERATURE LOADS CALIBRATION FACILITY F. Y. 1964

FLIGHT RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

FLIGHT RESEARCH CENTER

STAFFING SUMMARY

	64	65
Excepted	7	7
GS-15	20	20
GS-14	22	24
All Other GS	287	285
Wage Board	268	268
Total	604	604

OFFICE OF THE DIRECTOR

	64	65
Excepted	3	3
GS-15	2	2
All Other GS	6	6
Wage Board	25	25
Total	36	36

RESEARCH DIVISION

	64	65
Excepted	2	2
GS-15	6	6
GS-14	10	11
All Other GS	101	100
Wage Board	1	1
Total	120	120

OPERATIONS DIVISION

	64	65
Excepted	2	2
GS-15	6	6
GS-14	3	4
All Other GS	18	17
Wage Board	132	132
Total	161	161

DATA SYSTEMS DIVISION

	64	65
GS-15	5	5
GS-14	6	6
All Other GS	91	91
Wage Board	80	80
Total	182	182

ADMINISTRATIVE DIVISION

	64	65
GS-15	1	1
GS-14	3	3
All Other GS	71	71
Wage Board	30	30
Total	105	105

AO 3-18

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

FLIGHT RESEARCH CENTER

MISSION AND CAPABILITIES:

The Flight Research Center, established in 1947, conducts research in and evaluates problems of manned flight, both within and outside the atmosphere. The work includes effort on problems of takeoff and landing, low-speed flight, supersonic and hypersonic flight, and reentry to verify predicted characteristics and to identify unexpected problems in actual flight.

The current and projected programs at this center include aeronautics projects, such as X-15, supersonic transport and hypersonic research; space vehicle systems projects in which the flight behavior of advanced reentry vehicles is studied; and electronic systems projects such as display, guidance and control in advanced flight missions and improvements on systems and sensors used in tracking and data acquisition. Research of interest to the manned space flight program concerning projects Gemini and Apollo is provided through paraglider development and lunar landing research.

Most important of the facilities and special equipment for conducting these programs are the aircraft. They range from lightweight civil aircraft for handling qualities investigations to century series fighters used for pilot proficiency and general investigations and to X-15 rocket aircraft used for hypersonic research and reentry investigations. Special purpose vehicles such as paragliders, lifting bodies, lunar landing research vehicles and variable stability aircraft or airborne simulators are contractor procured or developed in-house. Specialized laboratory facilities are available to complement the flight activities with proper preliminary research and testing. Simulation equipment is used to guide and assist in the performance of productive flight activities. A three-station radar for tracking and data acquisition is operated to support the flight activity.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year..	616	618	618
Administrative operations.....	$7,549,000	$9,539,000	$10,402,000

INSTALLATION DESCRIPTION:

The Flight Research Center, Edwards, California, is 65 air miles northeast of Los Angeles. The Center is located at the north end of Edwards Air Force Base on 171 acres of land leased from the Air Force. Utilities are provided by the Air Force on a reimbursable basis. The Center is adjacent to Rogers Dry Lake, a 55 square mile area with a complex of runways varying in length from 5 to 11 miles.

The physical plant consists of an office-laboratory building with adjoining shops, a flight maintenance hangar and a calibration hangar. Auxiliary buildings include warehouses, an auxiliary power systems building, and a communications building. The main station of the 3-station radar range operated by the Center is located on the third floor of the office-laboratory building.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$4,984,000	$5,660,000	$5,785,000
12.	Personnel benefits.....	359,000	405,000	415,000
	Total, personnel costs....	$5,343,000	$6,065,000	$6,200,000
21.	Travel and transportation of persons.....	213,000	235,000	262,000
22.	Transportation of things....	38,000	35,000	40,000
23.	Rents, communications, and utilities.....	387,000	367,000	433,000
24.	Printing and reproduction...	4,000	7,000	10,000
25.	Other services.....	605,000	926,000	1,737,000
26.	Supplies and materials.....	300,000	551,000	840,000
31.	Equipment.....	211,000	1,266,000	664,000
32.	Lands and structures.....	448,000	86,000	215,000
42.	Insurance claims and indemnities.....	---	1,000	1,000
	TOTAL.....	$7,549,000	$9,539,000	$10,402,000

JUSTIFICATIONS BY OBJECT CLASSIFICATION:

Personnel compensation and benefits:

Personnel costs.....	$6,200,000
Positions, end of year.....	618

In fiscal year 1965 more direct research project effort will be devoted to the M-2 "lifting reentry body" and the supersonic transport. At the same time, research effort will continue on the lunar landing research vehicle and the X-15. The foregoing projects comprise the majority of the workload at the Flight Research Center. A minor reassignment of technical personnel generated by changing program priorities will enable the Flight Research Center to accomplish its program activity without an increased staff in fiscal year 1965.

The increase in personnel costs is attributable to the full year funding of the civil service pay raise effective January 5, 1964.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Apollo	19	58	58
Space Science and Applications			
Geophysics and astronomy	3	3	3
Advanced Research and Technology			
Basic research program	-	-	1
Space vehicle system	35	21	31
Electronic systems	18	14	14
Human factor systems	3	11	11
Aeronautics	361	344	333
Tracking and Data Acquisition	32	38	38
Subtotal, direct positions	471	489	489
Support personnel			
Director and staff	10	10	10
Administration	105	105	105
Subtotal, support positions	115	115	115
Total, permanent	586	604	604
Other positions:			
Positions under cooperative training agreements	14	14	14
Other temporary positions	16	-	-
Total, all positions	616	618	618

Travel and transportation of persons - $262,000

The increase in travel funds is required to provide for the necessary level of technical management and contract monitoring of the Center's growing contractual effort in the aeronautical, space, and life science research programs.

Rents, communications and utilities - $433,000

The overall requirement for rents, communications and utilities increases slightly in fiscal year 1965. There is a slight decrease in rents due to the proposed purchase of selected pieces of electronic data processing equipment in lieu of continued lease. This reduction is more than offset, however, by an increase in communications and utilities. In fiscal year 1965 Flight Research Center will begin operation of a telephone switchboard separate from the Edwards Air Force Base System. In addition, the expansion of the Center's contractual effort, costs for long distance and toll charges are expected to increase in fiscal year 1965. The estimated costs of utilities are also expected to rise in fiscal year 1965 as a direct result of the full-year operation of a new wing of the office-laboratory-hangar complex and the high-temperature heat facility.

Other services - $1,737,000

The major portion of the estimated increase in contractual services is required to provide for service and maintenance support for the F-104 proficiency aircraft. Costs for other contractual support are expected to remain at the fiscal year 1964 levels.

Supplies and materials - $840,000

The requirement to provide spare parts, fuels and lubricants in support of the F-104 proficiency aircraft accounts for the largest part of the estimated increase in supplies and materials. The level of purchase of other types of supplies and materials is expected to be the same as in fiscal year 1964.

Equipment - $664,000

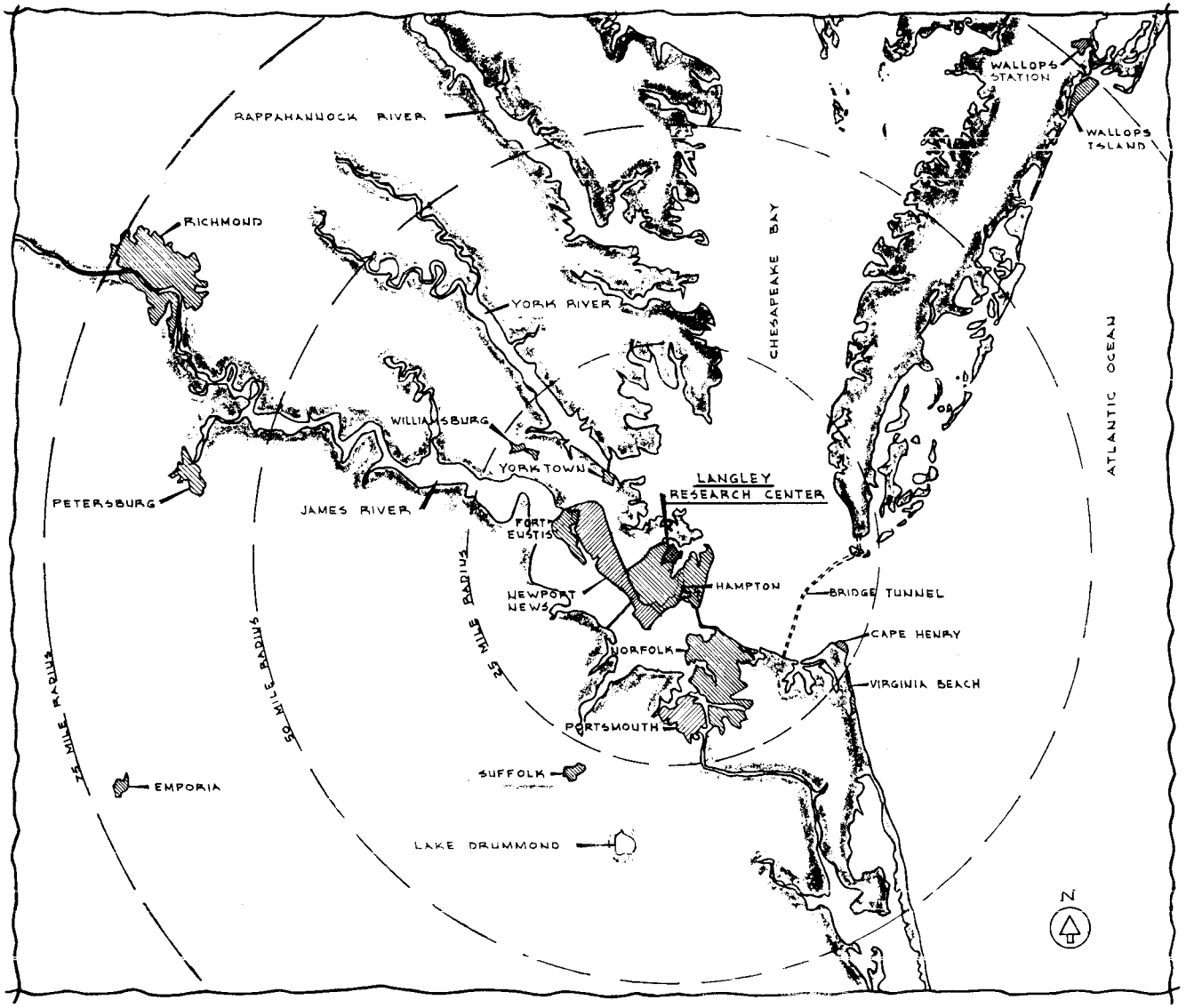
The lower estimate for equipment in fiscal year 1965 than in fiscal year 1964, notwithstanding the proposed purchase of selected pieces of electronic data processing equipment, is related to the requirements for the operation and maintenance of the F-104 proficiency aircraft. In fiscal year 1964 the initial installation of instrumentation and provision of replacement requirements generated a large expenditure. The fiscal year 1965 estimates are based upon expectation that outlays for large items of equipment, such as engines, will occur only in alternate years. In addition, funds are included for the purchase of an administrative aircraft (Aero Commander) currently on lease.

Lands and structures - $215,000

Modification, alteration, and minor construction requirements included in this estimate are to provide for facilities to meet program needs on a timely basis. The 1965 estimate includes such projects as the relocation of a rocket engine test stand because its present location constitutes a safety hazard to the new wing of the office-laboratory-hangar building, a storage building for the housing of aircraft and engine replacement parts, and a storage building to protect ground support equipment from the weather.

Other costs - $51,000

It is expected that costs for transportation of things, printing and reproductions, and insurance claims and indemnities will remain at about the fiscal year 1964 level.

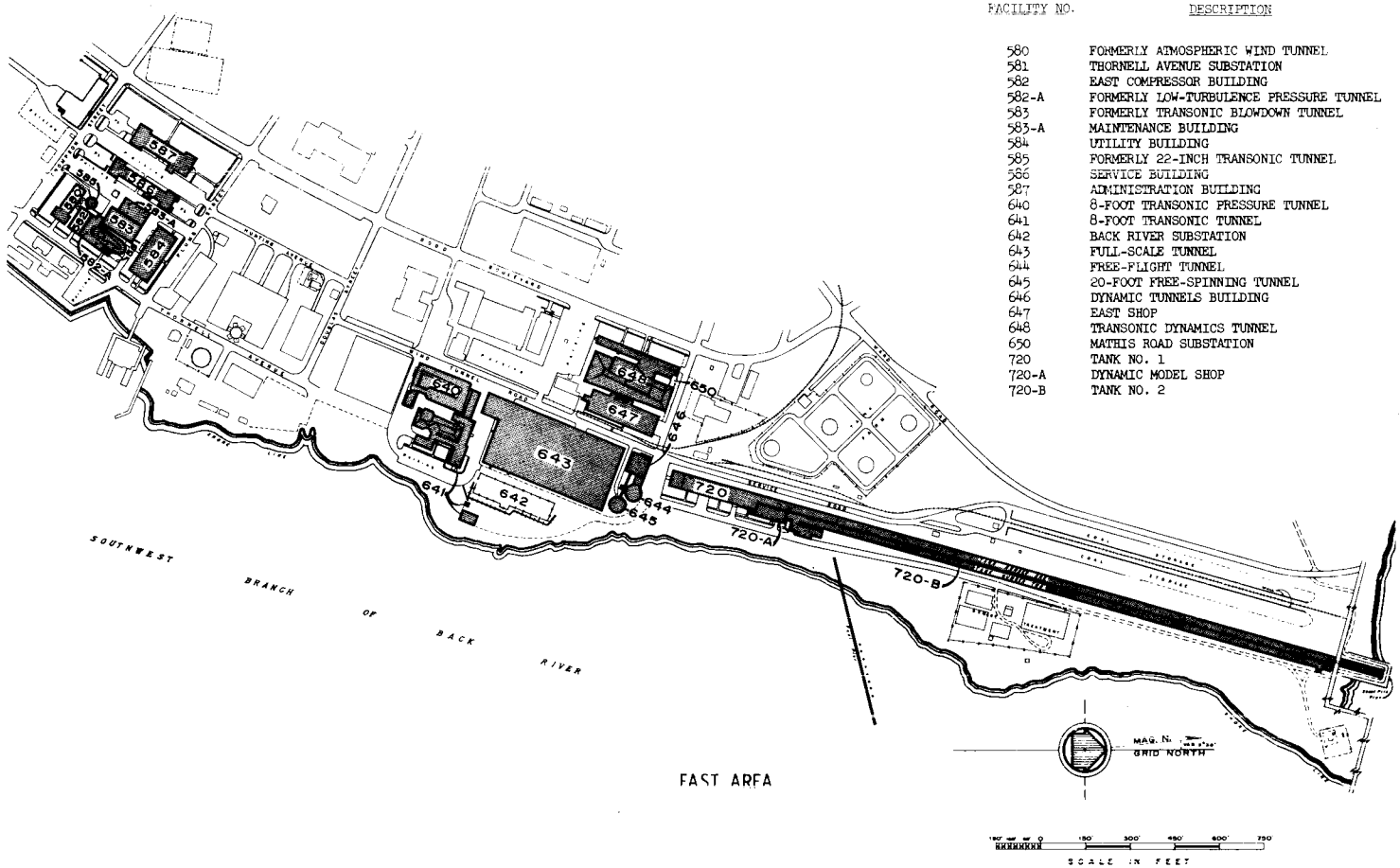


LANGLEY RESEARCH CENTER AND VICINITY

1" = 8 MILES

LANGLEY RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

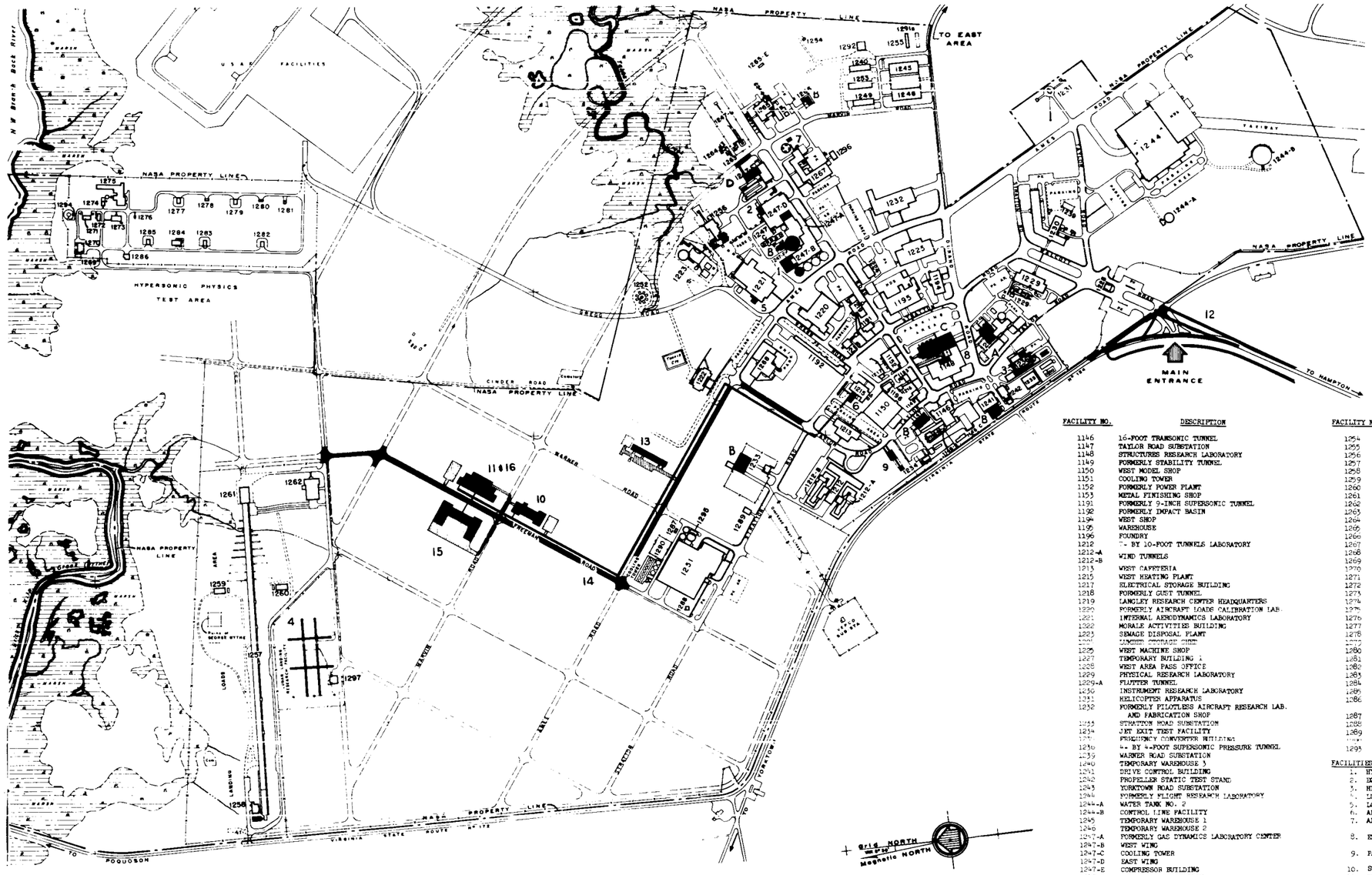
LOCATION PLAN



FACILITY NO.	DESCRIPTION
580	FORMERLY ATMOSPHERIC WIND TUNNEL
581	THORNELL AVENUE SUBSTATION
582	EAST COMPRESSOR BUILDING
582-A	FORMERLY LOW-TURBULENCE PRESSURE TUNNEL
583	FORMERLY TRANSONIC BLOWDOWN TUNNEL
583-A	MAINTENANCE BUILDING
584	UTILITY BUILDING
585	FORMERLY 22-INCH TRANSONIC TUNNEL
586	SERVICE BUILDING
587	ADMINISTRATION BUILDING
640	8-FOOT TRANSONIC PRESSURE TUNNEL
641	8-FOOT TRANSONIC TUNNEL
642	BACK RIVER SUBSTATION
643	FULL-SCALE TUNNEL
644	FREE-FLIGHT TUNNEL
645	20-FOOT FREE-SPINNING TUNNEL
646	DYNAMIC TUNNELS BUILDING
647	EAST SHOP
648	TRANSONIC DYNAMICS TUNNEL
650	MATHIS ROAD SUBSTATION
720	TANK NO. 1
720-A	DYNAMIC MODEL SHOP
720-B	TANK NO. 2

LANGLEY RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

LOCATION PLAN



WEST AREA

PROPOSED FISCAL YEAR 1965 PROJECTS

A. THERMAL CONTROL HOUSING AND BUILDING ADDITION FOR DYNAMICS RESEARCH LABORATORY
B. UTILITY IMPROVEMENTS
C. FATIGUE RESEARCH LABORATORY
D. CENTRAL HIGH PRESSURE AIR SUPPLY

FACILITY NO.	DESCRIPTION
1146	16-FOOT TRANSONIC TUNNEL
1147	TAYLOR ROAD SUBSTATION
1148	STRUCTURES RESEARCH LABORATORY
1149	FORMERLY STABILITY TUNNEL
1150	WEST MODEL SHOP
1151	COOLING TOWER
1152	FORMERLY POWER PLANT
1153	METAL FINISHING SHOP
1191	FORMERLY 9-INCH SUPERSONIC TUNNEL
1192	FORMERLY IMPACT BASIN
1194	WEST SHOP
1195	WAREHOUSE
1196	FOUNDRY
1212	7- BY 10-FOOT TUNNELS LABORATORY
1212-A	WIND TUNNELS
1212-B	
1213	WEST CAFETERIA
1215	WEST HEATING PLANT
1217	ELECTRICAL STORAGE BUILDING
1218	FORMERLY GUST TUNNEL
1219	LANGLEY RESEARCH CENTER HEADQUARTERS
1220	FORMERLY AIRCRAFT LOADS CALIBRATION LAB.
1221	INTERNAL AERODYNAMICS LABORATORY
1222	MORALE ACTIVITIES BUILDING
1223	SEWAGE DISPOSAL PLANT
1224	LINGER STORAGE SHED
1225	WEST MACHINE SHOP
1227	TEMPORARY BUILDING 1
1228	WEST AREA PASS OFFICE
1229	PHYSICAL RESEARCH LABORATORY
1229-A	FLUTTER TUNNEL
1230	INSTRUMENT RESEARCH LABORATORY
1231	HELICOPTER APPARATUS
1232	FORMERLY PILOTLESS AIRCRAFT RESEARCH LAB. AND FABRICATION SHOP
1233	SYMINGTON ROAD SUBSTATION
1234	JET EXIT TEST FACILITY
1237	FREQUENCY CONVERTER BUILDING
1238	4- BY 4-FOOT SUPERSONIC PRESSURE TUNNEL
1239	WARNER ROAD SUBSTATION
1240	TEMPORARY WAREHOUSE 3
1241	DRIVE CONTROL BUILDING
1242	PROPELLER STATIC TEST STAND
1243	YORKTOWN ROAD SUBSTATION
1244	FORMERLY FLIGHT RESEARCH LABORATORY
1244-A	WATER TANK NO. 2
1244-B	CONTROL LINE FACILITY
1245	TEMPORARY WAREHOUSE 1
1246	TEMPORARY WAREHOUSE 2
1247-A	FORMERLY GAS DYNAMICS LABORATORY CENTER
1247-B	WEST WING
1247-C	COOLING TOWER
1247-D	EAST WING
1247-E	COMPRESSOR BUILDING
1247-F	AMES ROAD SUBSTATION
1247-G	HIGH-PRESSURE SHOCK TUBE
1249	TEMPORARY WAREHOUSE 4
1251	UNITARY PLAN WIND TUNNEL
1252	WATER TANK NO. 1
1253	TEMPORARY WAREHOUSE 5

FACILITY NO.	DESCRIPTION
1254	AMMUNITION STORAGE 1
1255	TEMPORARY WAREHOUSE 6
1256	9- BY 6-FOOT THERMAL STRUCTURES TUNNEL
1257	LANDING LOADS TRACK
1258	LANDING LOADS TRACK COMPRESSOR BUILDING
1259	NORTH ARRESTING GEAR HOUSING
1260	SOUTH ARRESTING GEAR HOUSING
1261	LANDING LOADS TRACK SHOP
1262	HIGH-SPEED HYDRODYNAMICS OFFICE AND SHOP
1263	CERAMIC-HEATED JET (PILOT MODEL)
1264	HIGH-TEMPERATURE MACH 7 JET (PILOT MODEL)
1265	8-FOOT HIGH-TEMPERATURE STRUCTURES TUNNEL
1266	MOFFETT ROAD SUBSTATION
1267	HIGH-TEMPERATURE MATERIALS LABORATORY
1268	DATA REDUCTION BUILDING
1269	GATE HOUSE (HYPERSONIC PHYSICS TEST AREA)
1270	ROCKET PROPELLANT TEST UNIT, HPTA
1271	OPEN SHED, HPTA
1272	HEATING PLANT, HPTA
1273	OPERATIONS CENTER, HPTA
1274	CERAMIC-HEATED MACH 15 JET, HPTA
1275	IMPACT AND PROJECTILE TEST UNIT, HPTA
1276	IGNITER ASSEMBLY BUILDING, HPTA
1277	STORAGE A
1278	STORAGE B
1279	STORAGE C
1280	STORAGE D
1281	STORAGE E
1282	STORAGE F
1283	STORAGE G
1284	ROCKET PROPELLANT PROCESSING BUILDING, HPTA
1285	STORAGE H
1286	ROCKET ASSEMBLY AND PROPELLANT ALTERATION BUILDING
1287	TEMPORARY SHED
1288	SOLAR ENERGY COLLECTOR
1289	TEMPORARY STORAGE
1290	SUBSTATION
1295	DYNAMICS RESEARCH LABORATORY

FACILITIES AUTHORIZED AND UNDER CONSTRUCTION

1. HYPERSONIC AEROTHERMAL DYNAMICS FACILITY
2. EQUIPMENT FOR MAGNETOPLASMADYNAMICS RESEARCH
3. HIGH VACUUM SPACE STRUCTURES FACILITY
4. LUNAR LANDING RESEARCH FACILITY
5. LOW-FREQUENCY ENVIRONMENTAL NOISE FACILITY
6. ADDITION TO HEATING PLANT
7. ADD. POWER SUPPLY AND IMPROVED ARC CHAMBER FOR 10-MEGAWATT ARC TUNNEL
8. ENVIRONMENTAL RESEARCH FACILITIES FOR SPACECRAFT COMPONENTS AND MATERIALS
9. PARTICLE ACCELERATOR FOR SIMULATION OF MICRO-METEOROID IMPACT
10. STABILIZATION AND CONTROL EQUIPMENT LABORATORY
11. VEHICLE ANTENNA TEST FACILITY
12. WEST AREA APPROACH ROAD
13. HOT GAS RADIATION RESEARCH FACILITY
14. UTILITY INSTALLATIONS
15. ELECTRONIC INSTRUMENTATION LABORATORY
16. ADDITION TO VEHICLE ANTENNA TEST FACILITY

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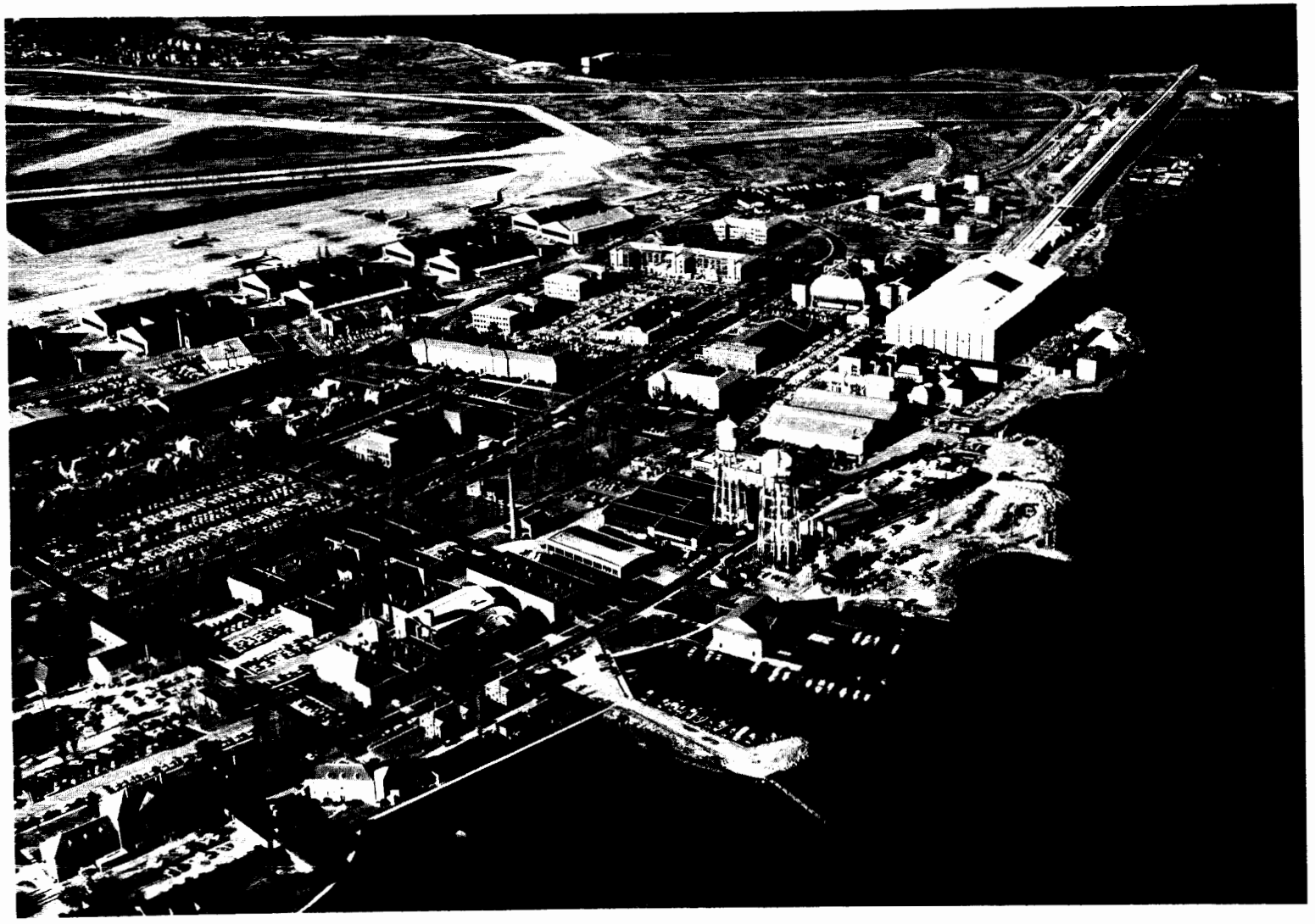
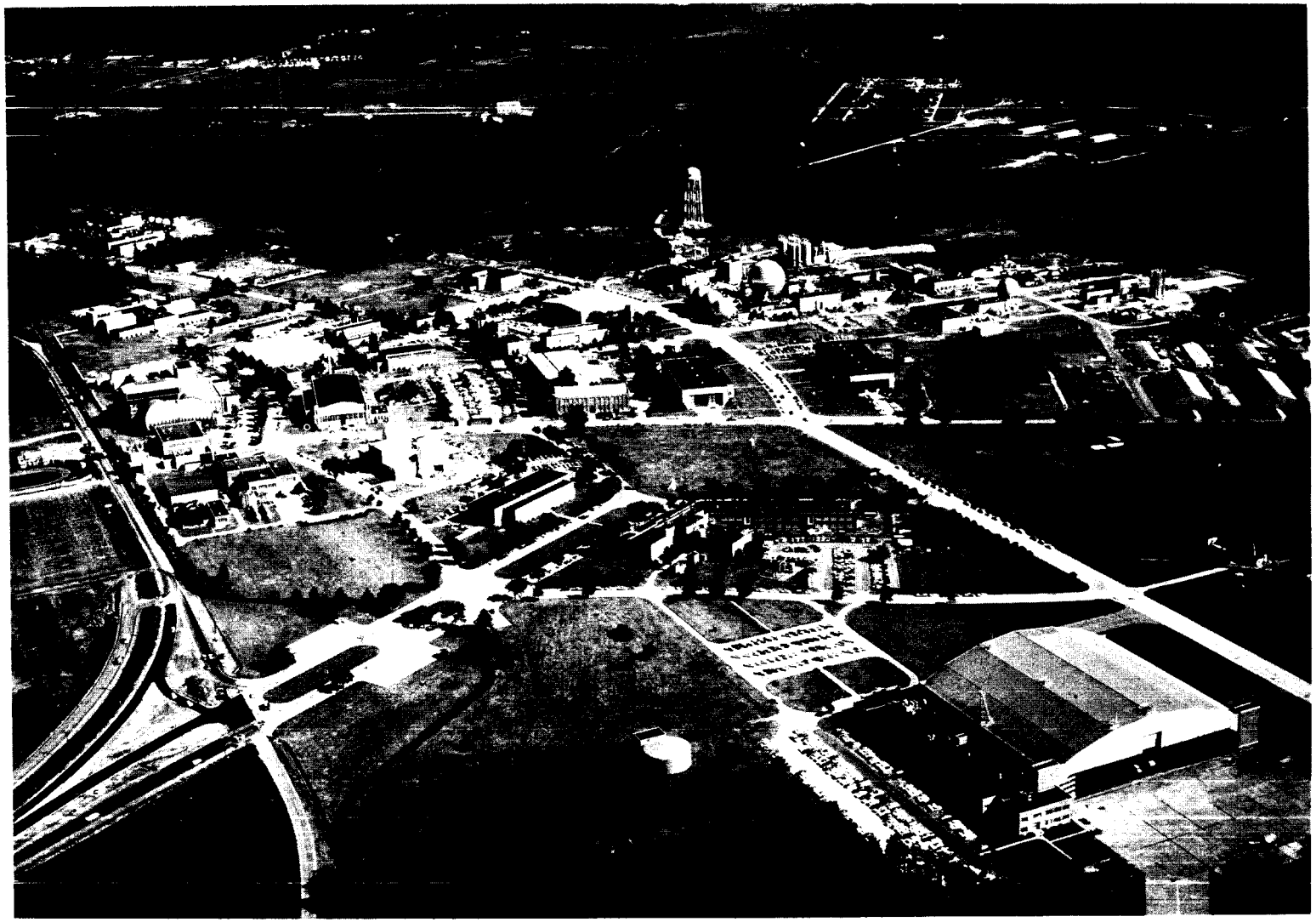
LANGLEY RESEARCH CENTER
Hampton, Virginia



AERIAL VIEW - East Area

718-895 O-64—14

LANGLEY RESEARCH CENTER
Hampton, Virginia



AERIAL VIEW - West Area

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Organization and staffing chart
LANGLEY RESEARCH CENTER

STAFFING SUMMARY

	64	65
Excepted	38	38
GS-15	121	121
GS-14	197	197
Other GS	2343	2343
Wage Board	1579	1579
Total	4278	4278

DIRECTOR
ASSOCIATE DIRECTOR

	64	65
Excepted	3	3
GS-15	5	5
GS-14	1	1
Other GS	1	1
Total	10	10

SENIOR STAFF SCIENTIST

	64	65
Excepted	1	1
Total	1	1

COOPERATIVE PROJECTS OFFICE

	64	65
Excepted	1	1
Total	1	1

MANNED SPACECRAFT PROJECTS OFFICE

	64	65
Excepted	1	1
Total	1	1

RESEARCH STAFF OFFICE

	64	65
GS-15	1	1
GS-14	1	1
Other GS	6	6
Total	8	8

PROGRAM CONTROL ANALYSIS AND BUDGET OFFICE

	64	65
GS-15	1	1
Other GS	6	6
Total	7	7

RESEARCH REPORTS DIVISION

	64	65
GS-14	1	1
Other GS	52	52
Total	53	53

APPLICATIONS UNIT

	64	65
GS-14	1	1
Other GS	2	2
Total	3	3

OFFICE OF ASSISTANT DIRECTOR (GROUP 1)

	64	65
Excepted	1	1
Total	1	1

ANALYSIS AND COMPUTATION DIVISION

	64	65
Excepted	1	1
GS-15	2	2
GS-14	5	5
Other GS	147	147
Wage Board	9	9
Total	164	164

INSTRUMENT RESEARCH DIVISION

	64	65
Excepted	2	2
GS-15	6	6
GS-14	30	30
Other GS	299	299
Wage Board	121	121
Total	458	458

SPACE MECHANICS DIVISION

	64	65
Excepted	1	1
GS-15	11	11
GS-14	7	7
Other GS	73	73
Total	92	92

OFFICE OF ASSISTANT DIRECTOR (GROUP 2)

	64	65
Excepted	1	1
Total	1	1

APPLIED MATERIALS AND PHYSICS DIVISION

	64	65
Excepted	5	5
GS-15	8	8
GS-14	19	19
Other GS	182	182
Wage Board	10	10
Total	224	224

DYNAMIC LOADS DIVISION

	64	65
Excepted	2	2
GS-15	11	11
GS-14	18	18
Other GS	118	118
Wage Board	2	2
Total	151	151

STRUCTURES RESEARCH DIVISION

	64	65
Excepted	3	3
GS-15	15	15
GS-14	13	13
Other GS	140	140
Total	171	171

OFFICE OF ASSISTANT DIRECTOR (GROUP 3)

	64	65
Excepted	1	1
Total	1	1

AERO-PHYSICS DIVISION

	64	65
Excepted	3	3
GS-15	14	14
GS-14	10	10
Other GS	166	166
Total	193	193

FLIGHT MECHANICS AND TECHNOLOGY DIVISION

	64	65
Excepted	3	3
GS-15	7	7
GS-14	11	11
Other GS	82	82
Wage Board	34	34
Total	137	137

FULL SCALE RESEARCH DIVISION

	64	65
Excepted	3	3
GS-15	15	15
GS-14	15	15
Other GS	162	162
Total	195	195

OFFICE OF CHIEF COUNSEL

	64	65
GS-15	1	1
Other GS	4	4
Total	5	5

OFFICE OF PATENT COUNSEL

	64	65
GS-15	1	1
GS-14	2	2
Other GS	4	4
Total	7	7

SECURITY OFFICE

	64	65
GS-14	1	1
Other GS	10	10
Total	11	11

OFFICE OF PUBLIC AFFAIRS

	64	65
GS-14	2	2
Other GS	2	2
Total	4	4

OFFICE OF ASSISTANT DIRECTOR FOR ADMINISTRATION

	64	65
Excepted	1	1
Other GS	1	1
Total	2	2

FISCAL DIVISION

	64	65
GS-14	1	1
Other GS	103	103
Total	104	104

ADMINISTRATIVE SERVICES DIVISION

	64	65
GS-14	1	1
Other GS	89	89
Wage Board	12	12
Total	102	102

PERSONNEL DIVISION

	64	65
GS-15	1	1
GS-14	3	3
Other GS	53	53
Total	57	57

PHOTOGRAPHIC DIVISION

	64	65
Other GS	35	35
Wage Board	49	49
Total	84	84

PROCUREMENT DIVISION

	64	65
GS-15	1	1
GS-14	2	2
Other GS	120	120
Wage Board	31	31
Total	154	154

SAFETY OFFICE

	64	65
Other GS	3	3
Total	3	3

COST ENGINEERING STAFF

	64	65
GS-14	1	1
Other GS	7	7
Total	8	8

PROGRAM SCHEDULES AND ANALYSIS UNIT

	64	65
Other GS	12	12
Total	12	12

PLANNING CONTROL OFFICE

	64	65
Other GS	10	10
Total	10	10

[illegible] SUPPORT UNIT

	64	65
Other GS	11	11
Total	11	11

OFFICE OF CHIEF, ENGINEERING AND TECHNICAL SERVICES

	64	65
Excepted	2	2
GS-15	1	1
GS-14	1	1
Other GS	4	4
Total	8	8

ELECTRICAL SERVICE DIVISION

	64	65
GS-15	3	3
GS-14	5	5
Other GS	53	53
Wage Board	211	211
Total	272	272

FLIGHT VEHICLES AND SYSTEMS DIVISION

	64	65
GS-15	7	7
GS-14	16	16
Other GS	122	122
Wage Board	1	1
Total	146	146

MECHANICAL SERVICE DIVISION

	64	65
GS-15	2	2
GS-14	4	4
Other GS	22	22
Wage Board	895	895
Total	923	923

PLANT MAINTENANCE DIVISION

	64	65
GS-14	1	1
Other GS	7	7
Wage Board	197	197
Total	205	205

RESEARCH MODELS AND FACILITIES DIVISION

	64	65
GS-15	4	4
GS-14	12	12
Other GS	143	143
Wage Board	6	6
Total	165	165

LUNAR ORBITER OFFICE

	64	65
Excepted	1	1
GS-15	2	2
GS-14	1	1
Other GS	24	24
Total	28	28

LANG-FMR FIELD PROJECTS OFFICE

	64	65
GS-14	1	1
Other GS	3	3
Wage Board	1	1
Total	5	5

SCOUT PROJECT OFFICE

	64	65
GS-15	2	2
GS-14	6	6
Other GS	37	37
Total	45	45

MORL STUDIES OFFICE

	64	65
GS-15	1	1
GS-14	2	2
Other GS	11	11
Total	14	14

FLIGHT REENTRY PROGRAMS OFFICE

	64	65
Excepted	2	2
GS-15	3	3
GS-14	3	3
Other GS	12	12
Total	23	23

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

LANGLEY RESEARCH CENTER

MISSION AND CAPABILITIES:

The Langley Research Center conducts investigations on a broad scale in the areas of vehicle configurations, materials, and structures, and the mechanics of flight; and concentrates on the problems of space travel and reentry, application of new materials, and supersonic and hypersonic flight.

In support of space programs, the problems of rendezvous in space and the mechanics and techniques of lunar landings and reentry are being extensively investigated. The requirement for lunar topographic data in advance of lunar landings has generated the development of the lunar orbiter project. Contributions in other areas include effort in support of the Saturn vehicle on dynamic structural problems; development of life-support systems for extended space missions; and the conduct of investigations directed toward the development of techniques for continuous communications with spacecraft during the reentry phase of manned spacecraft. Space vehicle recovery is also studied.

Aeronautical research currently includes studies of the basic technology in aerodynamics, performance, noise, stability and control and the problems associated with specific aircraft including the supersonic transport, helicopters, and aircraft with vertical or short takeoff and landing capability. The Langley Research Center provides advice and research assistance to other Government agencies in the development of military aircraft, jet transports, and other commercial aircraft.

The Center has a number of unique aerospace simulators and laboratories. Complex space flight simulators devised and used by the Center's scientists in basic research problems have been effectively utilized in the training of NASA astronauts in preparation of manned flights in the Gemini and Apollo projects. A space radiation effects laboratory currently under construction will soon provide the necessary research equipment for the study of the effect on spacecraft and their systems of the particle radiation streaming from the Sun or trapped in the Earth's magnetic field.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year	4,220	4,348	4,348
Administrative operations.....	$51,756,000	$52,474,000	$55,270,000

INSTALLATION DESCRIPTION:

Langley Research Center is located at Hampton, Virginia. The Center is divided into two separate areas by the runway facilities of Langley Air Force Base and occupies 772 acres, of which 430 acres are owned by NASA and 342 acres are occupied under permit from the United States Air Force. Runways, some utilities, and certain other facilities are used jointly by NASA and the United States Air Force. Also, under the cognizance of Langley are 110 acres of land, recently transferred to NASA from the Air Force, located in the city of Newport News, Virginia. The plant value as of June 30, 1963, including the acreage located at Newport News, Virginia, was $242,649,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$31,926,000	$35,975,000	$37,305,000
12.	Personnel benefits.....	2,340,000	2,658,000	2,770,000
	Total, personnel costs....	$34,266,000	$38,633,000	$40,075,000
21.	Travel and transportation of persons.....	1,036,000	1,285,000	1,385,000
22.	Transportation of things....	425,000	421,000	427,000
23.	Rents, communications and utilities.....	3,929,000	4,742,000	5,300,000
24.	Printing and reproduction...	96,000	150,000	150,000
25.	Other services.....	2,750,000	2,589,000	2,763,000
26.	Supplies and materials.....	3,574,000	3,082,000	3,281,000
31.	Equipment.....	5,142,000	1,070,000	1,387,000
32.	Lands and structures.....	536,000	500,000	500,000
42.	Insurance claims and indemnities.....	2,000	2,000	2,000
	TOTAL.....	$51,756,000	$52,474,000	$55,270,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$40,075,000
Positions, end of year.....	4,348

The personnel requirements of the Langley Research Center are directly related to its mission for conducting investigations on a broad scale in the areas of vehicle configurations, materials, and structures, and the mechanics of flight; and concentration on the problems of space travel and reentry,

application of new materials, and supersonic and hypersonic flight. There are no personnel increases requested in fiscal year 1965. However, the emphasis on effort to support the agency's space program will require the reassignment of personnel from some programs to others to perform the research and development functions and other related tasks required in the development of such projects as the lunar orbiter, aeronautical research, space flight research and electronic systems research.

The increase in personnel costs is attributable to the full-year effect of the pay raise, effective January 5, 1964, and to cover the full-year cost of a wage board salary adjustment effective August 4, 1963. Also, there is an increase of 102 man-years in fiscal year 1965 over that estimated for fiscal year 1964.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Gemini	5	5	4
Apollo	24	25	24
Advanced missions	27	51	52
Space Science and Applications			
Geophysics and astronomy	50	64	69
Lunar and planetary exploration	-	92	102
Launch vehicle development	113	118	118
Meteorological satellites	16	7	7
Communications satellites	9	16	18
Advanced Research and Technology			
Basic research program	410	413	431
Space vehicle systems	1,046	1,041	987
Electronic systems	597	602	617
Human factor systems	21	22	25
Nuclear rockets	3	4	4
Chemical propulsion	110	96	83
Space power	16	20	25
Aeronautics	752	783	793
Tracking and Data Acquisition	39	40	40
Subtotal, direct position	3,238	3,399	3,399

	1963	1964	1965
Support personnel			
Director and staff.....	81	84	84
Administration.....	513	530	530
Installation operations.....	240	257	257
Research and development support	8	8	8
Subtotal, support positions...	842	879	879
Total, permanent positions....	4,080	4,278	4,278
Other positions:			
Positions under cooperative training agreements.....	57	66	66
Other temporary positions.....	83	4	4
Total, all positions.....	4,220	4,348	4,348

Travel and transportation of persons - $1,385,000

The travel increase of $100,000 over fiscal year 1964 is primarily required for support of the lunar orbiter project. The coordination and direction involved in the implementation of this project will necessitate substantial travel by technical teams to contractor plants to resolve numerous technical problems and to evaluate contractor performance. Other requirements generate from the need to extend the shuttle bus service to provide transportation to newly activated facilities.

Rents, communications and utilities - $5,300,000

The fiscal year 1965 requirement for rents, communications and utilities is $558,000 more than in fiscal year 1964 resulting primarily from additional electric power required for two new facilities and a slight increase in the rental of electronic data processing equipment. The modernization of the electronic computing systems, offset by lesser equipment rentals for selected computing systems to be procured in fiscal year 1965, will result in a net increase of $67,000. The largest increase, which amounts to an additional cost of approximately $400,000 for increased electric power consumption results from the full-year operation in fiscal year 1965 of two new facilities, the hypersonic aerodynamics facility and the dynamics research laboratory. Other utilities requirements involve increased consumption in natural gas for operation of the high-temperature structural research facility.

Other services - $2,763,000

The primary increase in requirement for other services amounts to $174,000 and is required to cover the maintenance and upkeep of new facilities coming into operation; servicing of owned computing equipment; and to provide for anticipated increased needs for repair of instrumentation and other research equipment. Other minor increases are required for contractual services for skills to supplement those of center personnel.

Supplies and materials - $3,281,000

Supplies and material requirements for fiscal year 1965 reflect an increase of $199,000 over the fiscal year 1964 requirements. This increase will be utilized to replenish the inventory levels of selected items to optimum levels to assure the continuity of research operations without interruptions.

Equipment - $1,387,000

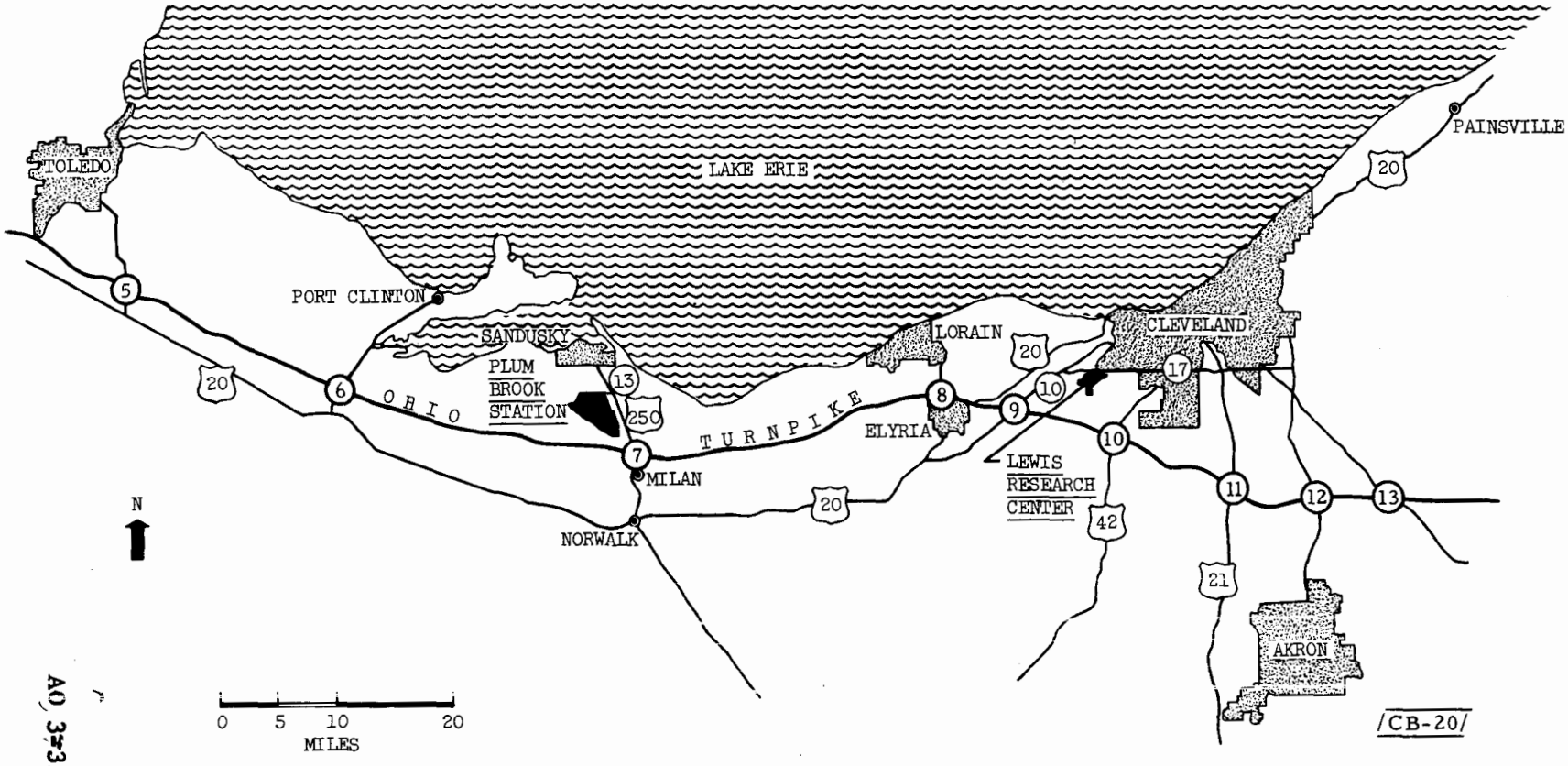
The increase for equipment which amounts to $317,000 more than the fiscal year 1964 requirement is for the purpose of procuring selected computing equipment items, currently rented, where public ownership would result in operational economy.

Other costs - $1,079,000

All other costs, including transportation of things, printing and reproduction, lands and structures, and insurance claims and indemnities are expected to remain at the level of funding required for fiscal year 1964.

LEWIS RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

LOCATION OF LEWIS RESEARCH CENTER INCLUDING PLUM BROOK STATION



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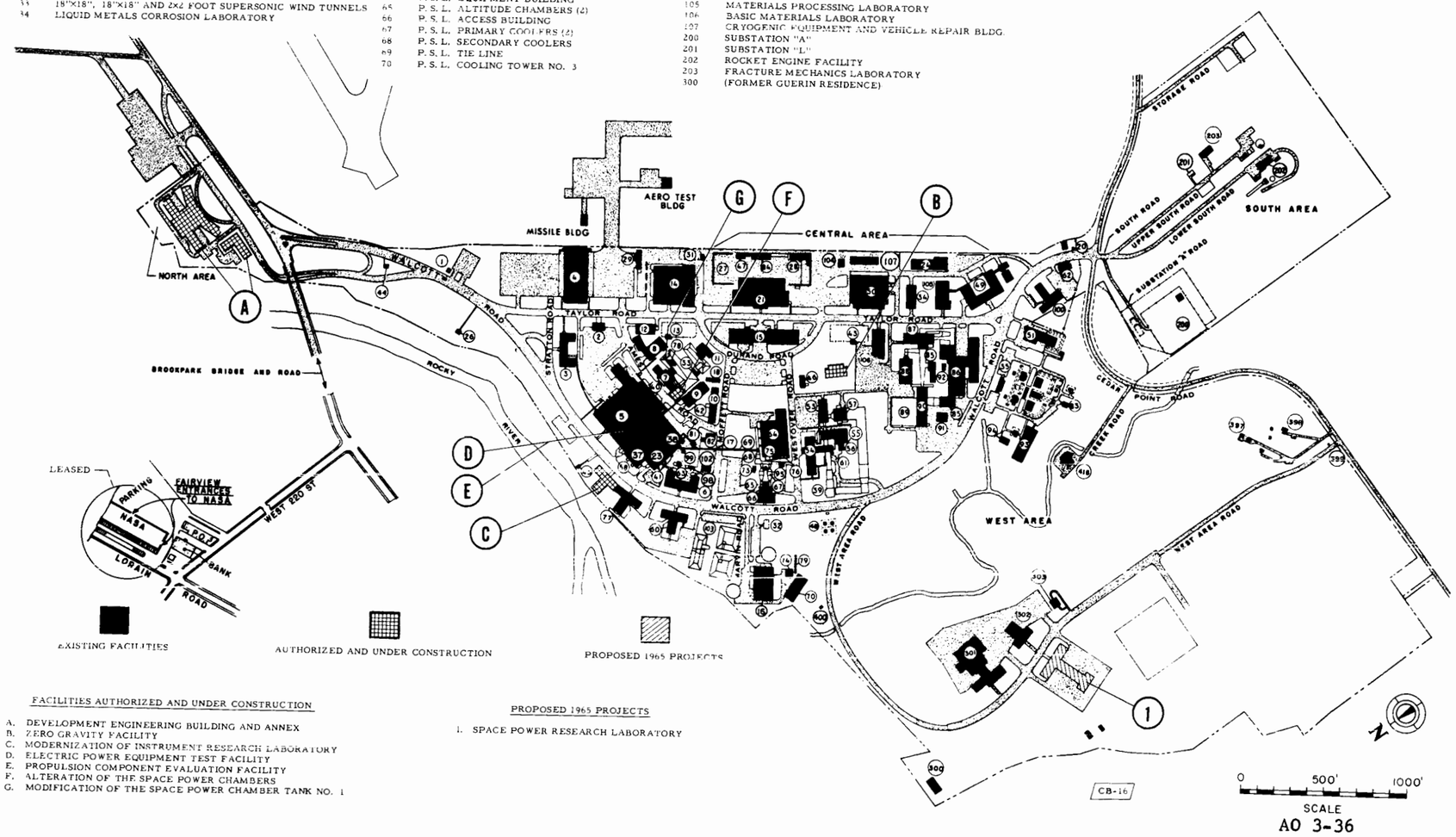
LEWIS RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

LOCATION PLAN

1 GATEHOUSE (MAIN)
2 PERSONNEL BUILDING
3 ADMINISTRATION BUILDING
4 FLIGHT RESEARCH BUILDING
5 ENGINE RESEARCH BUILDING
6 CHEMISTRY LABORATORY
7 SPACE POWER CHAMBERS
8 EXHAUSTER BUILDING
9 REFRIGERATION BUILDING
10 COOLING TOWER NO. 1
11 ICING RESEARCH TUNNEL
12 STEAM GENERATING PLANT
13 SUBSTATION "B"
14 TECHNICAL SERVICE BUILDING
15 UTILITIES BUILDING
16 ELECTRIC PROPULSION RESEARCH BUILDING
17 UNDERGROUND FUEL STORAGE
18 AIR DRYER NO. 1
20 SOUTH GATEHOUSE
21 PROCUREMENT & SUPPLY BUILDING
23 ENGINE RESEARCH BUILDING - WEST WING
24 SPECIAL PROJECTS LABORATORY
26 SEWAGE PUMPING STATION
27 COAL STORAGE
28 RECEIVING & SHIPPING BUILDING
29 PLANT PROTECTION BUILDING
31 RESERVOIR AND FIRE PROTECTION WATER SUPPLY
32 SUBSTATION "C"
33 18"×18", 18"×18" AND 2×2 FOOT SUPERSONIC WIND TUNNELS
34 LIQUID METALS CORROSION LABORATORY
35 ROCKET LABORATORY
37 ENGINE RESEARCH BUILDING - N. W. WING
38 ENGINE RESEARCH BUILDING - S. W. WING EXT.
39 8×6-FOOT SUPERSONIC WIND TUNNEL
40 SUBSTATION "D"
41 SUBSTATION "F"
42 SUBSTATION "E"
43 SUBSTATION "G"
44 GAS METER HOUSE
45 DROP TOWER
46 COOLING TOWER NO. 2
47 STORAGE BUILDING NO. 47
49 MATERIALS AND STRESSES LABORATORY
50 FABRICATION SHOP
51 HIGH ENERGY FUELS LABORATORY
53 8×6-FOOT SWT DRIVE EQUIPMENT BLDG.
54 8×6-FOOT SWT RESEARCH AND CONTROL BUILDING (OFFICE)
55 8×6-FOOT SWT MODELS PREPARATION BLDG.
56 8×6-FOOT SWT EXHAUSTER BUILDING
57 8×6-FOOT SWT AIR DRYER BUILDING
58 SUBSTATION "H"
60 PROPULSION SYSTEMS LABORATORY OPERATIONS BUILDING
61 8×6-FOOT SWT FUEL BUILDING
62 PLANT SERVICES BUILDING
63 HIGH TEMPERATURE VAPOR SYSTEM
64 P. S. L. EQUIPMENT BUILDING
65 P. S. L. ALTITUDE CHAMBERS (2)
66 P. S. L. ACCESS BUILDING
67 P. S. L. PRIMARY COOLERS (2)
68 P. S. L. SECONDARY COOLERS
69 P. S. L. TIE LINE
70 P. S. L. COOLING TOWER NO. 3
73 P. S. L. HIGH PRESSURE FUEL PUMPING STATION
74 P. S. L. CIRCULATING WATER PUMPING STATION
75 P. S. L. SUBSTATION "J"
76 P. S. L. COMBUSTION AIR HEATER
77 INSTRUMENT RESEARCH LABORATORY
78 SPACE POWER CHAMBERS PUMP HOUSE
79 P. S. L. COOLING WATER DEAERATORS
81 E. R. B. SPRAY COOLER BUILDING
82 COOLING TOWER NO. 4
83 CRYOGENICS SERVICES BUILDING
84 STORAGE BUILDING NO. 84
85 10'×10' SUPERSONIC WIND TUNNEL
86 10'×10'-SWT RESEARCH AND CONTROL BUILDING
87 10'×10'-SWT SECONDARY COMPRESSOR AND DRIVE BLDG.
88 10'×10'-SWT AIR DRYER BUILDING
89 10'×10'-SWT SUBSTATION "K"
90 10'×10'-SWT MAIN COMPRESSOR AND DRIVE BUILDING
91 10'×10'-SWT LOW PRESSURE FUEL PUMPING STATION
92 10'×10'-SWT HIGH PRESSURE FUEL PUMPING STATION
93 10'×10'-SWT COOLING TOWER NO. 5
94 10'×10'-SWT COOLING TOWER WATER PUMPING BUILDING
95 P. S. L. DESICCANT AIR DRYER
99 E. R. B. COMBUSTION AIR HEATER
100 ROCKET OPERATIONS BUILDING
102 LIQUID METALS POWER LABORATORY
103 INDUSTRIAL WASTE TREATMENT BASINS
104 GARAGE
105 MATERIALS PROCESSING LABORATORY
106 BASIC MATERIALS LABORATORY
107 CRYOGENIC EQUIPMENT AND VEHICLE REPAIR BLDG.
200 SUBSTATION "A"
201 SUBSTATION "L"
202 ROCKET ENGINE FACILITY
203 FRACTURE MECHANICS LABORATORY
300 (FORMER GUERIN RESIDENCE)
301 ELECTRIC PROPULSION LABORATORY
302 ENERGY CONVERSION LABORATORY
303 SUBSTATION "M"
397 (FORMER MITCHELL GARAGE)
398 (FORMER MITCHELL RESIDENCE)
399 GATEHOUSE - WEST AREA
415 ROCKET COMBUSTION LABORATORY



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FACILITIES AUTHORIZED AND UNDER CONSTRUCTION

A. DEVELOPMENT ENGINEERING BUILDING AND ANNEX
B. ZERO GRAVITY FACILITY
C. MODERNIZATION OF INSTRUMENT RESEARCH LABORATORY
D. ELECTRIC POWER EQUIPMENT TEST FACILITY
E. PROPULSION COMPONENT EVALUATION FACILITY
F. ALTERATION OF THE SPACE POWER CHAMBERS
G. MODIFICATION OF THE SPACE POWER CHAMBER TANK NO. 1

PROPOSED 1965 PROJECTS

1. SPACE POWER RESEARCH LABORATORY

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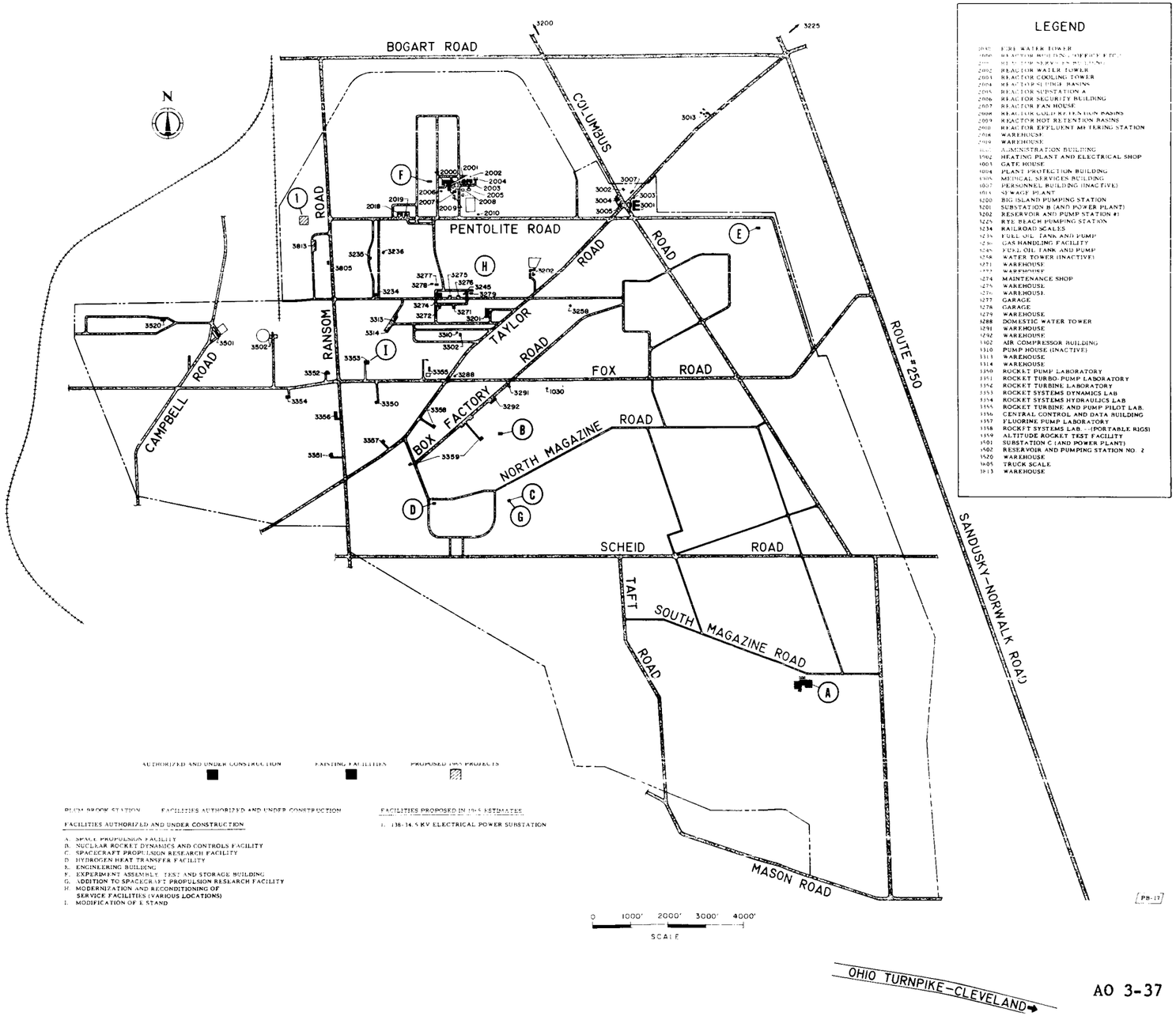
LEWIS RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

LOCATION PLAN

PLUM BROOK STATION



LEGEND

2000	FIRE WATER TOWER
2001	REACTOR BUILDING (OFFICE ETC.)
2002	REACTOR SERVICES BUILDING
2002	REACTOR WATER TOWER
2003	REACTOR COOLING TOWER
2004	REACTOR SETTING BASINS
2005	REACTOR SUBSTATION A
2006	REACTOR SECURITY BUILDING
2007	REACTOR FAN HOUSE
2008	REACTOR COLD RETENTION BASINS
2009	REACTOR HOT RETENTION BASINS
2010	REACTOR EFFLUENT METERING STATION
2018	WAREHOUSE
2019	WAREHOUSE
3001	ADMINISTRATION BUILDING
3002	HEATING PLANT AND ELECTRICAL SHOP
3003	GATE HOUSE
3004	PLANT PROTECTION BUILDING
3005	MEDICAL SERVICES BUILDING
3007	PERSONNEL BUILDING (INACTIVE)
3014	SEWAGE PLANT
3200	BIG ISLAND PUMPING STATION
3201	SUBSTATION B (AND POWER PLANT)
3202	RESERVOIR AND PUMP STATION #1
3225	RYE BEACH PUMPING STATION
3234	RAILROAD SCALES
3235	FUEL OIL TANK AND PUMP
3236	GAS HANDLING FACILITY
3249	FUEL OIL TANK AND PUMP
3258	WATER TOWER (INACTIVE)
3271	WAREHOUSE
3272	WAREHOUSE
3274	MAINTENANCE SHOP
3275	WAREHOUSE
3276	WAREHOUSE
3277	GARAGE
3278	GARAGE
3279	WAREHOUSE
3288	DOMESTIC WATER TOWER
3291	WAREHOUSE
3292	WAREHOUSE
3302	AIR COMPRESSOR BUILDING
3310	PUMP HOUSE (INACTIVE)
3313	WAREHOUSE
3314	WAREHOUSE
3350	ROCKET PUMP LABORATORY
3351	ROCKET TURBO-PUMP LABORATORY
3352	ROCKET TURBINE LABORATORY
3353	ROCKET SYSTEMS DYNAMICS LAB
3354	ROCKET SYSTEMS HYDRAULICS LAB
3355	ROCKET TURBINE AND PUMP PILOT LAB.
3356	CENTRAL CONTROL AND DATA BUILDING
3357	FLUORINE PUMP LABORATORY
3358	ROCKET SYSTEMS LAB. - (PORTABLE RIGS)
3359	ALTITUDE ROCKET TEST FACILITY
3501	SUBSTATION C (AND POWER PLANT)
3502	RESERVOIR AND PUMPING STATION NO. 2
3520	WAREHOUSE
3805	TRUCK SCALE
3813	WAREHOUSE

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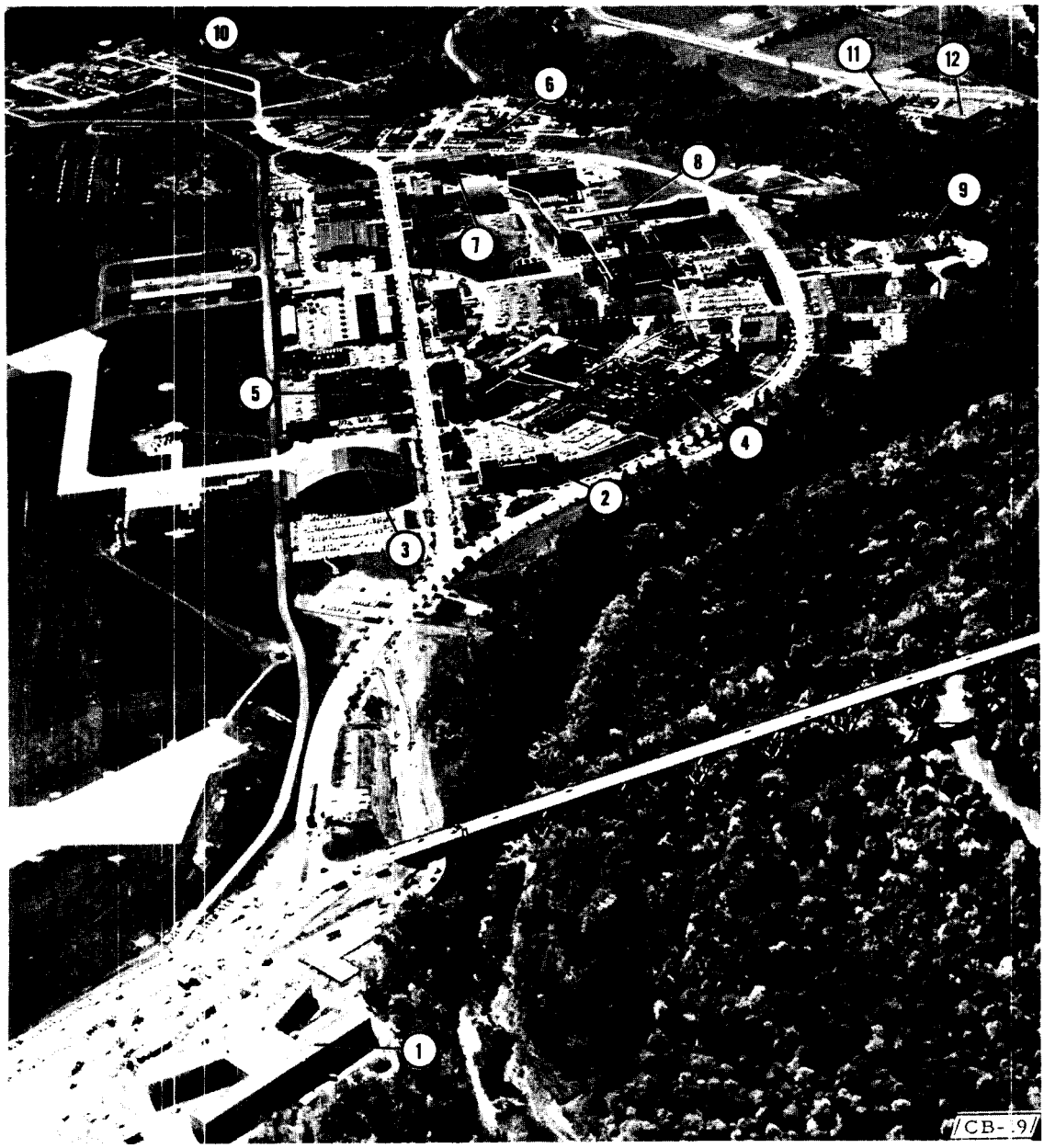
718-895 O-64 (Follow p. AO 3-35) No. 2

LEWIS RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

CLEVELAND FACILITIES



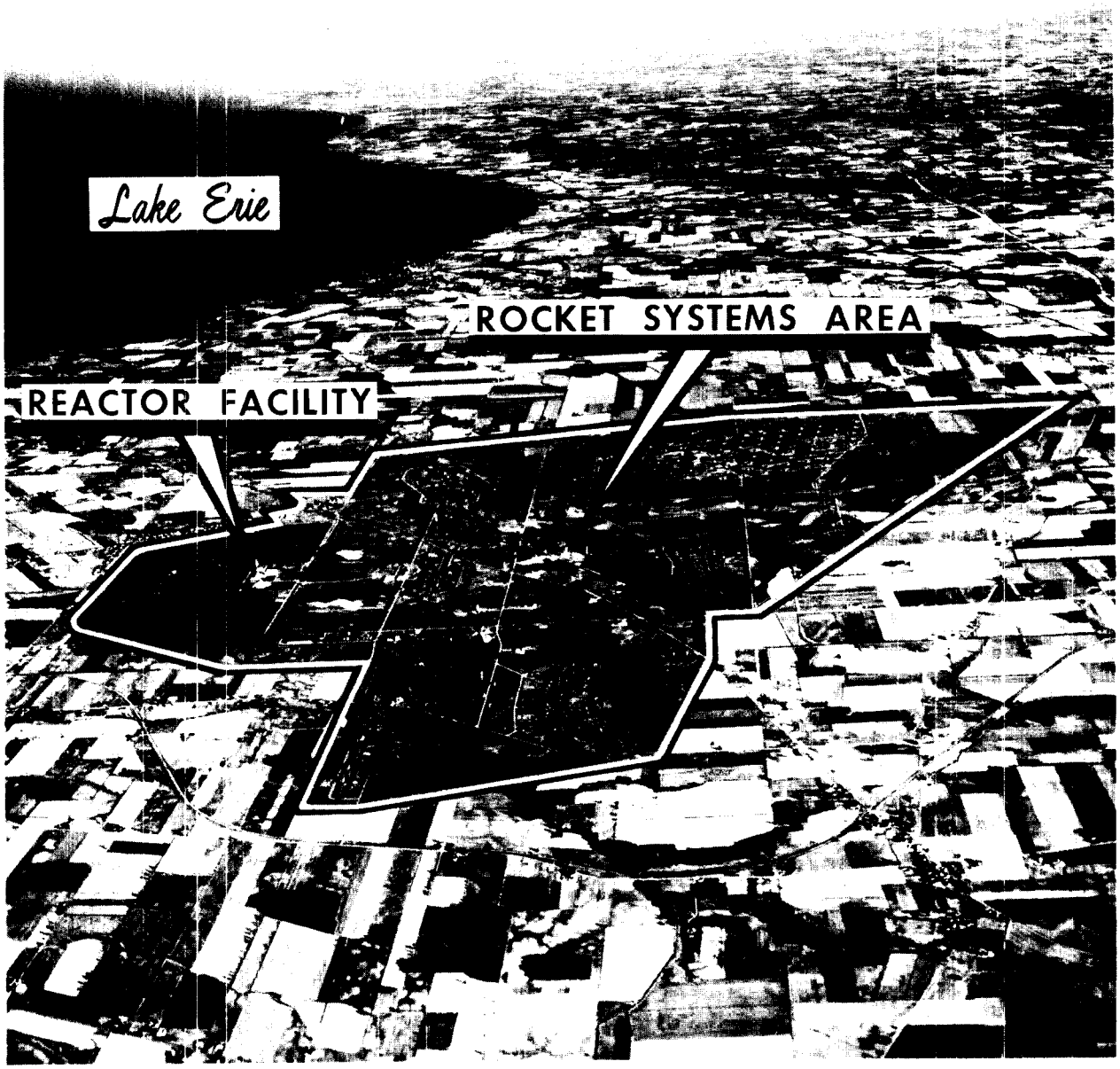
AO 3-38

1. DEVELOPMENT ENGINEERING BUILDING
2. ADMINISTRATION BUILDING
3. FLIGHT RESEARCH BUILDING
4. ENGINE RESEARCH LABORATORY
5. TECHNICAL SERVICE BUILDING
6. ROCKET LABORATORY
7. 10X10 SUPERSONIC WIND TUNNEL
8. 8X6 SUPERSONIC WIND TUNNEL
9. ELECTRIC PROPULSION RESEARCH LABORATORY
10. ROCKET ENGINE FACILITY
11. ENERGY CONVERSION LABORATORY
12. ELECTRIC PROPULSION LABORATORY

718-895 O-64—15

LEWIS RESEARCH CENTER
FISCAL YEAR 1965 ESTIMATES

NASA PLUM BROOK STATION



AO 3-39

	64	65
Excepted	1	1
GS-15	1	1
Other GS	1	1
Total	3	3

	64	65
GS-15	4	4
GS-14	2	2
Other GS	21	20
Total	27	26

	64	65
Excepted	1	1
Other GS	2	2
Total	3	3

	64	65
Excepted	1	1
GS-15	2	2
GS-14	2	2
Other GS	9	9
Total	14	14

	64	65
Excepted	1	1
GS-15	1	1
GS-14	1	1
Other GS	4	4
Total	6	6

	64	65
GS-14	1	1
Other GS	34	34
Total	35	35

	64	65
Excepted	1	1
Other GS	14	14
Total	15	15

STAFF ASSISTANTS

	64	65
GS-14	2	2
Other GS	60	60
Total	62	62

	64	65
Excepted	2	2
GS-15	1	1
GS-14	1	1
Other GS	4	4
Total	8	8

	64	65
Excepted		
GS-15		
GS-14		
Other GS		
Total		

CHEMISTRY AND ENERGY CONVERSION DIVISION

	64	65
Excepted	1	1
GS-15	18	19
GS-14	15	16
Other GS	95	90
Wage Board	1	1
Total	130	127

ELECTROMAGNETIC PROPULSION DIVISION

	64	65
Excepted	2	2
GS-15	11	11
GS-14	14	15
Other GS	85	79
Total	112	107

MATERIAL AND STRUCTURES DIVISION

	64	65
Excepted	3	3
GS-15	14	15
GS-14	19	20
Other GS	115	111
Total	151	149

INSTRUMENT AND COMPUTING DIVISION

	64	65
Excepted	2	2
GS-15	10	11
GS-14	13	14
Other GS	184	191
Wage Board	85	75
Total	294	293

FLUID SYSTEMS COMPONENTS DIVISION

	64	65
Excepted	3	3
GS-15	15	16
GS-14	24	25
Other GS	99	94
Total	141	138

NUCLEAR REACTOR DIVISION

	64	65
Excepted	1	1
GS-15	17	18
GS-14	22	23
Other GS	79	77
Total	119	119

SPACE POWER SYSTEM DIVISION

	64	65
Excepted	2	2
GS-15	6	7
GS-14	26	27
Other GS	129	124
Total	163	160

CENTAUR PROJECT

	64	65
Excepted	2	2
GS-15	12	12
GS-14	33	34
Other GS	133	124
WB	1	1
Total	181	173

AGENA PROJECT

	64	65
Excepted	1	1
GS-15	7	7
GS-14	15	15
Other GS	66	66
Total	89	89

CHEMICAL ROCKET SYSTEMS DIVISION

	64	65
Excepted	2	2
GS-15	7	7
GS-14	13	13
Other GS	118	115
Total	140	137

ADVANCED DEVELOPMENT AND EVALUATION DIVISION

	64	65
Excepted	3	3
GS-15	7	7
GS-14	21	21
Other GS	128	128
Total	159	159

SPACECRAFT TECHNOLOGY DIVISION

	64	65
Excepted	1	1
GS-15	8	8
GS-14	6	6
Other GS	87	84
Total	102	99

OFFICE OF RELIABILITY AND QUALITY ASSURANCE

	64	65
Excepted	1	1
GS-15	15	16
Other GS	24	23
Total	40	40

ROCKET SYSTEMS DIVISION

	64	65
GS-15	1	1
GS-14	5	5
Other GS	57	63
Total	63	69

REACTOR DIVISION

	64	65
GS-15	2	3
GS-14	5	5
Other GS	90	89
Total	97	97

ENGINEERING DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	37	40
WB	1	1
Total	45	48

ADMINISTRATION DIVISION

	64	65
Other GS	23	23
WB	4	4
Total	27	27

FACILITIES SERVICE DIVISION

	64	65
GS-14	1	1
Other GS	22	27
Wage Board	312	322
Total	335	350

PERSONNEL DIVISION

	64	65
GS-15	1	1
GS-14	2	2
Other GS	75	76
Total	78	79

FINANCE DIVISION

	64	65
GS-14	1	1
Other GS	68	69
Total	69	70

ADMINISTRATIVE SERVICES DIVISION

	64	65
Other GS	34	34
WB	8	8
Total	42	42

PROCUREMENT AND SUPPLY DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	162	163
Wage Board	27	27
Total	196	197

TECHNICAL INFORMATION DIVISION

	64	65
GS-14	1	1
Other GS	89	89
Wage Board	22	22
Total	112	112

PLANT SERVICES DIVISION

	64	65
GS-14	1	1
Other GS	40	40
age Board	133	133
Total	174	174

TEST INSTALLATIONS DIVISION

	64	65
GS-14	1	1
Other GS	5	5
WB	411	413
Total	417	419

FACILITIES OPERATIONS DIVISION

	64	65
GS-15	1	1
GS-14	1	1
Other GS	42	42
Wage Board	530	533
Total	574	577

FABRICATION DIVISION

	64	65
GS-15	1	1
GS-14	1	1
Other GS	30	35
WB	228	223
Total	260	260

ENGINEERING DESIGN DIVISION

	64	65
GS-15	6	6
GS-14	7	7
Other GS	166	166
WB	5	5
Total	184	184

FACILITIES ENGINEERING DIVISION

	64	65
Excepted	1	1
GS-15	6	6
GS-14	8	9
Other GS	79	78
Total	94	94

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ORGANIZATION AND STAFFING CHART
LEWIS RESEARCH CENTER

STAFFING SUMMARY

	64	65
Excepted	36	36
GS-15	162	169
GS-14	293	303
Other GS	2,526	2,509
Wage Board	1,768	1,768
Total	4,785	4,785

RESOURCES PLANNING OFFICE

	64	65
Excepted	1	1
GS-14	2	2
Other GS	9	9
Total	12	12

OFFICE OF THE DIRECTOR

	64	65
Excepted	2	2
Other GS	3	3
Total	5	5

OFFICE OF ASSOCIATE DIRECTOR FOR RESEARCH

	64	65
Excepted	1	1
GS-15	1	1
Other GS	1	1
Total	3	3

OFFICE OF RESEARCH PLANS AND PROGRAMS

	64	65
GS-15	4	4
GS-14	2	2
Other GS	21	20
Total	27	26

CHEMISTRY AND ENERGY CONVERSION DIVISION

	64	65
Excepted	1	1
GS-15	18	19
GS-14	15	16
Other GS	95	90
Wage Board	1	1
Total	130	127

ELECTROMAGNETIC PROPULSION DIVISION

	64	65
Excepted	2	2
GS-15	12	11
GS-14	14	15
Other GS	85	79
Total	113	107

MATERIAL AND STRUCTURES DIVISION

	64	65
Excepted	3	3
GS-15	14	15
GS-14	19	20
Other GS	115	111
Total	151	149

INSTRUMENT AND COMPUTING DIVISION

	64	65
Excepted	2	2
GS-15	10	11
GS-14	13	14
Other GS	184	191
Wage Board	85	75
Total	294	293

FLUID SYSTEMS COMPONENTS DIVISION

	64	65
Excepted	3	3
GS-15	15	16
GS-14	24	25
Other GS	99	94
Total	141	133

NUCLEAR REACTOR DIVISION

	64	65
Excepted	1	1
GS-15	17	18
GS-14	22	23
Other GS	79	77
Total	119	119

OFFICE OF ASSOCIATE DIRECTOR FOR DEVELOPMENT

	64	65
Excepted	1	1
Other GS	2	2
Total	3	3

OFFICE OF DEVELOPMENT PLANS AND PROGRAMS

	64	65
Excepted	1	1
GS-15	2	2
GS-14	2	2
Other GS	9	9
Total	14	14

OFFICE OF RELIABILITY AND QUALITY ASSURANCE

	64	65
Excepted	1	1
GS-14	15	16
Other GS	24	23
Total	40	40

SPACE POWER SYSTEM DIVISION

	64	65
Excepted	2	2
GS-15	6	7
GS-14	26	27
Other GS	129	124
Total	163	160

CENTAUR PROJECT

	64	65
Excepted	2	2
GS-15	12	12
GS-14	33	34
Other GS	133	124
WB	1	1
Total	181	173

AGENA PROJECT

	64	65
Excepted	1	1
GS-15	7	7
GS-14	15	15
Other GS	66	66
Total	89	89

CHEMICAL ROCKET SYSTEMS DIVISION

	64	65
Excepted	2	2
GS-15	7	7
GS-14	13	13
Other GS	118	115
Total	140	137

ADVANCED DEVELOPMENT AND EVALUATION DIVISION

	64	65
Excepted	3	3
GS-15	7	7
GS-14	21	21
Other GS	128	128
Total	159	159

SPACECRAFT TECHNOLOGY DIVISION

	64	65
Excepted	1	1
GS-15	8	8
GS-14	6	6
Other GS	87	84
Total	102	99

PLUM BROOK STATION OFFICE OF DIRECTOR

	64	65
Excepted	1	1
GS-15	1	1
Other GS	4	4
Total	6	6

ROCKET SYSTEMS DIVISION

	64	65
GS-15	1	1
GS-14	5	5
Other GS	37	63
Total	43	69

REACTOR DIVISION

	64	65
GS-15	2	3
GS-14	5	5
Other GS	90	89
Total	97	97

ENGINEERING DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	37	40
WB	1	1
Total	45	48

ADMINISTRATION DIVISION

	64	65
Other GS	23	23
WB	4	4
Total	27	27

FACILITIES SERVICE DIVISION

	64	65
GS-14	1	1
Other GS	22	27
Wage Board	312	322
Total	335	350

STAFF ASSISTANTS

	64	65
GS-14	1	1
Other GS	34	34
Total	35	35

NAL AERONAUTICS AND SPACE ADMINISTRATION
ORGANIZATION AND STAFFING CHART
LEWIS RESEARCH CENTER

FFICE

	64	65
	1	1
	2	2
	9	9
	12	12

OFFICE OF THE DIRECTOR

	64	65
Excepted	2	2
Other GS	3	3
Total	5	5

PLUM BROOK STATION OFFICE OF DIRECTOR

	64	65
Excepted	1	1
GS-15	1	1
Other GS	4	4
Total	6	6

STAFF ASSISTANTS

	64	65
GS-14	1	1
Other GS	34	34
Total	35	35

OFFICE OF ASSISTANT DIRECTOR FOR ADMINISTRATION

	64	65
Excepted	1	1
Other GS	14	14
Total	15	15

STAFF ASSISTANTS

	64	65
GS-14	2	2
Other GS	60	60
Total	62	62

OFFICE OF CHIEF OF TECHNICAL SERVICES

	64	65
Excepted	2	2
GS-15	1	1
GS-14	1	1
Other GS	4	4
Total	8	8

OFFICE OF ASSISTANT DIRECTOR FOR PUBLIC AFFAIRS

	64	65
Excepted	1	1
GS-15	1	1
GS-14	1	1
Other GS	4	4
Total	7	7

ND

	65	
	1	
	16	
	23	
	40	

ROCKET SYSTEMS DIVISION

	64	65
GS-15	1	1
GS-14	5	5
Other GS	57	63
Total	63	69

REACTOR DIVISION

	64	65
GS-15	2	3
GS-14	5	5
Other GS	90	89
Total	97	97

ENGINEERING DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	37	40
WB	1	1
Total	45	48

ADMINISTRATION DIVISION

	64	65
Other GS	23	23
WB	4	4
Total	27	27

FACILITIES SERVICE DIVISION

	64	65
GS-14	1	1
Other GS	22	27
Wage Board	312	322
Total	335	350

PERSONNEL DIVISION

	64	65
GS-15	1	1
GS-14	2	2
Other GS	75	76
Total	78	79

FINANCE DIVISION

	64	65
GS-14	1	1
Other GS	68	69
Total	69	70

ADMINISTRATIVE SERVICES DIVISION

	64	65
Other GS	34	34
WB	8	8
Total	42	42

PROCUREMENT AND SUPPLY DIVISION

	64	65
GS-15	1	1
GS-14	6	6
Other GS	162	163
Wage Board	27	27
Total	196	197

TECHNICAL INFORMATION DIVISION

	64	65
GS-14	1	1
Other GS	89	89
Wage Board	22	22
Total	112	112

PLANT SERVICES DIVISION

	64	65
GS-14	1	1
Other GS	40	40
Wage Board	133	133
Total	174	174

TEST INSTALLATIONS DIVISION

	64	65
GS-14	1	1
Other GS	5	5
WB	411	413
Total	417	419

FACILITIES OPERATIONS DIVISION

	64	65
GS-15	1	1
GS-14	1	1
Other GS	42	42
Wage Board	530	533
Total	574	577

FABRICATION DIVISION

	64	65
GS-15	1	1
GS-14	1	1
Other GS	35	35
WB	223	223
Total	260	260

ENGINEERING DESIGN DIVISION

	64	65
GS-15	6	6
GS-14	7	7
Other GS	166	166
WB	5	5
Total	184	184

FACILITIES ENGINEERING DIVISION

	64	65
Excepted	1	1
GS-15	6	6
GS-14	8	9
Other GS	79	78
Total	94	94

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

LEWIS RESEARCH CENTER

MISSIONS AND CAPABILITIES:

The primary mission of the Lewis Research Center is research and development in the areas of advanced propulsion and space power generation, This includes work on the high-energy chemical, nuclear, and electric rocket engines and research on space power systems for converting chemical, nuclear, and solar energy into electricity. Basic and applied research is conducted on materials and metallurgy; cryogenic and liquid-metal heat-transfer fluids; pumps and turbines; combustion processes, propellants, tankage, injectors, chambers, and nozzles; system control dynamics; plasmas and magnetohydrodynamics; space meteoroid damage and zero-gravity effects. In the space power area, a major effort is concentrated on turboelectric, thermo-electrical, and thermionic energy-conversion systems.

This in-house research provides technical input and direction to the related development or contractual efforts for which Lewis has managerial responsibility. For example, this Center maintains technical management of NASA contracts on electric propulsion, nuclear and solar turbo-electric space power systems, and liquid-hydrogen rocket technology. In addition, Lewis has the development responsibility for the Atlas-Centaur and the Atlas-Agena launch vehicles and the 1.5-million-pound-thrust hydrogen-oxygen engine.

Major research tools and facilities at Lewis and the Plum Brook Station are designed to simulate various flight conditions, and range from atmospheric wind tunnels to large space environment facilities. A large 60-megawatt thermal reactor is available for studying nuclear radiation effects on materials and components, simulating various flux levels associated with spacecraft applications of nuclear energy. Other specialized experimental facilities include vacuum electron-beam furnaces for refinement of tungsten, liquid-metal power loops for component evaluations, a zero-gravity drop tower, chemical-rocket static thrust stands, a full-scale non-nuclear NERVA test stand for the study of engine control dynamics, and various cryogenic component rigs.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year	4,697	4,817	4,817
Administrative operations	$53,448,000	$61,107,000	$65,617,000

INSTALLATION DESCRIPTION:

The Lewis Research Center occupies two sites. The older one is on the southwest edge of Cleveland, Ohio, and consists of over 100 laboratory buildings, shops, wind tunnels, space environment tanks and other special facilities, all built for conducting research on advanced propulsion systems or spacecraft power generating systems. The Cleveland facilities occupy 364 acres. A newer site is located just south of Sandusky, Ohio, on land formerly occupied by the Plum Brook Ordnance Works. Its 6,031 acres were transferred from the Army. The research programs at Plum Brook are under the technical direction of personnel located at Cleveland. They are conducted at the larger site because of the need for large separation distances to minimize hazards. A nuclear reactor is used to test components of nuclear powered propulsion systems; large rockets are operated with fluorine, hydrogen and other high-energy fuels; and turbopumps are developed for cryogenic propellants. The plant value as of June 30, 1963 for both Lewis and Plum Brook was $219,232,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$34,900,000	$42,887,000	$44,962,000
12.	Personnel benefits.....	2,534,000	3,124,000	3,204,000
	Total, personnel costs....	$37,434,000	$46,011,000	$48,166,000
21.	Travel and transportation of persons.....	996,000	1,356,000	1,434,000
22.	Transportation of things....	779,000	954,000	961,000
23.	Rents, communications and utilities.....	3,664,000	4,666,000	4,477,000
24.	Printing and reproduction...	38,000	55,000	65,000
25.	Other services.....	2,836,000	3,414,000	3,767,000
26.	Supplies and materials.....	5,365,000	2,097,000	2,154,000
31.	Equipment.....	1,763,000	2,050,000	3,967,000
32.	Lands and structures.....	573,000	503,000	625,000
42.	Insurance claims and indemnities	---	1,000	1,000
	TOTAL.....	$53,448,000	$61,107,000	$65,617,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$48,166,000
Positions, end of year.....	4,817

Major effort in fiscal year 1965 will be related to the technical management and contract monitoring and evaluation of Lewis' development projects, such as Centaur launch vehicle, the M-1 engine, and the SNAP-8 electrical generating system. Effort on space technology research will continue at the fiscal year 1964 level.

The major portion of the increase of $2,149,000 in personnel costs is due to the availability in fiscal year 1965 of an additional 67 man-years. The remainder of the increase is related to the full-year effect of the pay raise, effective on January 5, 1964.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Advanced missions.....	34	36	36
Space Science and Applications			
Geophysics and astronomy.....	2	2	2
Launch vehicle development.....	402	432	424
Advanced Research and Technology			
Basic research program.....	455	477	476
Space vehicle systems.....	205	212	212
Electronic systems.....	69	82	82
Human factor systems.....	-	1	1
Nuclear-electric systems.....	640	680	675
Nuclear rockets.....	389	403	401
Chemical propulsion.....	339	349	344
Space power.....	157	168	168
Aeronautics.....	61	62	62
Technology Utilization and Policy Planning.....	10	12	12
Subtotal, direct positions...	2,763	2,916	2,895

	1963	1964	1965
Support personnel			
Director and staff.....	27	30	30
Administration.....	544	574	577
Installation operations.....	1,182	1,200	1,218
Research and development support.....	56	65	65
Subtotal, support positions.....	1,809	1,869	1,890
Total, permanent positions.....	4,572	4,785	4,785
Other positions:			
Positions under cooperative training agreements.....	10	11	11
Other temporary positions.....	115	21	21
Total, all positions.....	4,697	4,817	4,817

Travel and transportation of persons - $1,434,000

The increase of $78,000 in travel funds is specifically required for more intensive monitoring of contractor performance in the Agena and Centaur vehicle development programs and the M-1 engine development program. The increased launching activity for the Centaur and Agena vehicles also contributes to the increased level.

Rents, communications and utilities - $4,477,000

The decrease in estimated requirements for rents of $189,000 is largely attributable to the decision to purchase selected pieces of electronic computing equipment rather than to continue to lease. Included in the estimated fiscal year 1965 requirements is provision for partial year lease on the equipment proposed for purchase until the lease-purchase changeover is accomplished. It is anticipated that there will be only slight increases in other rentals, communications and utilities over the fiscal year 1964 level.

Other services - $3,767,000

The growth in the physical plant at Lewis, particularly the addition of new research facilities, will necessitate additional contractual services for building maintenance, servicing of electronic computing equipment, janitorial and security guard services, and repair services for research equipment and instrumentation. A total increase of $353,000 is requested for these purposes.

Equipment - $3,967,000

All of the requested increase of $1,917,000 for equipment is for the purpose of procuring selected computing equipment items, currently rented, where public ownership would result in operational economy.

Lands and structures - $625,000

This amount is requested for modification, alteration and minor construction projects at the Lewis Research Center and Plum Brook Station. The major items include modifications to the sewage disposal system to conform to local health regulations, modifications to liquid metal research rigs to meet changing program requirements, and modifications to the gas handling center and water basin system at Plum Brook to meet requirements resulting from the expansion of operations of the reactor facilities in fiscal year 1965.

Other costs - $3,181,000

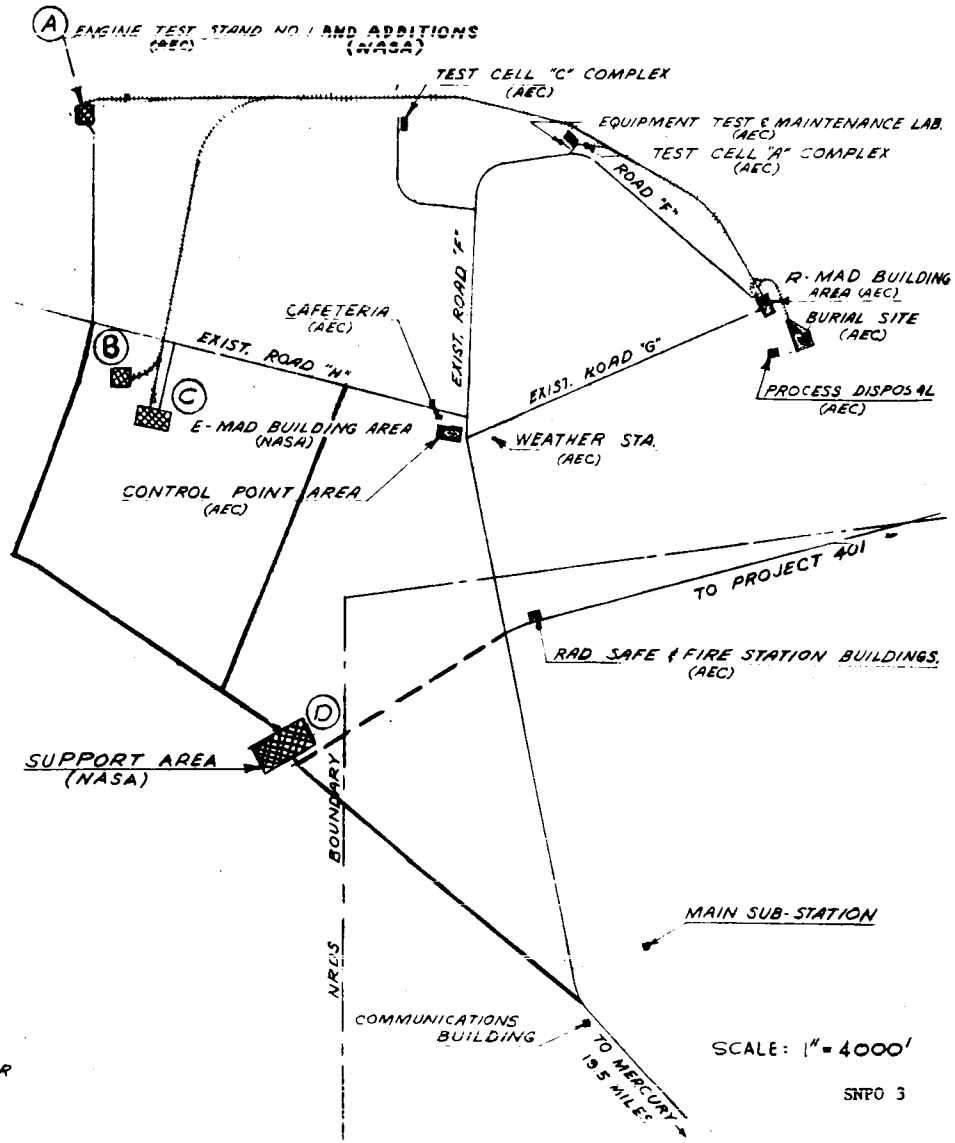
It is anticipated that the costs for transportation of things, printing and reproduction, supplies and materials, and insurance claims and indemnities will remain substantially at the fiscal year 1964 levels.

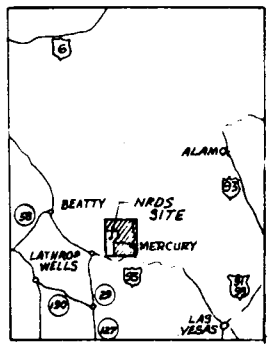
NUCLEAR ROCKET DEVELOPMENT STATION

LOCATION PLAN

FACILITIES AUTHORIZED AND UNDER CONSTRUCTION

A. ENGINE TEST STAND NO. 1
B. RADIOACTIVE MATERIAL HANDLING COMPLEX
C. E-MAD BUILDING
D. SUPPORT FACILITIES





KEY MAP
NO SCALE

LEGEND
- EXIST. FACILITY
- FAC. AUTHORIZED & UNDER CONSTRUCTION

AD 3446

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

SPACE NUCLEAR PROPULSION OFFICE

STAFFING SUMMARY

	64	65
Excepted	3	3
GS-15	19	19
GS-14	19	19
Other GS	62	62
Total	103	103

OFFICE OF THE MANAGER

	64	65
Excepted	0	0
GS-15	1	1
GS-14	0	0
Other GS	2	2
Total	3	3

CLEVELAND EXTENSION

	64	65
Excepted	2	2
GS-15	9	9
GS-14	13	13
Other GS	36	36
Total	60	60

NERVA BRANCH

	64	65
Excepted	1	1
GS-15	3	3
GS-14	0	0
Other GS	1	1
Total	5	5

NEVADA EXTENSION

	64	65
Excepted	0	0
GS-15	2	2
GS-14	6	6
Other GS	22	22
Total	30	30

ADVANCED ENGINE BRANCH

	64	65
Excepted	0	0
GS-15	2	2
GS-14	0	0
Other GS	0	0
Total	2	2

FACILITIES BRANCH

	64	65
Excepted	0	0
GS-15	2	2
GS-14	0	0
Other GS	1	1
Total	3	3

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

SPACE NUCLEAR PROPULSION OFFICE

MISSION AND CAPABILITIES:

The Space Nuclear Propulsion Office is a joint office of the NASA and the Atomic Energy Commission. With the exception of the Nevada site, the headquarters office and field extension offices at Cleveland, Ohio and Albuquerque, New Mexico (staffed by AEC) are primarily engaged in management and administrative activities. The facility complexes at the Nuclear Rocket Development Station are most unique and fundamental to an undertaking concerned with the remote handling of radioactive materials and the ensuing decontamination processes. Limited NASA staffing is proposed for the Nuclear Rocket Development Station, since the operation and maintenance of the site will be the responsibility of contractor personnel.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year..	96	103	103
Administrative operations.....	$970,000	$1,493,000	$1,482,000

INSTALLATION DESCRIPTION:

The SNPO headquarters is located in the AEC Building at Germantown, Maryland, with three field extension offices located in Cleveland, Ohio, Albuquerque, New Mexico, and the Nuclear Rocket Development Station in Nevada. The only land for which the Space Nuclear Propulsion Office has responsibility, by interagency agreement with the AEC, is the Nevada site comprising approximately 90,000 acres. The estimated physical plant value of facilities funded by NASA as of June 30, 1963, amounted to $4,000,000.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$703,000	$1,132,000	$1,153,000
12.	Personnel benefits.....	50,000	86,000	91,000
	Total, personnel costs.....	$753,000	$1,218,000	$1,244,000
21.	Travel and transportation of persons.....	147,000	150,000	175,000
22.	Transportation of things.....	14,000	23,000	4,000
25.	Other services.....	56,000	102,000	59,000
	TOTAL.....	$970,000	$1,493,000	$1,482,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs	$1,244,000
Positions, end of year	103

The fiscal year 1965 staffing requirement is planned at the end fiscal year 1964 level of 103 positions. This is attributable to the changes in the nuclear rocket program. This level of personnel will enable SNPO to monitor and manage the program effort effectively.

The increase of $26,000 in personnel cost is attributed to the full year effect of the civil service pay raise effective January 5, 1964.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Advanced Research and Technology			
Nuclear rockets	91	97	97
Subtotal, direct positions	91	97	97
Support personnel			
Director and staff	2	3	3
Research and development support	3	3	3
Subtotal, support positions	5	6	6
Total, permanent positions	96	103	103
Other positions:			
Positions under cooperative training agreements	-	-	-
Other temporary positions	-	-	-
Total, all positions	96	103	103

Travel and transportation of persons - $175,000

The increase in funds for travel is needed to more effectively monitor developments at the Nuclear Rocket Development Station, and to perform

continuing and effective reviews of contractor effort. It is anticipated that changes in the program effort will require more traveling by Space Nuclear Propulsion Office personnel.

Other costs - $63,000

The estimated reduced level of transportation of things and other services is due to the reduction in the shipment of household goods for new employees and the completion of the major part of the master planning effort for the Nevada installation.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

NASA HEADQUARTERS

STAFFING SUMMARY

	64	65
NASA-Wide Support:		
Excepted	167	167
GS-15	372	372
GS-14	289	289
Other GS	1,020	1,020
Wage Board	2	2
Total	1,850	1,850
Headquarters Operations:		
Excepted	1	1
GS-15	6	6
GS-14	5	5
Other GS	218	218
Wage Board	20	20
Total	250	250

ADMINISTRATOR

	64	65
Excepted	3	3
GS-15	1	1
Other GS	7	7
Wage Board	1	1
Total	12	12

LEGISLATIVE AFFAIRS

	64	65
Excepted	2	2
GS-15	3	3
GS-14	3	3
All Other GS	27	27
Wage Board	1	1
Total	36	36

INTERNATIONAL PROGRAMS

	64	65
Excepted	7	7
GS-15	2	2
GS-14	1	1
Other GS	22	22
Total	27	27

GENERAL COUNSEL

	64	65
Excepted	5	5
GS-15	8	8
GS-14	7	7
Other GS	30	30
Total	50	50

EXECUTIVE OFFICER

	64	65
Excepted	1	1
GS-15	2	2
GS-14	4	4
Other GS	23	23
Total	30	30

TECHNOLOGY UTILIZATION AND POLICY PLANNING

	64	65
Excepted	7	7
GS-15	12	12
GS-14	15	15
Other GS	64	64
Total	98	98

PUBLIC AFFAIRS

	64	65
Excepted	3	3
GS-15	19	19
GS-14	17	17
Other GS	76	76
Total	115	115

POLICY PLANNING BOARD

	64	65
Excepted	1	1
Other GS	3	3
Total	4	4

ASSOCIATE ADMINISTRATOR

	64	65
Excepted	2	2
GS-15	1	1
Other GS	6	6
Total	9	9

INDUSTRY AFFAIRS

	64	65
Excepted	6	6
GS-15	18	18
GS-14	22	22
Other GS	72	72
Total	118	118

PROGRAMMING

	64	65
Excepted	7	7
GS-15	9	9
GS-14	9	9
Other GS	62	62
Total	87	87

DEFENSE AFFAIRS

	64	65
Excepted	3	3
GS-15	1	1
Other GS	4	4
Total	8	8

ADMINISTRATION

	64	65
NASA-Wide Support:		
Excepted	10	10
GS-15	34	34
GS-14	59	59
Other GS	166	166
Total	269	269
Headquarters Operations:		
Excepted	1	1
GS-15	6	6
GS-14	5	5
Other GS	218	218
Wage Board	20	20
Total	250	250

TRACKING AND DATA ACQUISITION

	64	65
Excepted	7	7
GS-15	17	17
GS-14	6	6
Other GS	20	20
Total	50	50

MANNED SPACE FLIGHT

	64	65
Excepted	43	43
GS-15	125	125
GS-14	82	82
Other GS	209	209
Total	459	459

SPACE SCIENCE AND APPLICATIONS

	64	65
Excepted	36	36
GS-15	60	60
GS-14	32	32
Other GS	146	146
Total	274	274

ADVANCED RESEARCH AND TECHNOLOGY

	64	65
Excepted	29	29
GS-15	60	60
GS-14	32	32
Other GS	83	83
Total	204	204

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

HEADQUARTERS

MISSION AND CAPABILITIES:

The mission of the Headquarters of the National Aeronautics and Space Administration is planning and providing executive direction for the programs established to implement the national objectives stated in the National Aeronautics and Space Act of 1958, as amended, which are:

1. To conduct research into problems of flight within and outside the Earth's atmosphere with a view to their practical solution.

2. To develop, construct, test, and operate aeronautical and space vehicles for research purposes.

3. To conduct such activities as may be required for the exploration of space.

4. To arrange for participation by the scientific community in planning the scientific measurements and observations to be made.

5. To provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof.

The following program offices have been established at Headquarters to assist general management in carrying out this mission:

The Office of Manned Space Flight - Responsible for all NASA activities directly involving manned space flight missions, including overall management of the three centers primarily concerned with the manned space flight programs - the George C. Marshall Space Flight Center, the Manned Spacecraft Center, and the John F. Kennedy Space Center.

The Office of Space Science and Applications - Responsible for all NASA activities directly involving unmanned scientific explorations of space, communications, meteorological and related peaceful applications. This office has the overall management of the Goddard Space Flight Center, Wallops Station, Pacific Launch Operations Office, and administers the contract with the California Institute of Technology for the operation of the Jet Propulsion Laboratory.

The Office of Advanced Research and Technology - Responsible for all NASA supporting research and technological programs conducted primarily to demonstrate the feasibility of a concept, structure, component, or system that may have general application to NASA aeronautical or space activities. This office has the overall management of the NASA research centers primarily involved in carrying out NASA's advanced research programs - Ames Research Center, Flight Research Center, Langley Research Center, Lewis Research Center, the Space Nuclear Propulsion Office, and the new Electronics Research Center. In addition, the office is responsible for coordinating NASA's total program of supporting research and technology, which is related to carrying out the specific flight missions so as to avoid unnecessary duplication and to insure that the agency has an integrated and balanced program in this area.

The Office of Tracking and Data Acquisition - Responsible for the development and operation of tracking and data acquisition facilities, systems, equipment, communications and instrumentation necessary to acquire, record, procure, reduce and transmit scientific and technical data and information from all NASA flight missions. The office also is the focal point for automatic data processing requirements.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year	2,001	2,115	2,115
Administrative operations:			
NASA Headquarters.....	$51,086,000	$55,896,000	$59,000,000
JPL (purchase of computers)....	---	---	10,350,000
Total.....	$51,086,000	$55,896,000	$69,350,000

LOCATION:

The NASA Headquarters is located at 400 Maryland Avenue, S. W., Washington, D. C., and also occupies other buildings in the District of Columbia and nearby Virginia. Except for space leased in the Universal North Building and a storage area in Virginia, personnel occupy Government-owned buildings.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

		1963	1964	1965
11.	Personnel compensation.....	$17,583,000	$22,857,000	$24,706,000
12.	Personnel benefits.....	1,300,000	1,763,000	2,071,000
	Total, personnel costs...	$18,883,000	$24,620,000	$26,777,000
21.	Travel and transportation of persons.....	2,478,000	2,827,000	3,056,000
22.	Transportation of things...	532,000	899,000	807,000
23.	Rents, communications and utilities.....	1,638,000	2,074,000	2,054,000
24.	Printing and reproduction..	1,601,000	2,419,000	2,396,000
25.	Other services.....	24,802,000	21,939,000	22,113,000
26.	Supplies and materials.....	484,000	595,000	585,000
31.	Equipment.....	656,000	521,000	11,560,000
32.	Lands and structures.....	---	---	---
42.	Insurance claims and indemnities.....	12,000	2,000	2,000
	TOTAL.....	$51,086,000	$55,896,000	$69,350,000

Estimates other than for personnel compensation and benefits and travel of Headquarters personnel have been distributed between operation of the Headquarters and NASA-wide functions with all centers benefiting. The following table shows a comparison of Headquarters funding for NASA-wide support and Headquarters operations:

Analysis of Funding for
NASA-wide Support and Headquarters Operations
(Thousands of Dollars)

	1964			1965		
Object Class	Total	NASA-wide Support	Hdqtr. Oper.	Total	NASA-wide Support	Hdqtr. Oper.
22.	899	779	120	807	737	70
23.	2,074	625	1,449	2,054	658	1,396
24.	2,419	2,247	172	2,396	2,224	172
25.	21,939	20,494	1,445	22,113	21,123	990
26.	595	61	534	585	76	509
31.	521	235	286	11,560	10,454	1,106
42.	2	---	2	2	---	2
TOTAL.....	$28,449	$24,441	$4,008	$39,517	$35,272	$4,245

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs	$26,777,000
Positions, end of year	2,115

The increase in personnel costs is due primarily to an increase of 77 man years of employment and the full year cost of the January 5, 1964 pay raise, effective only half of fiscal year 1964. Increases for personnel benefits are related to personnel compensation, except for an increase in incentive awards of $75,000 an an increase of $88,000 in workmen's compensation. The workmen's compensation increase is to provide for NASA-wide payments to the Department of Labor in accordance with Sec. 209, PL 86-767.

Distribution of Personnel

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Gemini	76	79	79
Apollo	256	270	270
Advanced missions	105	110	110
Space Science and Applications			
Meteorological satellites	13	21	21
Communications satellites	14	19	18
Advanced technological satellite	-	1	2
Geophysics and astronomy	49	55	55
Lunar and planetary exploration	51	63	63
Bioscience	19	20	20
Launch vehicle development	28	30	30
Sustaining university program	55	65	65
Advanced Research and Technology			
Basic research program	25	28	28
Space vehicle systems	40	43	43
Electronic systems	28	32	32
Human factor systems	19	27	27
Nuclear-electric system	21	24	24
Nuclear rockets	6	6	6

	1963	1964	1965
Chemical propulsion.....	13	14	14
Space power.....	6	6	6
Aeronautics.....	22	24	24
Tracking and Data Acquisition...	37	50	50
Technology Utilization.....	12	13	13
Subtotal, direct position.....	895	1,000	1,000
Support personnel			
Administration.....	233	250	250
NASA-wide support.....	719	850	850
Subtotal, support positions...	952	1,100	1,100
Total, permanent positions....	1,847	2,100	2,100
Other positions:			
Positions under cooperative training agreements.....	-	-	-
Other temporary positions.....	154	15	15
Total, all positions.....	2,001	2,115	2,115

Travel and transportation of persons - $3,056,000

The increase of $229,000 in fiscal year 1965 is needed primarily by the Program Offices for effective review, direction and coordination of the increasing research and development at NASA Centers and contractor plants. Some additional travel also will be required by Program Offices in connection with the management of administrative operations of field centers.

The total estimate for travel and transportation of persons includes $2,750,000 for NASA employee travel, and $306,000 for costs of non-NASA employee travel and for local transportation, shuttle bus service, and rental of passenger motor vehicles. Of the total funds requested 53 per cent will be used for the direction and coordination of programs, approximately 15 per cent for trips on the charter airlift services, and the balance in connection with the review and coordination of activities such as procurement and other administrative programs.

Transportation of things - $807,000

Estimates for fiscal year 1965 are projected at a level $92,000 below fiscal year 1964 due to a reduction in the exhibits inventory, which will

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lower freight and drayage costs by $42,000, and the decline in Headquarters recruitment actions, which will reduce the requirement for movement of household goods and personal effects by $50,000. Included in the estimate is $70,000 for the support of Headquarters operations and $737,000 for NASA-wide operations.

Rents, communications and utilities - $2,054,000

Fiscal year 1965 requirements for rentals and communications are estimated at $20,000 below fiscal year 1964. The reduction is primarily the result of a $139,000 decrease in rental of electronic data processing equipment due to the planned purchase of the equipment. This decrease is offset by increased communication requirements amounting to $119,000. The following table reflects the major categories of these requirements:

	FY 1964	FY 1965	Increase or Decrease (-)
Rentals	$458,000	$319,000	-$139,000
Space.....	41,000	41,000	---
Electronic data processing equipment.....	214,000	75,000	-139,000
Other equipment.....	203,000	203,000	---
Communications	$1,616,000	$1,735,000	+$119,000
Leased lines.....	225,000	245,000	+20,000
Long distance tolls.....	443,000	443,000	---
Postage.....	490,000	500,000	+10,000
Local telephones.....	327,000	394,000	+67,000
Telegraph.....	91,000	113,000	+22,000
TWX.....	40,000	40,000	---
Totals.....	$2,074,000	$2,054,000	-$20,000

The reduction of $139,000 in electronic data processing equipment primarily reflects the proposed purchase of a system with the capability of an IBM 1410 in fiscal year 1965, to replace the IBM 1401 currently being rented. If the equipment is not purchased, an additional $208,000 for rental of the proposed system will be required. The $208,000 annual rental constitutes 24 per cent of the anticipated $881,000 purchase price.

Communication costs for leased lines, telegraph and local telephone services are estimated above fiscal year 1964 as a result of increases in General Services Administration charges for inter-system volume and for common share costs volume on each telephone station. In addition, postage costs are up $10,000 over fiscal year 1964 to fund rate increases effective January 1, 1964, for an entire year.

Of the total fiscal year 1965 estimate of $2,054,000 for rents and communications, $658,000, or more than one-third, supports NASA-wide activities in exhibits management, national recruiting, systems engineering computations, telegraph and TWX services, and postage.

Printing and reproduction - $2,396,000

Estimates for these services, from Government and commercial sources, are proposed at $23,000 below fiscal year 1964. This is the net result of a $104,000 decrease in the printing of educational publications, offset by increases of $70,000 for technical books prepared for the technical documentation program, and $11,000 in commercial photographic services to cover expansion in requirements resulting from the larger number of manned space flights scheduled in fiscal year 1965.

Government sources for printing and allied services constitute over 80 per cent of the fiscal year 1965 estimate for this area. Government printing of publications prepared under contract for the technical documentation program uses 40 per cent of the estimated fiscal year 1965 funding for this object category. As previously indicated, this aspect of the publications program is projected at fiscal year 1964 levels, with the exception of the technical books, technical reviews, and data compilations. Printing costs for educational publications are planned at a 12 per cent reduction from fiscal year 1964 levels by limiting the variety and number of publications furnished to educational organizations.

Over 90 per cent, or about $2,224,000 of the $2,396,000 estimated for fiscal year 1965 printing and reproduction services provides NASA-wide support to the educational services and technical documentation programs, public information program, provision of forms and regulations, and photographic coverage of flight projects. The remaining $172,000 supports Headquarters operations.

Other services - $22,113,000

Estimates for fiscal year 1965 reflect a net increase of $174,000 over fiscal year 1964 requirements. These are the result of the following increases and decreases:

	Increases
Documentation facility operation on full-year basis and broader coverage of technical journal literature and preparation of pertinent technical publications	$3,282,000
Total minor adjustments in other Headquarters programs and projects	331,000
Total increases	$3,613,000

	Decreases
Government-owned industrial plant maintenance.....	$951,000
Security investigations.....	570,000
Exhibits design and construction.....	500,000
Buildings maintenance and repair.....	490,000
Educational mass media services.....	245,000
Reliability and quality assurance programs and projects	127,000
Total of minor adjustments in other Headquarters programs and projects.....	556,000
Total decreases.....	$3,439,000
Net increase.....	$174,000

Analysis of increases: Almost 90 per cent, or $3,282,000 of the total increase of $3,613,000, is recommended for the technical documentation program, of which $2,500,000 is needed to finance the technical documentation facility. Of the remainder, $317,000 is required for broader coverage of research and development results reported in technical journal literature and by specialized information centers; $405,000 for preparation and dissemination of special and periodic technical publications, particularly technical reviews and books, and scientific data compilations; and $60,000 for development and improvement of technical documentation systems, methods, and techniques. The balance of the $331,000 increase is for programs, such as: management information systems, evaluation of NASA facilities design criteria, patent searching services, executive development and advanced technical project management, training programs, and reliability and quality assurance training courses.

Analysis of decreases: Of the $3,439,000 total decrease, $951,000 is for the maintenance of Government-owned industrial plants; $570,000 for security investigations for NASA personnel at Headquarters and in the field who occupy sensitive positions; $500,000 for the design and construction of exhibits for public display of NASA space flight programs; $490,000 for maintenance and repair of office buildings; $245,000 for the NASA-wide educational services program covering preparation of educational materials for motion picture, radio, and television audiences; and $127,000 for reliability and quality assurance. The remaining decrease of $556,000 covers such items as: facilities planning program; management information systems; computer programming services; electric accounting machine services for special processing of automated administrative system requirements; and certain training courses for Headquarters personnel.

Supplies and materials - $585,000

Requirements for fiscal year 1965 are estimated to be $10,000 below the fiscal year 1964 level. This covers the purchase of both expendable and non-expendable personal property as follows: pamphlets and documents for the educational services and technical documentation programs; periodical subscriptions for the law and technical libraries; office, photographic and drafting supplies.

Equipment - $11,560,000

The fiscal year 1965 estimate is $11,039,000 higher than the fiscal year 1964 plan because funds are included for the purchase of electronic computers at Headquarters and the Jet Propulsion Laboratory. The $11,231,000 requested for this purpose is partially offset by a reduction of $192,000 below fiscal year 1964 in the procurement of equipment, particularly the purchase of spacemobiles, office furniture and equipment. Of the $11,231,000 requested in fiscal year 1965 for the purchase of electronic computers, $881,000 is related to the Headquarters acquisition of equipment with a 40,000 bit memory capability to replace the presently leased IBM 1401 with a 16,000 bit memory used for administrative operations, and $10,350,000 to purchase seven medium- and large-sized computers used for scientific and engineering activities at the Jet Propulsion Laboratory. Purchase of this equipment for the Laboratory with Headquarters' funds is necessary because that facility is operated for the Government under a research and development contract and it does not have administrative operation funds which can be used for the acquisition of such equipment.

The total fiscal year 1965 estimate includes $10,454,000 for support of NASA-wide activities and $1,106,000 for Headquarters operations, as follows:

	NASA-wide	Headquarters
Electronic data processing equipment.....	$10,350,000	$881,000
All other equipment.....	104,000	225,000
Total.....	$10,454,000	$1,106,000

Insurance claims and indemnities - $2,000

It is anticipated that fiscal year 1965 experience will correspond closely to anticipated fiscal year 1964 requirements. These funds are entirely for the support of Headquarters operations.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

WESTERN OPERATIONS OFFICE

STAFFING SUMMARY

	64	65
Excepted	3	3
GS-15	11	11
GS-14	45	45
Other GS	326	326
Total	385	385

*** NASA RESIDENCY - JPL**

	64	65
GS-15	2	2
GS-14	2	2
Other GS	13	13
Total	17	17

DIRECTOR

	64	65
Excepted	2	2
Other GS	3	3
Total	5	5

NASA-O

	64	65
GS-15	2	2
GS-14	10	10
Other GS	144	144
Total	156	156

PROFESSIONAL STAFFING

	64	65
Other GS	2	2
Total	2	2

CONTRACT MANAGEMENT

	64	65
Excepted	1	1
GS-14	8	8
Other GS	41	41
Total	50	50

TECHNICAL DIVISION

	64	65
GS-15	5	5
GS-14	21	21
Other GS	43	43
Total	69	69

LEGAL DIVISION

	64	65
GS-15	2	2
GS-14	2	2
Other GS	6	6
Total	10	10

FINANCIAL MANAGEMENT DIVISION

	64	65
GS-14	1	1
Other GS	20	20
Total	21	21

EDUCATIONAL PROGRAMS

	64	65
GS-14	1	1
Other GS	2	2
Total	3	3

ADMINISTRATIVE SERVICES

	64	65
Other GS	39	39
Total	39	39

PUBLIC INFORMATION

	64	65
Other GS	6	6
Total	6	6

PERSONNEL DIVISION

	64	65
Other GS	7	7
Total	7	7

* Personnel report to the Office of Space Science and Applications, NASA Headquarters

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ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

WESTERN OPERATIONS OFFICE

MISSION AND CAPABILITIES:

The Western Operations Office represents NASA in the United States, west of Denver, and supports technical and contractual requirements placed on the Office by NASA Program Offices and field installations. The Office's responsibilities are to:

a. Provide full-time in-plant or intermittent support to NASA project managers in technical management of research and development and facilities contracts and quality assurance. Perform quality surveys of industrial plants and organizations. Technically monitor advanced technology contracts; conduct NASA quality assurance and process controls school; conduct a technology utilization program; conduct technical evaluation of patent disclosures; evaluate and issue reports on advanced research and technology in life and physical sciences in industry and universities in Southern California.

b. Enter into and administer research and development and facilities contracts as assigned by NASA installations; negotiate, administer and handle finances for pressurants and propellants contracts for West Coast NASA and contractor requirements; negotiate and administer Headquarters research contracts with industry, negotiate joint agreements with Department of Defense on overhead and independent research and development rates with contractors; conduct small business and general industry liaison; negotiate for acquisition and leasing of real estate required by NASA in California.

c. Provide a support organization at North American Aviation, Downey, California, to handle reliability and quality assurance and contract management for the Apollo and Saturn Projects at that plant.

d. Provide the administrative and management support functions to NASA and its contractors as required to carry out assignments in the fields of financial management, patent programs, legal support for contracts, including administrative and logistics support for several hundred Center personnel at various West Coast locations, and operation of the western terminus of a NASA communication network.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year...	308	390	390
Administrative operations.....	$3,449,000	$4,485,000	$5,398,000

LOCATION:

The Western Operations Office is located in Santa Monica, California. The NASA-O-Downey part of the Office is located at the plant of North American Aviation at Downey, California.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

	1963	1964	1965
11. Personnel compensation.....	$2,288,000	$3,337,000	$4,025,000
12. Personnel benefits.....	153,000	213,000	248,000
Total, personnel costs....	$2,441,000	$3,550,000	$4,273,000
21. Travel and transportation of persons.....	218,000	270,000	300,000
22. Transportation of things....	26,000	26,000	15,000
23. Rents, communications and utilities.....	418,000	341,000	441,000
24. Printing and reproduction...	13,000	13,000	24,000
25. Other services.....	228,000	190,000	226,000
26. Supplies and materials.....	61,000	60,000	94,000
31. Equipment.....	44,000	35,000	25,000
TOTAL.....	$3,449,000	$4,485,000	$5,398,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits

Personnel costs.....	$4,273,000
Positions, end of year.....	390

The mission of the Western Operations Office has been increased over a period of years to include more responsibility in the areas of procurement and contract management, quality assurance and reliability, and financial management. The result has been that more personnel have been required to perform these services. A large portion of the personnel increase has been applied at the Downey office in support of the Apollo and Saturn projects. Increased support has been provided for the functions such as propellant procurement and financial services to center personnel located on the West Coast.

The fiscal year 1965 personnel costs will increase by $723,000 over those for fiscal year 1964. This increase is due primarily to the increase of manyears over fiscal year 1964 and funding of the Civil Service pay increase, effective January 5, 1964, for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Manned Space Flight			
Gemini	2	2	2
Apollo	126	151	151
Advanced missions	1	1	1
Space Science and Applications			
Geophysics and astronomy	5	10	10
Lunar and planetary exploration	11	11	11
Launch vehicle development	3	4	4
Communications satellites	3	5	5
Advanced Research and Technology			
Basic research program	1	1	1
Space vehicle systems	1	1	1
Nuclear electric systems	8	15	15
Nuclear rockets	5	8	8
Chemical propulsion	6	10	10
Space power	1	2	2
Tracking and Data Acquisition	1	2	2
Subtotal, direct positions	174	223	223
Support personnel			
Director and staff	4	5	5
Administration	55	67	67
Research and development support	60	79	79
NASA-wide support	10	11	11
Subtotal, support positions	129	162	162
Total, permanent positions	303	385	385
Other positions:			
Positions under cooperative training agreements	---	---	---
Other temporary positions	5	5	5
Total, all positions	308	390	390

Travel and transportation of persons - $300,000

The increase of $30,000 estimated for travel is based upon the availability of the professional staff for the full-year in fiscal year 1965.

Rents, communications and utilities - $441,000

Requirements under this object class include leasing of office space through the General Services Administration. It is estimated that an area of 44,400 square feet of space will be required for fiscal year 1964 and fiscal year 1965. The total cost of this in fiscal year 1965 is $161,000 or $3.50 per square foot. $50,000 will be required for rental of EDP equipment and related services and $10,000 will be required for the rental of all other types of equipment, including copying and accounting machines.

Communications costs in fiscal year 1965 will increase $36,000 due to the additional lines to the West Coast Communications Center and the installation of the Centrex system at WOO.

Printing and reproduction - $24,000

The increase of $11,000 for printing and reproduction is primarily for the quality assurance training program and for printing of technical reports and publications.

Other services - $226,000

The increase of $36,000 is to cover the increased workload by the Army and Navy Audit Agencies in connection with the auditing of Jet Propulsion Laboratory and its subcontractors.

Supplies and materials - $94,000

The increase of $34,000 is requested for the purchase of equipment and and office supplies to support the increase in man-years in fiscal year 1965.

Other costs - $40,000

Costs for transportation of things and equipment will decrease during fiscal year 1965 because of the stabilization of personnel levels. Movement of personal household effects of new employees will be for replacements only, rather than for increased numbers of personnel, and outfitting of equipment for new employees will be completed in fiscal year 1964, leaving only replacement requirements.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ORGANIZATION AND STAFFING CHART

NORTH EASTERN OFFICE

STAFFING SUMMARY

	64	65
Excepted	2	2
GS-15	7	7
GS-14	4	4
Other GS	27	27
Total	40	40

DIRECTOR

	64	65
Excepted	1	1
Other GS	1	1
Total	2	2

TECHNICAL PROGRAMS

	64	65
Excepted	1	1
GS-15	6	6
GS-14	1	1
Other GS	6	6
Total	14	14

REGIONAL DEVELOPMENT

	64	65
GS-15	1	1
GS-14	2	2
Other GS	9	9
Total	12	12

ADMINISTRATIVE MANAGEMENT

	64	65
Other GS	8	8
Total	8	8

EDUCATIONAL PROGRAMS

	64	65
GS-14	1	1
Other GS	3	3
Total	4	4

ADMINISTRATIVE OPERATIONS

FISCAL YEAR 1965 ESTIMATES

NORTH EASTERN OFFICE

MISSION AND CAPABILITIES:

The North Eastern Office provides business and technical counseling and consultation on aerospace matters with scientific and educational institutions and with industrial, civic and government organizations; technical and administrative support of NASA programs within the region as requested by NASA installations; evaluation of the effect of the space program on, and locating for possible use in the program, the industrial, scientific and educational resources of the region; and development of appropriate and suitable methods for adapting the advancing technology evolving out of the aerospace program to other commercial and industrial applications.

The Office negotiates, monitors, administers and provides technical management support for NASA contracts, agreements, and grants within the region; provides procurement advice and assistance to potential prime and subcontractors; and obtains information on business practices, cost estimates, and similar items which relate to negotiation or administration of NASA contracts or grants. It also arranges for appropriate regional dissemination of information concerning NASA activities, and serves as the regional spokesman for NASA, developing and issuing information on NASA and the space program of particular regional interest.

In addition, the Office supports the NASA Quality Assurance Program, represents NASA Centers or Headquarters in supervision of quality assurance activities and operates a Quality Assurance Training School.

SUMMARY OF RESOURCES REQUIREMENTS:

	1963	1964	1965
Number of positions, end of year	25	40	40
Administrative operations.....	$195,000	$475,000	$595,000

LOCATION

The North Eastern Office is located in Cambridge, Massachusetts.

ANALYSIS OF RESOURCES REQUIREMENTS BY OBJECT CLASSIFICATION:

	1963	1964	1965
11. Personnel compensation.....	$109,000	$353,000	$419,000
12. Personnel benefits.....	8,000	27,000	31,000
Total, personnel costs.....	$117,000	$380,000	$450,000
21. Travel and transportation of persons	22,000	33,000	42,000
22. Transportation of things.....	1,000	3,000	3,000
23. Rents, communications and utilities.	8,000	27,000	37,000
24. Printing and reproduction.....	1,000	4,000	4,000
25. Other services.....	10,000	10,000	41,000
26. Supplies and materials.....	6,000	8,000	8,000
31. Equipment.....	30,000	10,000	10,000
TOTAL.....	$195,000	$475,000	$595,000

JUSTIFICATION BY OBJECT CLASSIFICATION:

Personnel compensation and benefits:

Personnel costs.....	$450,000
Positions, end of year.....	40

The Office carries out its responsibilities through execution of the following basic programs: technical programs consisting primarily of technical assistance and quality assurance activities, including the Reliable ElectricalConnections School, for which a staffing level of fourteen positions is planned for fiscal year 1965; regional development programs consisting of direct contract negotiation and administration and supervision of Department of Defense contract administration, pre-award surveys of prospective sources, and pricing and cost analysis assistance to NASA installations and local organizations, for which a staff of twelve positions is planned in fiscal year 1965; and educational programs consisting of regional support to the NASA Educational Program by scheduling spacemobiles, distributing films and publications, and supervising and coordinating the entire regional program, including cooperative efforts with local, state, and national organizations. A staffing level of four people is proposed for this area in fiscal year 1965. A Director's office with a staff of two people directs and coordinates implementation of these programs, and administrative support is provided by an administrative management office comprising eight positions in fiscal year 1965.

The fiscal year 1965 personnel costs will increase by $70,000 over those for fiscal year 1964. This will fund 4 more man years in fiscal year 1965, and the Civil Service pay increase effective January 5, 1964 for a full fiscal year.

Personnel Distribution

	1963	1964	1965
Direct personnel by program			
Support personnel			
Director and staff.....	2	2	2
Administration.....	6	8	8
NASA-wide support.....	16	30	30
Subtotal, support positions.....	24	40	40
Total, permanent positions.....	24	40	40
Other positions:			
Positions under cooperative training agreements.....	-	-	-
Other temporary positions.....	1	-	-
Total, all positions.....	25	40	40

Travel and transportation of persons - $42,000

The effective accomplishment of the North Eastern Office's mission requires occasional visits to other NASA installations to discuss technical program content, needs and problems and continuing personal liaison with regional industrial, educational and civic organizations for business and technical counseling and consultation on NASA programs and developments; to identify resources potentially useful to the aerospace program; and to administer and monitor existing contracts. Travel costs in fiscal year 1965 are estimated to increase by $9,000 as a result of expanded program operations.

Rents, communications and utilities - $37,000

The increase of $10,000 proposed in fiscal year 1965 is required for additional communications costs, particularly long distance toll charges and local telephone services. It is anticipated that contacts with regional organizations will increase in fiscal year 1965 particularly in the area of contract administration and technical assistance.

Other services - $41,000

The increase of $25,000 proposed in fiscal year 1965 is required for certain regional impact studies, which will provide basic data for locating the scientific, educational, and industrial resources in the region that have potential utility in the space program and for evaluating the effect of this program on those resources. The balance of the increase is for partition

movements in connection with better office space utilization and for office machine repair and maintenance.

Other costs - $25,000

Requirements for transportation of things, supplies, materials and equipment remain at the same level as in fiscal year 1964.

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