NPS Form 10-900-b
(June 1991)

OMB No. 1024-0018

cover

United States Department of the Interior
National Park Service

National Register of Historic Places Multiple Property Documentation Form

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

_X_ New Submission ___ Amended Submission

A. Name of Multiple Property Listing

Historic Cultural Resources of the
John F. Kennedy Space Center,
Florida

B. Associated Historic Contexts

(Name each associated historic context identifying theme, geographical area, and chronological period for each.)

I. Apollo Program, Kennedy Space Center, 1961-75
  A. Manned Lunar Landing Program, Kennedy Space Center, 1961-72
  B. Skylab Space Station, Kennedy Space Center, 1973-74(1979)
  C. Apollo-Soyuz Test Project, Kennedy Space Center, 1975

C. Form Prepared by

name/title Daniel Delahaye & Kimberly Hinder, Architectural Historians
organization Archaeological Consultants, Inc. date April 1997
street & number P.O. Box 5103 telephone (941)925-9906
city or town Sarasota state FL zip code 34277-5103

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. (__ See continuation sheet for additional comments.)

Kenneth M. Kumor, NASA Federal Preservation Officer — Nov. 19, 1999
Signature and title — Date

National Aeronautics and Space Administration — State
or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Signature of the Keeper — 1/21/2000
Date of Action

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Section number D Page 1

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George W. Percy, SHPO — Signature and title of certifying official

Aug. 20, 1998 — Date

Florida State Historic Preservation Office, Division of Historical Resources

State or Federal agency and bureau

**Historic Cultural Resources of the John F. Kennedy Space Center
Brevard County, FL**

E. Statement of Historic Contexts

Purpose

National Historic Site

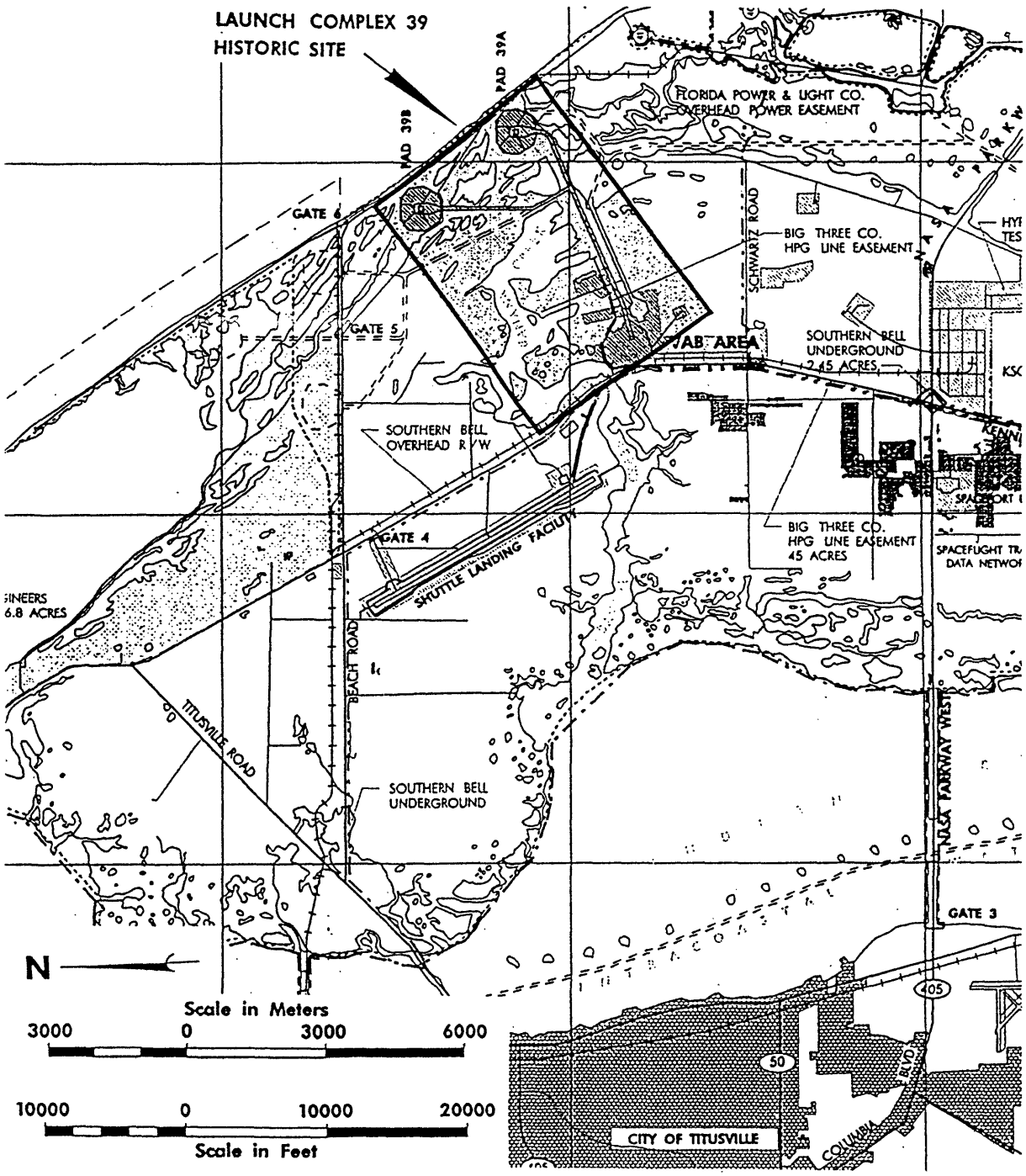
In 1973, Launch Complex 39 (LC-39) of John F. Kennedy Space Center (KSC) was listed in the National Register of Historic Places (NRHP) as a Site. The Site boundaries are shown on the accompanying map. The NRHP Site encompasses the VAB area, both Launch Pads, and the connecting Crawlerway with a current total of 322 facilities (see Section E, Pages 3-20). The Launch Complex 39 area was the first NASA site chosen for historic recognition and honors the Apollo lunar landing program. NASA requested in Solicitation No. RFP 10-95-0031 a reassessment of the existing NRHP nomination in order to integrate an ongoing consideration of the values of historic properties into NASA's projects and programs, and to comply with the National Historic Preservation Act of 1966 as amended, Executive Order 11593, the National Environmental Policy Act of 1969, the Archaeological and Historic Preservation Act of 1974, procedures developed pursuant to these authorities, and other related legislation (NASA 1992:6.1).

Summary

The Multiple Property submission, **Historic Cultural Resources of John F. Kennedy Space Center, Florida**, fulfills Criteria A, B, and/or C for listing in the NRHP. The properties included have significance for their association with events, individuals, or engineering nationally significant in the areas of space exploration, communication, architecture, engineering, and transportation. Properties eligible for listing under this cover were constructed between 1961 and 1975, and fall under the following historic subcontexts within the Apollo Program (1961-1975): Manned Lunar Landing Program, 1961-72; Skylab Space Station, 1973-1974 (1979); and Apollo-Soyuz Test Project, 1975. The Space Shuttle program was not included as a historic context in this document because the program is ongoing; therefore, it is not currently possible to properly evaluate its relative importance.

Historic Cultural Resources of the John F. Kennedy Space Center
Brevard County, FL

Figure 1. Launch Complex 39 Historic Site (NASA 1992:6.5).



Total NASA Controlled Facilities Currently Located within the 1973 National Historic Site as Enumerated in the NASA/KSC Quarterly Real Property Report - September, 1996					
Facility #	**Facility Name**	**Year Built**	**Initial Use**	**Current Primary Use**	**Remarks**
VAB Area					
J7-1388	Industrial Water Pumping Station	1965	Fluids/Gases	Same	
J7-1736	Repeater Building No. 5	1967	Instrumentation Equipment	Same	
K6-345	Surge Building No. 2	1984	Shuttle Processing	Same	
K6-445	Contractors Support Bldg No. 4	1967	Storage	POL	
K6-446	Shop/Storage Building	1967	Office, Shop & Storage	Shuttle Processing	
K6-494	Rotation/Processing Building	1984	Shuttle Processing	Same	2-200' High Overhead Cranes Hook Height
K6-495	Support Building	1984	Office	Same	
K6-496	Gate House	1985	Post Guard	Same	
K6-497	Surge Building No. 1	1984	Shuttle Processing	Same	
K6-546	Mobile Launcher Platform Refurbishment Area	1966	Same	Same	
K6-548	OIS Building	1985	Fiber Optic Com Links to LCC	Not Active	Operations Intercommunication System Bldgs Inactive/was used for MPL-3 Refurb. Project
K6-594	Clamshell No. 1	1991	Storage Shelter	Same	
K6-696	Orbiter Processing Facility High Bay 3	1987	Shuttle Processing	Same	
K6-696A	Gate House	1987	Same	Same	
K6-696B	Turnstile Shelter	---			Under construction
K6-696D	Environmental Control Bldg	---			

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
K6-742	Hazardous Waste Staging Area	1985	Storage	Same	
K6-743	Crawler/Transporter Maintenance Building	1981	Office/ Mechanical	Same	34 ft High
K6-792	Sewage Treatment Plant No. 4	1966	Same	Same	408,813 LPD; 108,000 GPD
K6-792A	Chlorine Storage Bldg.	---			
K6-792B	Sand Filter Treatment Tank	1994			
K6-793	Crawler/Transporter Service Building	1970	Office, Shop & Storage	Same	
K6-794	Thermal Protection System Facility	1988	Same	Same	
K6-794A	POL	1988	Storage	Same	
K6-799	Turnstile Shelter	1979	Badge Check Station	Same	
K6-844	ECLSS/Hydraulic Support Bldg.	1995			
K6-848	Vehicle Assembly Building	1967	Vehicle Assembly	Shuttle Processing	Crane Hook Height 472 ft.
K6-893	ECLSS/Hydraulic Support Bldg.	---			
K6-894	Orbiter Processing Facility	1977	Office, Shuttle Processing	Same	Crane Hook Height 67.6 ft.
K6-894A	Environmental Control Building East	1984	Same	Same	
K6-894B	Environmental Control Building West	1984	Same	Same	
K6-894D	OPF/GSE Storage Building	1985	Same	Same	
K6-895	Pump House	1977	Pump House	Same	OPF
K6-897	Sewage Lift Station	1966	Mechanical Room	Same	
K6-899	Turnstile Shelter	1980	Badge Check Station	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
K6-900	Launch Control Center	1965	Same	Same	
K6-900A	Battery Room	1988	Same	Same	
K6-943	Hazardous Waste Staging Area	1985	Storage	Same	
K6-946	Ground Water Storage Tank	---			*
K6-947	Utility Annex	1966	Mechanical Equipment	Same	
K6-947A	POL	1988	Storage	Same	
K6-947B	Cooling Tower	1991	Same	Same	
K6-947C	Ozone Treatment Bldg.	1993			
K6-947D	Equipment Bldg.	1994			
K6-994	Elevated Storage Tank	1966	Water Storage	Same	Capacity 250,000 Gallons
K6-995	Ground Storage Reservoir	1966	Water Storage	Same	Capacity 1,000,000 Gallons
K6-996	POL	1966	Storage	Same	
K6-996A	Water and Waste Storage Bldg	1985	Same	Same	
K6-998	Hazardous Waste Staging Bldg	1984	Storage	Same	
K6-999	Turnstile Shelter	1979	Badge Check Station	Same	
K6-1046	Storage Building	1984	POL Storage	Same	
K6-1094	Processing Control Center	1992			Under Construction
K6-1096	Operations Support Building	1990	Office	Same	
K6-1145	Multifunction Facility	1985	Food Service, Medical, Employee Service	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
K6-1145A	Equipment Shelter	1985	Mechanical, Electrical, Communication	Same	
K6-1148	Equipment Shelter	1984	Electrical	Same	
K6-1198	Fire Station	1967	Same	Same	
K6-1200K	Bus Stop Shelter	1984	Shelter	Same	
K6-1247	Launch Equipment Shop	1965	Shop & Office	Same	
K6-1298	Mission Support Building	1985	Office	Same	
K7-89	Repeater Building No. 3	1966	Instrumentation	Mech, Elec. & Comm	
K7-114	Haz Waste Staging Bldg	1995			
K7-115	Hazardous Waste Staging Bldg	1984	Same	Same	
K7-163	LH2 Storage Shed	1970	LH2 Storage	Storage	Open Shed
K7-165	Hazardous Waste Staging Bldg	1984	Storage	Same	
K7-187	MSS Park Site Electrical Interface Building	1966	Electrical Equipment	Same	
K7-188	Mobile Service Structure Park Site	1966	MSS Parksite	Alternative Crawler Maintenance Area	
K7-188A	Pump House	1969	Same	Crawler Transporter Parts	Pump Removed
K7-188B	Switching Station	1995			
K7-255	Ordnance Storage Magazine No. 1	1965	Same	Same	
K7-306	Ordnance Storage Magazine No. 2	1965	Same	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
K7-314	Drum Storage	1967	Same	Same	Open Shed
K7-356	Ordnance Storage Magazine No. 3	1965	Same	Same	
K7-367	Ammonia Boiler Refurb FAC	1993			
K7-405	Ordnance Storage Magazine No. 4	1965	Same	Same	
K7-412	High Purity Oxygen Facility	1979	Storage Pad	Same	13,500 Gallon LN2 Tank; 2,000 Gallon Nitrogen Tank
K7-412A	"K" Bottle Storage Bldg.	---			
K7-413	LO2 Storage Shed	1970	LO2 Storage	Same	Open Shed
K7-416	Operations Building No. 1	1967	Office & Shop	Same	Truck Scale
K7-416A	Operations Building No. 2	1968	Office & Shop	Fluids & Gases	
K7-416B	Propellants Support Bldg	1964	Office	Same	
K7-417	POL	1967	POL	Fluids & Gases	
K7-422	Repeater Building No.2	1965	Instrumentation Station	Same	
K7-464A	Sewage Lift Station	1967	Same	Same	
K7-464B	Sewage Blower House	1967	Same	Same	
K7-468	Converter/Compressor	1965	Fluids/Gases	Same	500,000 Gal Nitrogen Tank
K7-506	Ordnance Lab No. 1	1965	Same	Same	
K7-513	Waste Water Treatment Plant	---			
K7-514	GN2 Loading Station	1967	Fluids/Gases	Same	Open Shed
K7-515	Deionized Water Plant	1967	Same	Same	3 DM Water Tanks; 2 4,000 Gal HEL Acid/Caustic Tanks
K7-516	Propellant Lab and HP Gas Maintenance Facility	1967	Lab, Shop & Office	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
K7-517	Hazardous Waste Staging Bldg	1984	Same	Same	
K7-558	Ordnance Operations Building	1970	Office/Ordnance	Same	
K7-562	Cleaned Components & Equipment Storage Bldg	1984	Ordinance Storage	Same	
K7-563	Propellant Transporter Repair & Maintenance Shed	1967	Lab, Shop & Office	Same	2 1,850 Gal. Caustic Waste
K7-564	GN2 Charging Station	1967	Same	Same	31 GN2 Bottles
K7-565	Reclamation Plant	1966	Same	Same	20,000 Gallon Tank
K7-569	Converter/Compressor Operations Building	1967	Office & Lab	NDE Lab	
K7-569B	Hazardous Waste Staging Area	1986	Storage	Same	Open Shed
K7-569C	Haz Waste Staging Bldg.	1994			
K7-570	POL	1982	Same	Same	
K7-612	POL	1965	Same	Same	
K7-613	Hazardous Waste Staging Bldg	1984	Same	Same	
K7-614	K-Bottle Storage	1967	Hydrostatic Test Facility	Fluids & Gases	Open Shed
K7-618	Non-Destructive Evaluation Building	1984	Security Headquarters	NDE Laboratory	
K7-619	Sand and Equipment Storage Facility No. 1	1983	Equipment Storage Shed	Same	Shed Open 1 Side
K7-621	Hazardous Waste Staging Area	1985	Storage	Same	Open Shed
K7-709	Repeater Building No. 1	1965	Instrumentation Station	Same	
K7-853	High-Pressure Gas Storage Building	1965	Same	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
K7-901	Material Destruction Building	1985	Same	Same	Used for shredding documents; 2 large paper shredders installed
K7-902	Bus Stop Shelter	1985	Shelter	Same	
K7-1005	Barge Terminal Facility	1965	Same	Same	
K7-1052	Helipad	1981	Landing Pad	Same	
K7-1203	Emergency Generator Bldg	---			*
K7-1205	Grandstand	1967	Same	Same	Press Site
K7-1205A	Communications Control Bldg	1967	Same	Same	Press Site
K7-1205B	Cable Terminal Building	1967	Same	Same	Press Site
K7-1205C	Transformer Building	1967	Same	Same	Press Site
K7-1205F	News Facility	1980	Press Work Area	Same	Press Site
K7-1206	Rest Rooms (Press Site)	1993			
K7-1207	NASA News Center	1996			
---	Mobile Launcher Platform #1	1967			
---	Mobile Launcher Platform #2	1967			
---	Mobile Launcher Platform #3	1967			
Contractors Road Area					
K6-1347	Hazardous Waste Staging Area	1985	Storage	Same	
K6-1397A	Sandblast Shop	1983	Same	Same	
K6-1399	Clamshell No. 2	1991	Storage Shelter	Same	
K7-1557	Instrumentation Building	1965	Mech, Elec, & Com. Workshops	Same	
K7-1557A	Generator Building	1965	Same	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
Launch Complex 39A					
J8-1462	High Pressure GH2 Facility	1968	Bottle Storage	Same	4 Rows of 18 Ea, Total of 1,600 SCF Water Volume
J8-1502	LOX Facility	1968	LO2 Storage	Same	Capacity 900,00- Gal. (3,405,960 L)
J8-1503	Operations Support Building A-1	1966	Shop	Same	
J8-1503A	Storage Building	1996			*
J8-1512	Camera Site No. 1	1966	Instrumentation Site	Same	
J8-1513	LH2 Facility	1966	LH2 Storage	Same	Capacity 900,000 Gal. (3,405,960 L)
J8-1553	Electrical Equipment Bldg No. 2 (LOX)	1965	Electrical Equipment	Same	
J8-1554	Camera Pad No. 6	1965	Instrumentation Station	Same	
J8-1563	Electrical Equipment Bldg. No. 1 (RP-1)	1965	Electrical Equipment	Same	
J8-1564	Foam Building	1965	Equipment Bldg	Storage	
J8-1565	Pump House (RP-1)	1964	Pump House	Storage	Railway Tanker Offloading
J8-1610	Water Tank	1980	Fire & Launch Deluge (H^20)	300,000 Gal. Storage Tank	
J8-1611	Flarestack	1985	Same	Same	
J8-1613	RP-1 Facility	1965	Mechanical Equipment	Storage	
J8-1614	Operations Support Bldg A-2	1966	Shop	Same	
J8-1659	Compressed Air Building	1965	Mechanical Equipment	Same	
J8-1659A	Equipment Shelter	1995			

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
J8-1703	Slidewire Termination Facility	1965	Camera Pad	Escape Route for Personnel	Bunker
J8-1705	Sewage Treatment Plant No. 5	1965	Same	Same	57,000 GPD (215,711 LPD) with Addition
J8-1705A	Sewage Lift Station	1965	Mechanical Equipment	Same	
J8-1705B	Sewage Equipment Building	1965	Mechanical Equipment	Same	
J8-1707	Water Chiller Building	1968	Mechanical Equipment	Same	
J8-1708	Launch Pad 39A	1965	Same	Same	Offices, Shops & Storage
J8-1708H	Rain Shelter	1985	Same	Same	
J8-1714	Camera Pad No. 2	1965	Instrumentation Station	Same	
J8-1753	Remote Air Intake Building	1965	Mechanical	Same	
J8-1768	Environ Control & Life Supp Sys	1995			
J8-1811	Electrical Equipment Building No. 3 (Oxidizer)	1979	Electrical Equipment	Same	
J8-1821	IFLOT Camera Site No. 1	1988	OTV Support Site	Same	
J8-1856	Electrical Equipment Building No. 4 (Fuel)	1979	Electrical Equipment	Same	
J8-1858	Azimuth Alignment Station	1965	Instrumentation Station	Storage	
J8-1862	Hypergol Oxidizer Facility	1979	Oxidizer Facility	Same	
J8-1862A	Storage Building	1996			*
J8-1906	Hypergol Fuel Facility	1979	Fuel Facility	Same	
J8-1906A	Storage Building	1996			*

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
J8-1956	Camera Pad No. 4	1965	Instrumentation Station	Same	
J8-1959A	Rain Shelter	1985	Shelter	Same	Open Shed
J8-1959B	Rain Shelter	1985	Shelter	Same	Open Shed
J8-1961	Camera Pad No. 3	1965	Instrumentation Station	Same	
J8-2008	Gate House	1994			
J8-2009	Operations Building No. 1	1977	Personnel Office	Same	
J8-2010	Sewage Treatment Plant No. 8	1978	Sewage Treatment	Same	
J8-2059	Rechlorination Building	1996			
J8-2204	Repeater Building No. 4	1965	Instrumentation Station	Same	
Launch Complex 39B					
J7-132	Operations Support Bldg B-1 (RP-1)	1967	Office & Shop	Same	
J7-140	High Pressure GH2 Facility	1967	High Pressure Gas Facility	Same	72 Tanks, Total 1,600 SCF; Water Volume 11,969 Gal.
J7-182	LOX Facility	1968	LO2 Facility	Same	900,000 Gal.
J7-183	Camera Pad No. 6	1968	Instrumentation Site	Same	
J7-191	Camera Pad No. 1	1968	Instrumentation Site	Same	
J7-192	LH2 Facility	1968	LH2 Facility	Same	900,000 Gal.
J7-231	Electrical Equipment Bldg No. 2 (LOX)	1967	Launch Equipment	Same	
J7-240	Flarestack	1985	Same	Same	

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
J7-241	Electrical Equipment Bldg No. 1 (RP-1)	1968	Electrical Bldg	Same	
J7-242	Foam Building	1968	Launch Equipment	Same	
J7-243	Operations Support Bldg B-2 (LOX)	1967	Office & Shop	Same	
J7-286	Environ Control & Life Supp Sys	1995			
J7-288	Water Tank	1981	Firex and Launch Deluge Water	Same	300,000 Gal; 295 ft. Height
J7-292	RP-1 Facility	1968	Mechanical Bldg	Same	Equipment Removed
J7-331	Slidewire Termination Facility	1967	Camera Pad	Escape Route for Personnel	
J7-337	Launch Pad 39B	1967	Same	Same	Office, Shops & Storage
J7-337G	Rain Shelter	1985	Shelter	Same	Open Shed
J7-338	Compressed Air Building	1967	Mechanical Equipment Bldg	Same	
J7-338A	Equipment Shelter	1995			
J7-342	Camera Pad No. 2	1967	Instrument Site	Same	
J7-384	Sewage Treatment Plant No. 6	1967	Same	Same	Capacity with Addition 57,000 GPD
J7-384A	Sewage Lift Station	1967	Same	Same	
J7-384B	Sewage Equipment Building	1967	Same	Same	
J7-385	Water Chiller Building	1968	Mechanical Equipment Bldg	Same	
J7-432	Remote Air Intake Building	1968	Mechanical Equipment Bldg	Same	
J7-490	Hypergol Oxidizer Facility	1981	Oxidizer Facility	Same	Open Shed

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
J7-491	Electric Equipment Building No. 3 (Oxidizer)	1981	Electrical Equipment Bldg	Same	Equipment Building
J7-534	Hypergol Fuel Facility	1981	Fuel Facility	Same	Open Shed
J7-535	Electric Equipment Building No. 4 (Fuel)	1981	Electrical Equipment Bldg	Same	Equipment Building
J7-537	Azimuth Alignment Station	1967	Instrumentation Station	Unusable	
J7-584	Camera Pad No. 4	1968	Instrumentation Station	Same	
J7-588	Communications Building	1985	Mech, Elec & Com	Same	
J7-589	Camera Pad No. 3	1968	Instrumentation Station	Same	
J7-637A	Rain Shelter	1985	Shelter	Same	Open Shed
J7-637B	Rain Shelter	1985	Shelter	Same	Open Shed
J7-686	Gate House	1994			
J7-688	Operations Building No. 1	1978	Personnel Office	Same	
J7-986	Repeater Building No.6	1967	Instrumentation Equipment	Same	
Miscellaneous Facilities					
J6-2025	Rest Rooms (Banana Creek Viewing Area)	1988	Rest Rooms	Same	
J6-2377	Contractor Support Building No. 7	1963	Shop	Same	
J7-1339	Emergency Response Building	1991	Same	Same	
J7-1387	Ground Water Storage Tank	---			*

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
J7-1389	Ground Water Storage Tank	---			*
J7-2112	Mobile Equipment Pneumostat Area	1966	Instrumentation Equipment	Testing	Transferred from CCAFS 11/24/71
J7-2112A	Electrical Equipment Bldg	1994			
J8-755	Tour Bus Pad Viewing Area	1986	Camera Pad	Viewing Area	
J8-1567	Cable Terminal Building	1967	Communications Equipment	Same	
Temporary Buildings					
J7-243A	Temporary Building No. 35	1984	Operational	Same	2 Boxcars
J7-337A	Temporary Building No. 30	1984	Office	Same	15 Boxcars
J7-337B	Temporary Building No. 31	1984	Office	Same	15 Boxcars
J7-337C	Temporary Building No. 32	1984	Office	Same	7 Boxcars
J7-337D	Temporary Building No. 33	1984	Office	Same	6 Boxcars
J7-337E	Temporary Building No. 34	1984	Office	Same	3 Boxcars
J7-337F	Temporary Building No. 37	1985	Storage	Same	9 Boxcars
J7-337H	Temporary Building No. 68	1982	Office	Same	8 Boxcars
J7-1388A	Temporary Building No. 38	1985	Storage/Office	Same	2 Boxcars
J8-1708A	Temporary Building No. 1	1981	Office	Same	19 Boxcars
J8-1708B	Temporary Building No. 2	1981	Office	Same	12 Boxcars
J8-1708C	Temporary Building No. 3	1981	Office	Same	10 Boxcars
J8-1708D	Temporary Building No. 4	1981	Office	Same	4 Boxcars
J8-1708E	Temporary Building No. 5	1981	Office	Same	2 Boxcars
J8-1708F	Temporary Building No. 6	1983	Office	Same	2 Boxcars

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
J8-1708G	Temporary Building No. 7	1983	Office	Same	2 Boxcars
J8-1708I	Temporary Building No. 69	1982	Office	Same	9 Boxcars
K6-744	OPF Modular Office Building	1986	Office	Same	
K6-1200A	VAB Office Modular Building	1984	Office	Same	
K6-1200B	VAB Office Modular Building	1984	Office	Same	
K6-1200C	VAB Office Modular Building	1984	Office	Same	
K6-1200D	VAB Office Modular Building	1984	Office	Same	
K6-1200E	VAB Office Modular Building	1984	Office	Same	
K6-1200F	VAB Office Modular Building	1984	Office	Same	
K6-1200G	VAB Office Modular Building	1983	Office	Same	
K6-1200H	VAB Office Modular Building	1983	Office	Same	
K6-1200I	Temporary Building No. 14	1982	Office	Same	24 Boxcars
K6-1200J	Temporary Building No. 13	1982	Office	Same	20 Boxcars
TRM-002	Temporary Building No. 9	1981	Office	Same	6 Trailers
TRM-019	Temporary Building No. 36	1984	Office	Same	8 Trailers
TRM-021	Temporary Building No. 40	1972	Office	Same	2 Trailers
TRM-022	Temporary Building No. 41	1982	Services	Same	2 Trailers
TRM-023	Temporary Building No. 42	1982	Office	Same	2 Trailers
TRM-024	Temporary Building No. 43	1982	Office	Same	2 Trailers
TRM-025	Temporary Building No. 44	1985	Office	Same	2 Trailers
TRM-031	Temporary Building No. 50	1987	Office	Same	2 Trailers
TRM-033	Temporary Building No. 52	1987	Office	Same	2 Trailers

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
TRM-034	Temporary Building No. 53	1987	Office	Same	2 Trailers
TRM-035	Temporary Building No. 54	1984	Office	Same	2 Trailers
TRM-050	Temporary Building No. 67	1988	Office	Same	2 Trailers
TRM-051	Temporary Building No. 72	1991	Office	Same	2 Trailers
Trailers					
TR1-067	Pacemaker	1963			
TR1-081	Pacemaker	1963			
TR1-091	Pacemaker	1963			
TR1-252	Karson	1966			
TR1-376	King's Custom	1981			
TR1-408	Touchton (Boxcar)	1980			
TR1-427	Southern	1981			
TR1-428	Southern	1981			
TR1-434	Triple "A" Custom	1978			
TR1-435	Triple "A" Custom	1978			
TR1-436	T&R Custom	1978			
TR1-437	Triple "A" Custom	1978			
TR1-441	Triple "A" Custom	1978			
TR1-442	Triple "A" Custom	1978			
TR1-475	Touchton (Boxcar)	1982			
TR1-476	Touchton (Boxcar)	1982			
TR1-482	Southern Office Mfg.	1982			

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
TR1-484	Hilborn, Warner, Carter	1980			
TR1-485	Hilborn, Warner, Carter	1980			
TR1-486	Hilborn, Warner, Carter	1981			
TR1-487	King's Custom	1982			
TR1-501	Boxcar	1982			
TR1-510	Boxcar	1982			
TR1-592	Southern	1981			
TR1-593	Triple "A" Custom	1981			
TR1-598	Southern	1981			
TR1-607	Custom Craft	1983			
TR1-610	Boxcar	1983			
TR1-611	Boxcar	1983			
TR1-612	T&R Custom	1979			
TR1-613	T&R Custom	1982			
TR1-614	T&R Custom	1982			
TR1-617	Coastal Building Systems	1983			
TR1-618	Coastal Building Systems	1983			
TR1-619	Coastal Building Systems	1983			
TR1-625	Coastal Building Systems	1983			
TR1-691	Boxcar	1985			
TR1-692	Modulaire	1984			
TR1-697	King's Custom	1983			

Facility #	Facility Name	Year Built	Initial Use	Current Primary Use	Remarks
TR1-698	King's Custom	1983			
TR1-699	King's Custom	1983			
TR1-702	King's Custom	1984			
TR1-703	Systems Craft	1985			
TR1-707	King's Custom	1985			
TR1-708	Delco	1985			
TR1-709	Boxcar	1985			
TR1-710	Boxcar	1985			
TR1-711	Boxcar	1985			
TR1-714	King's Custom	1984			
TR1-715	Southern	1982			
TR1-720	Triple "A" Custom	1984			
TR1-722	King's Custom	1984			
TR1-723	Triple "A" Custom	1987			
TR1-724	Coastal Building Systems	1987			
TR1-732	Unknown	1986			
TR1-743	Coastal Building Systems	1990			
TR1-744	Coastal Building Systems	1990			
TR1-754	Diamond	1986			
TR1-755	Diamond	1986			
TR1-756	Diamond	1987			
TR1-757	Design	1984			

* not graphically depicted in NASA/KSC Quarterly Real Property, September 30, 1996.

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**Historic Cultural Resources of the John F. Kennedy Space Center
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Kennedy Space Center

Historically, KSC functioned as the major NASA launch facility for manned and unmanned space missions. Prior to KSC, space missions originated from Cape Canaveral Air Force Station (CCAS)(formerly known as the Cape Canaveral Air Force Station and Cape Kennedy Air Force Station). The space program has progressed through four major phases: Mercury, Gemini, Apollo, and the Space Shuttle. Three major sub-phases of the Apollo period include the Manned Lunar Landing Program, Skylab, and the Apollo-Soyuz Test Project. Mercury, Gemini, and a few of the first Apollo missions launched from CCAS. The remainder of the missions flew from KSC.

As the lead space center, KSC presently launches manned space vehicles, unmanned planetary spacecraft, and scientific, meteorological, and communications satellites. It also serves as a launch site for the reusable Space Shuttle, which has opened a new era in space transportation.

The KSC mission includes the planning and directing of space vehicle assembly, preflight preparation of space vehicles and their cargo, test and checkout of spacecraft and facilities, coordination of tracking and data acquisition requirements, countdown and launch operations, landing operations, and refurbishment of the Space Shuttle for future missions. A host of technical and administrative functions, including design engineering, safety, quality assurance, documentation, supply, maintenance, computer operations, and communications are required to support the KSC's primary mission (NASA n.d.:2; Butowsky 1981:11). The features of KSC, therefore, constitute an invaluable resource for illustrating the history and evolution of space flight.

Historical Background

In October 1949, President Harry S Truman established the Joint Long Range Proving Ground (currently known as the Air Force Eastern Test Range), a vast overwater military rocket test range that now extends over 5,000 miles down the Atlantic Coast from CCAS to Ascension Island (NASA n.d.:5).

CCAS was ideal for testing missiles. Virtually uninhabited, it enabled personnel to inspect, fuel, and launch missiles without danger to nearby communities. The area's climate also permitted year-round operations. The

first launch from CCAS was conducted by a military-civilian team on July 24, 1950. The rocket, a modified German V-2 with an attached upper stage, attained an altitude of 10 miles (NASA n.d.:5).

By the late 1950's, the military services had elevated their sights from missile testing to launching artificial satellites. On January 31, 1958, America's (and the free-world's) first satellite - Explorer I - was launched from CCAS by a military-civilian team of the Army's Missile Firing Laboratory (MFL). This group, under the direction of Kurt H. Debus, a key member of the famed Wernher von Braun rocket team, later formed the nucleus of KSC (NASA n.d.:6).

With the creation of NASA in October 1958, the nation turned its attention to the peaceful exploration of space. NASA became a resident of Cape Canaveral in 1958 when the MFL, then working on the Saturn rocket project managed by Kurt Debus, was transferred to NASA. Several Army facilities at CCAS were given to NASA including Launch Complexes 5, 6, 26, and 34, various offices, and hangars. The MFL was renamed the Launch Operations Directorate (LOD) and became a branch office of the Marshall Space Flight Center (MSFC). The Saturn project continued as a civilian operation (NASA 1992:3.1).

I. Apollo Program 1961-1975

On May 25, 1961, President John F. Kennedy proposed the following historic goal before a joint session of the Congress:

> Now is the time to take longer strides--time for a great new American enterprise, time for this nation to take a clearly leading role in space achievement, which in many ways may hold the key to our future on Earth...I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to the Earth (Butowsky 1981:4).

When President Kennedy initiated the Man-to-the-Moon project, CCAS land was insufficient to house further rocket facilities. New land was required to support expanded launch structures. Merritt Island, an undeveloped area west and north of the Cape, was investigated along with eight other sites in Florida, Georgia, Texas, the Bahamas, Hawaii, and New Mexico. The Merritt

Island site won this competition and in 1961 the Merritt Island Launch Area (MILA) was born (NASA 1992:3.1).

In 1961, NASA requested from Congress authority to purchase 125 square miles of property. This was formally granted in 1962. The U.S. Army Corps of Engineers (COE) acted as agent for purchasing land. COE officials began purchasing land early in 1962 and continued to purchase land for 2 ½ years. NASA began gaining title to the land in late 1962, taking over 80,000 acres by outright purchase. Negotiations with the State of Florida provided submerged lands, resulting in the acquisition of property identified on the original Deed of Dedication. Much of the State-provided land was located south of the old Haulover Canal and north of the Barge Canal. The purchase of KSC land included several small towns, such as Orsino, Wilson, Heath, and Audubon, many farms, citrus groves, and several fish camps (NASA 1992:3.1).

An Air Force request in 1962 for space to install new Titan rocket facilities (Complexes 40 and 41) at the south end of NASA's newly purchased land, prompted a re-evaluation of the total land buy. Negotiations between NASA and the Air Force resulted in purchasing another 59.6-square kilometers (23-square miles) of land in 1963, lying north and east of Old Haulover Canal including the towns of Allenhurst and Shilo. This land was purchased by the COE with Air Force money in compensation for 347 acres taken by CCAS for the two Titan launching facilities. Total holdings of KSC-owned land increased to 219.9-square miles. The State of Florida provided an additional 87.7-square miles bringing the total of donated submerged land to 55,795 acres (NASA 1992:3.1).

The American program to put a man in space and land on the moon now proceeded rapidly. As the LOD responsibilities grew, NASA granted the LOD independent status in July 1962 and renamed it the Launch Operations Center (LOC). In 1963, the LOC and MILA were renamed John F. Kennedy Space Center to honor the late President (Butowsky 1981:5).

The space program was organized into three phases-Projects Mercury, Gemini, and Apollo. Project Mercury, the manned space program that had been initiated in 1958, was executed in less than five years. The primary objectives of the project were to place a manned spacecraft in orbital flight around the earth, to investigate man's performance capabilities in a weightless environment and his ability to function in space, and to safely recover both man and spacecraft. Begun in 1964, Project Gemini was the

intermediate step toward achieving a manned lunar landing, bridging the gap between the short-duration Mercury flights and the long-duration missions proposed for the Apollo program. Major objectives of Project Gemini included demonstration that man can perform effectively during extended periods in space both within and outside the protective environment of a spacecraft, development of rendezvous and docking techniques, and perfection of controlled reentry and landing procedures. Projects Mercury and Gemini launched exclusively from CCAS. The Apollo program, initiated in 1961, consisted of three phases: Manned Lunar Landing Program, Skylab Space Station, and Apollo-Soyuz Test Project(Butowsky 1981:5).

A. Manned Lunar Landing Program, Kennedy Space Center, 1961-72

Apollo, the largest and most ambitious of the manned space programs, had as its goal the landing of astronauts on the moon and their safe return to earth. Providing the muscle to launch the spacecraft was the Saturn family of heavy vehicles. Saturn IB rockets were used to launch the early unmanned Apollo test flights and the first manned flight, Apollo 7, which carried astronauts on a ten-day earth orbital mission (Butowsky 1981:5).

Three different Launch Vehicles were used in Apollo: Saturn I, Saturn IB and Saturn V. Three different launch complexes were involved, LC-34 and LC-37 on CCAS, and LC-39 on KSC. Only LC-39 is still active. Altogether, 32 Saturn flights occurred (seven from LC-34, eight from LC-37, and 17 from LC-39, including Skylab and the Apollo-Soyuz Test Project) during the Apollo era. Of 32 total, 15 were manned. Of seven attempted lunar landing missions, six were successful. No major Launch Vehicle failures of either Saturn IB or Saturn V occurred. There were two major command/service module (CSM) failures, one on the ground (Apollo 1) and one on the way to the Moon (Apollo 13) (Anon. 1994:82).

Apollo 4 served as the first Saturn V launch and the first launch from LC-39 at KSC. An unmanned mission, Apollo 4 occurred on November 9, 1967. On July 21, 1969, the goal of landing a man on the moon was achieved when Apollo 11 astronauts Armstrong, Aldrin, and Collins successfully executed history's first lunar landing. Armstrong and Aldrin walked on the surface of the moon for 22 hours and collected 21 kg of lunar material. Apollo 17 served as the first night launch in December 1972. An estimated 500,000 people saw the liftoff which was the final launch of the Apollo lunar landing program (Anon. 1994:86-90).

B. Skylab Space Station 1973-1974 (1979)

Skylab served as an early type of space station and was an application of the Apollo program. It was the largest habitable structure ever placed in orbit, with 12,700 cu ft of work and living space. Skylab was 117 ft long, 90 ft wide across its solar panels, and had a mass of 199,750 lb with the CSM attached. The station achieved several objectives: scientific investigations in earth orbit (astronomical, space physics, and biological experiments); applications in earth orbit (earth resources surveys); and long-duration spaceflight. Both Saturn V and Saturn IB were used. Skylab 1 orbital workshop was inhabited in succession by three crews launched in modified Apollo CSMs (Skylab 2, 3 and 4). The crews traveled 70.5 million mi, circled earth 2,476 times, lived in space for 171.5 days, spending more than 3,000 hours conducting experiments. Data returned included 175,047 frames of solar observation film and 46,146 frames of earth observation film. Actively used until February 1974, Skylab 1 remained in orbit much longer, until July 11, 1979, when it re-entered earth's atmosphere over the Indian Ocean and western Australia after completing 34,181 orbits (Anon. 1994:91.; NASA 1980:V-32).

C. Apollo-Soyuz Test Project 1975

The Apollo-Soyuz Test Project (ASTP) is significant as the first international rendezvous and docking in space. It was the final application of the Apollo program. The ASTP was the first major cooperation between the only two nations engaged in manned space flight. As the first meeting of two manned spacecraft of different nations in space, first docking, and first visits by astronauts and cosmonauts into the others' spacecraft, the ASTP was highly significant. The ASTP established workable joint docking mechanisms, taking the first steps toward mutual rescue capability of both Russian and American manned missions in space (Anon. 1994:96).

This five-year program was conducted to establish space rescue techniques for the USA and USSR, conduct scientific experiments, and study the feasibility of more ambitious joint programs in the future. The Soyuz lifted off first, at 08:20 on July 15, 1975, and entered orbit. The countdown went smoothly at KSC, and liftoff was on time. The astronauts turned the Apollo spacecraft around in space and docked with the docking module attached to the SIV-B stage. The Apollo then "chased" the Soyuz in orbit, docking with it at rendezvous July 17 at 12:10 EDT. The two spacecraft remained attached,

conducting joint experiments and meals, and holding press conferences with the news media of the world, until undocking at 08:12 on July 19. The spacecraft then docked again, for practice, at 08:34 and separated at 11:27 for the last time. Soyuz landed in Russia at 18:48 EDT on July 21. The Americans stayed aloft for three more days, conducting a series of experiments. They landed in the Pacific Ocean at 17:18 EDT. The astronauts failed to turn on the Earth Landing System at the correct time, resulting in some gas entering the spacecraft, but the crew was not hurt. The ASTP proved that American and Russian space programs could cooperate and perform joint missions in space. All major objectives were achieved (NASA 1980:V-36).

Following completion of the Apollo-Soyuz Test Project in 1975, the facilities of KSC were modified to support the nation's newest launch vehicle - the reusable Space Shuttle.

Future Context: Space Shuttle Program 1979-Present

In order for NASA to continue the exploration and utilization of space on a permanent basis, a more economical way to reach orbit was urgently needed. This had become apparent well before the end of the Apollo era, and work had started on a new type of space vehicle. This became the Space Shuttle, where the reusable Orbiter resembled an airplane and, like one, could fly again and again - for a planned minimum life of at least 100 missions (NASA n.d.:26).

The Space Shuttle required a new philosophy of operations. No longer would a vehicle be prepared for a single flight. In the future, the same vehicle would return again and again to KSC, to be processed and launched once more (NASA n.d.:26).

The Space Shuttle was very different from the Apollos and Saturns, and it was far more sophisticated and technically complex. It was designed, tested and built with limited funds. To help keep costs down, KSC engineers adapted the Apollo launch facilities, rather than building all new ones. The huge VAB was converted to handle Shuttle components. Two of the three Mobile Launchers used for the Saturns were modified to stack and carry the new vehicle, and LC-39 Pads A and B were given new above-ground configurations (NASA n.d.:26).

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The Mobile Service Structure, named in the original nomination, was no longer necessary and, consequently, was demolished (Photographs 1 and 3). The Rotating Service Structure (RSS) was created for the Shuttle and located (one each) on Pads A and B in order to provide protection to the Orbiter and access to the cargo bay for installation and servicing of payloads (Photograph 4). The three Launch Umbilical Towers (LUTs) cited in the 1973 NRHP nomination were drastically modified to serve the needs of the new vehicle type (Photograph 2). Major modifications consisted of removing each Umbilical Tower from its two-story steel Launch Platform (Butowsky 1981:54-55; NASA n.d.:26; NASA 1974:9-87).

Two of the Umbilical Towers were modified and affixed (one each) to the built-up portion of each Pad where they are known as Fixed Service Structures (FSSs)(Photograph 4). Their re-utilization required the removal of select Tower arms, the 25 ton Hammerhead Crane, and lower Work Platforms. The third Tower, from which launched the first successful lunar landing mission, was disassembled and removed to a site in the Industrial Area (Photgraph 5). More recently, several portions, including select Platforms and the Hammerhead Crane, have been removed for use elsewhere on KSC grounds as part of an interpretive exhibit. Major modifications to the three LUT Launch Platforms included relocating holddown points and exhaust holes on the Platform and removing or modifying systems in order to stack and carry Space Shuttles. Each was renamed a Mobile Launcher Platform. Each major LUT component has undergone a transition in use requiring modification of their Apollo era configuration and, thus, their integrity is no longer intact (NASA 1974:9-87).

Some new facilities were mandatory. A three-mile-long landing strip was one of the first constructed. The Orbiter would land at KSC after enough landing experience had been gained on the extra-long dry lake beds at Edwards Air Force Base, California. A large, highly specialized two-bay building called the Orbiter Processing Facility (OPF) was constructed near the VAB. Spacecraft checkout and assembly facilities were modified to process and integrate a large number of payloads each year. Many other modifications were required. This rebuilding and conversion process became the main activity at KSC during the years following the Apollo-Soyuz flight (NASA n.d.:27).

The first Orbiter intended for space flight, Columbia, arrived at KSC in March 1979. A great deal of work remained to be done. Both KSC and Johnson

Space Center (the lead design agency) were very busy for the next 610 days in the OPF. They had to perform the remaining assembly work and a series of major modifications. The Orbiter then spent another 35 days in the VAB and 105 days on Pad A, before finally lifting off on April 12, 1981. John Young and Robert Crippen became the first two astronauts to enter orbit in a reusable spacecraft, and to land it like an airplane at the end of the mission (NASA n.d.:27).

By 1986, NASA was approaching a goal of 12 to 13 Shuttle launches a year, using a fleet of four orbiters - Columbia, Challenger, Discovery, and Atlantis. Then, on January 28, tragedy struck. The Orbiter Challenger and its crew were lost during launch (NASA n.d.:30).

The Space Shuttle had just started to fulfill its promise of frequent and economical access to orbit. A large variety of scientific and commercial spacecraft had been launched from it. One expensive scientific spacecraft had been repaired in orbit, and two large commercial satellites were recovered from improper orbits and returned to the ground (NASA n.d.:30).

There was a 32-month hiatus in manned spaceflight before the next Space Shuttle lifted off, on September 29, 1988. The problem in the design of the Solid Rocket Boosters (SRBs) that had caused the loss of Challenger had been found and corrected. Many other critical flight systems had been re-examined and recertified. The unique checkout and launch facilities at KSC, and the detailed procedures and software that determined their operation, had all been reviewed and improved where necessary. Every effort had been made to ensure the safety of the crew and vehicle, and the mission was fully successful (NASA n.d.:30).

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List of Photographs

1. Mobile Service Structure, Crawler
2. Brevard County, Florida
3. Kennedy Space Center
4. July 1966
5. Kennedy Space Center
6. Mobile Service Structure on Crawler (KSC-66C-6479)
7. 1 of 5

1. Launch Umbilical Tower
2. Brevard County, Florida
3. Kennedy Space Center
4. March 1966
5. Kennedy Space Center
6. Launch Umbilical Tower (KSC-66-3980)
7. 2 of 5

1. Launch Umbilical Tower, Mobile Service Structure, Missile Crawler Transporter Facility
2. Brevard County, Florida
3. Kennedy Space Center
4. January 1973
5. Kennedy Space Center
6. Saturn IB aboard the Launch Umbilical Tower at LC-39B - the Mobile Service Structure and a Missile Crawler Transporter Facility are located to the left (KSC-73PC-19)
7. 3 of 5

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List of Photographs

1. Space Shuttle Columbia, Launch Platform, Missile Crawler Transporter Facility, Rotating Service Structure, Fixed Service Structure
2. Brevard County, Florida
3. Kennedy Space Center
4. July 1989
5. Kennedy Space Center
6. Space Shuttle Columbia aboard Mobile Launcher Platform and Missile Crawler Transporter Facility at LC-39B - the Rotating Service Structure (far left) and Fixed Service Structure (left) are located left of the Shuttle (KSC-89P-660)
7. 4 of 5

1. Launch Umbilical Tower
2. Brevard County, Florida
3. Daniel Delahaye & Kimberly Hinder
4. September 1996
5. Archaeological Consultants, Inc.
6. Disassembled Launch Umbilical Tower
7. 5 of 5

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F. Associated Property Types

Property Type: F.1

1. Name of Property Type: Resources Associated with Transportation

2. Description: Roadways, bridges, Crawlerways, parking, railways, runways, helipads, and waterways comprise most of the transportation facilities found at KSC. Special use vehicles constructed and/or modified to support the mission and launch operations are also part of the transportation network. Special use vehicles include Payload Transporters, Crawlers, trains, aircraft and watercraft which utilize the transportation pathways. Many existing transportation resources were constructed prior to the first manned launch of the Apollo program and were essential in support of each subcontext as defined in Section E. Apollo era transportation resources were modified and supplemented as required to accommodate the needs of the ongoing Space Shuttle program.

3. Significance: The historic transportation resources of KSC possess significance under NRHP Criteria A, B, and/or C on the national level. Those significant under Criterion A have important associations with the Apollo program and were essential to its successful completion. Those eligible under Criterion B are recognized for their association with significant individuals who made contributions toward a resource essential to the Apollo program or for which the resource is illustrative. Transportation resources at KSC that are eligible for listing under Criterion C represent examples of mission driven engineering necessary to meet the specific needs of the Apollo program. A number of transportation resources located at KSC were tailored to facilitate launch processing and vehicle operations. Therefore, they played a major role in space exploration and national history.

4. Registration Requirements: In order to qualify for listing, transportation resources must have been used by NASA at KSC for the transportation of objects associated with Apollo missions. All qualified properties must meet one or more of the Criteria stated in F.1.3 and retain enough integrity to communicate relative significance.

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Property Type: F.2

1. Name of Property Type: Launch Processing Facilities

2. Description: Launch processing facilities include those resources which are vital to the preparation of the Launch Vehicle for its mission. Launch processing facilities at KSC administer such operations as assembly, testing, checkout, and protective storage for Launch Vehicles. Those processing facilities which are eligible for the NRHP were essential in support of the Apollo program and subcontexts as defined in Section E. Existing launch processing facilities have been built throughout the Apollo and Space Shuttle programs. Apollo era launch processing facilities were modified as required to accommodate the continuing needs of the Space Shuttle program.

3. Significance: The launch processing facilities of KSC possess significance under NRHP Criteria A, B, and/or C on the national level. To be eligible under Criterion A, the resources must have an important association with the Apollo program and have been essential to its operation. Those eligible for listing under Criterion B are recognized for their association with significant individuals who made contributions toward a resource essential to the Apollo program or for which the resource is illustrative. Those launch processing facilities which are eligible under Criterion C must represent fine examples of engineering or architecture which were required to fulfill the mission of the Apollo program. Launch processing facilities were specifically designed for processing the launch vehicle and therefore, played a major role in space exploration and national history.

4. Registration Requirements: In order to qualify for listing launch processing facilities must have been used by NASA at KSC for the processing of Apollo era Launch Vehicles. All qualified properties must meet one or more of the Criteria stated in F.2.3 and retain enough integrity to communicate its relative significance.

Property Type: F.3

1. Name of Property Type: Launch Operation Facilities

2. Description: Launch Operation Facilities involve all activities which occur after the Launch Vehicle has been processed up to the point that the Launch Vehicle leaves the launch pad. These facilities address such

activities as providing a base and support structure for the transport and launching of the rocket, servicing the Launch Vehicle at the launch pad, controlling prelaunch and launch operations, and launching the vehicle. Most launch operation facilities were built for the Apollo program and were vital to the successful completion of the Apollo program and subcontexts as defined in Section E. Apollo era launch operation facilities were supplemented and modified in order to meet the needs of the ongoing Space Shuttle program.

3. Significance: The launch operation facilities at KSC are significant under NRHP Criteria A, B, and/or C on the national level. To be eligible under Criterion A, the resources must have important associations with the Apollo program and must have been essential to its operation. Those eligible for listing under Criterion B are recognized for their association with significant individuals who made contributions toward a resource essential to the Apollo program or for which the resource is illustrative. The launch operation facilities which are eligible under Criterion C must represent fine examples of engineering or architecture which were required for accomplishing the mission of the Apollo program. Launch operation facilities at Kennedy Space Center were specifically designed to launch the heavy rockets of the Apollo program and therefore played a major role in space exploration, national history and engineering.

4. Registration requirements: In order to qualify for listing, launch operation facilities must have been used by NASA at KSC for the launching of Apollo era launch vehicles. All qualified properties must meet one or more of the Criteria stated in F.3.3 and retain enough integrity to communicate relative significance.

Property Type: F.4

1. Name of Property Type: Broadcast Facilities

2. Description: Broadcast facilities provide a primary site for news media activities at KSC. Those broadcasting facilities were essential for relating to the American public news of the Apollo program and subcontexts as related in section E. Apollo era broadcasting facilities have been updated to accommodate the needs of modern broadcasting and to communicate the mission of the ongoing Space Shuttle program.

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3. Significance: The broadcasting facilities of KSC possess significance under NRHP Criteria A, B, and/or C on the national level. To be eligible under Criterion A, the facilities must have an important association with the Apollo program and have been essential to the understanding of the program by the American public. Those eligible for listing under Criterion B are recognized for their association with significant individuals who made contributions toward a resource essential to the Apollo program or its public understanding, or for which the resource is illustrative. Broadcast facilities eligible under Criterion C must represent fine examples of engineering or architecture which were required to fulfill broadcast needs during the Apollo era. The resources must be associated with the space program in the mind of the American public.

4. Registration requirements: Broadcasting facilities must have been at KSC for the dissemination of information concerning the Apollo era launches. All qualified properties must meet one or more of the Criteria stated in F.4.3, and retain enough integrity to communicate relative significance.

Property Type: F.5

1. Name of Property Type: Communication Facilities

2. Description: Communication facilities provide a vital site for instrumentation to receive, monitor, process, display and/or record information received from the space vehicle during test, launch, and/or flight. Those communication facilities which are eligible for the NRHP were essential in support of the Apollo program and subcontexts as defined in Section E. Apollo era communication facilities were supplemented and modified in order to meet the needs of the ongoing Space Shuttle program.

3. Significance: The communication facilities of KSC are significant under NRHP Criteria A, B, and/or C on the national level. To be eligible under Criterion A, the resources must have an important association with the Apollo program and have been vital to the completion of its mission. Those eligible under Criterion B are recognized for their association with significant individuals who made contributions toward a resource essential to the Apollo program or for which the resource is illustrative. Communication Facilities which are eligible under Criterion C must represent fine examples of engineering or architecture which were required to complete the missions of the Apollo program. Significant communication facilities were designed

specifically to house computers and computer related technology vital to the Apollo mission at the dawn of the computer age. Consequently, significant communication facilities possess importance for having facilitated nationally significant events associated with space exploration.

4. Registration requirements: Communication facilities that qualify for listing must have been used at KSC to receive, monitor, process, display and/or record information for Apollo era Launch Vehicles. All qualified properties must meet one or more of the Criteria stated in F.5.3. and must have sufficient integrity to communicate relative significance when evaluated in the appropriate context.

Property Type: F.6

1. Name of Property Type: Administrative Facilities

2. Description: Administrative facilities include those resources which are essential to the administrative, scientific, and engineering work of KSC. Administrative facilities at KSC administer such operations as fiscal matters, procurement, planning, central management, and facilities engineering and construction, as well as providing offices for associated contractors. Those administrative facilities which are eligible for the NRHP were essential in support of the Apollo program and subcontexts as defined in Section E. Apollo era administrative facilities were modified as required to accommodate the needs of the ongoing Space Shuttle program.

3. Significance: The historic administrative facilities of KSC possess significance under NRHP Criteria A, B, and/or C on the national level. To be considered significant under Criterion A, the resources must have been essential to the function of KSC during the Apollo program. To be eligible under Criterion B, resources are considered significant for their association with significant individuals who made contributions toward a resource essential to the Apollo program or for which the resource is illustrative. Administrative Facilities which are eligible under Criterion C must represent fine examples of engineering or architecture which were required for the successful completion of the Apollo program. Administrative facilities at KSC were specifically designed to house officials. Consequently, within those facilities major decisions and meetings affecting KSC operations were conducted. Therefore, significant administrative facilities advanced nationally significant events associated with space travel.

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4. Registration requirements: Administrative facilities that qualify for listing must have been used by NASA at KSC for the administrative work relating to the Apollo era launch programs. Qualifying resources must meet one or more of the Criteria stated in F.6.3 and must have integrity sufficient to communicate relative significance when evaluated in the appropriate historic context.

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G. Geographical Data

The multiple resource nomination is defined by the boundaries of KSC. Located on Merritt Island in Brevard and Volusia Counties, Florida, KSC totals approximately 139,490 acres and is 34 miles long varying in width from 5 to 10 miles. Its approximate boundaries include the CCAS and Atlantic Ocean on the east, the city of Oak Hill on the north, the Indian River on the west, and SR 528 on the south.

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H. Summary of Identification and Evaluation Methods

National Register Criteria for Evaluation

All NASA-controlled facilities within Launch Complex 39 (LC-39) Area, the Vehicle Assembly Building (VAB) Area, the Shuttle Landing Facility (SLF) Area, and the Industrial Area of KSC were surveyed and evaluated in accordance with the NRHP criteria for evaluation, as described in the *Code of Federal Regulations*, 36 CFR Part 60.4 (ACI 1988). Included in the survey were 812 facilities, as enumerated in the NASA/KSC Quarterly Real Property Report dated September 1996. This total includes 76 temporary buildings and 153 trailers.

All KSC historic properties evaluated as eligible for NRHP nomination were considered to be of exceptional importance to the Nation. Guidance in applying the criteria is provided in the U.S. Department of the Interior, National Park Service (NPS) publication *Guidelines for Evaluating and Nominating Properties that Have Achieved Significance within the Last Fifty Years* (NR Bulletin 22). Also used were the NPS publications *Guidelines for Applying the National Register Criteria for Evaluation* (NR Bulletin 15), *Guidelines for Completing National Register of Historic Places Forms: How to Complete the National Register Registration Form* (NR Bulletin 16A), and *Guidelines for Completing National Register of Historic Places Forms: How to Complete the National Register Multiple Property Documentation Form* (NR Bulletin 16B).

Historic Context

The first step in evaluating the facilities was to establish and describe the applicable historic contexts and subcontexts, drawing from the manned space programs associated with KSC - Apollo and Space Shuttle. Recognition was given to the fact that the Space Shuttle program is active and that proper assessment of its national impact is inappropriate until such time as the program has concluded (Harry Butowsky, personal communication). Consequently, this reassessment focused on the facilities of exceptional importance to the Apollo program, 1961 through 1975. Included under the context of the Apollo program are these historic subcontexts:

- Apollo Manned Lunar Landing Program, 1961-1972

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- Skylab Space Station, 1973-1974, (1979)
- Apollo-Soyuz Test Project, 1975

Multiple Property Approach

A Multiple Property nomination was selected as the most appropriate approach because it groups related significant properties, facilitating the evaluation of individual properties by comparing them with resources that share similar physical characteristics and historical associations. The common theme linking the NRHP-eligible properties is the American space program as an exceptionally important historic event and the KSC facilities which best represent it. Many original Apollo-era facilities are in active use supporting the ongoing Space Shuttle program. However, the needs of the current program required alteration of many Apollo-era facilities and the construction of new ones. Other Apollo-era facilities have been either abandoned in place, discarded, or dismantled. Registration requirements were therefore structured to accommodate these considerations, particularly with regard to the issue of integrity.

Research Methods and Sources of Information

Methods used to prepare this NRHP nomination included background research at KSC, field inspection and evaluation of all NASA-controlled facilities located at KSC, examination of historic photographs on file at KSC, informant interviews, and coordination with personnel from the office of the Florida State Historic Preservation Officer (SHPO). ACI is grateful to the many individuals who generously provided information, and who facilitated access to the historic properties. We acknowledge the cooperation and assistance of Dr. Harry Butowsky, National Park Service; Mario Busacca, Harold Williams, and Randy Eastman, NASA Environmental Management; Jim Butts, EG&G Master Planning; Walter Stampley, NASA Facilities Engineering and Project Management; Barbara Green, Ken Nail, and Elaine Liston, Sherikon Space Systems, Inc. Library Systems; Robert Sieck, NASA Shuttle Operations; Bob Armstrong, NASA Space Utilization; Jim Baker, EG&G Facility Layout; Leroy Smith, NASA Master Planning; Alan Parrish, NASA KSC Associate Director; Whit Bartlett, Rudy Seiffer, Robert Peterson, Warren Lackie, Joe Garner, Joseph Laclave, and Paul Moxley, NASA Vehicle Engineering; Nancy Gunter, NASA OSB Building Management; Deloris Green, NASA Installation Services; Daniel Tweed, NASA Installation Operations; Larry Schultz, NASA Project Management; Max

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Taylor, Payload Ground Operations; Horace Lamberth, Lockheed Martin Space Operations Engineering; John Tribe, Rockwell International Corporation Engineering; and Laura Kammerer and Barbara Mattick, Florida SHPO.

Background information was sufficient to provide a basis for evaluation of all KSC real property. Of special utility was the *Man in Space Theme Study* completed in 1984 by the National Park Service, and the *Technical Facilities Catalog Volume II* completed in 1967 and revised in 1974. These publications served as a basis for this NRHP nomination. The list of structures and facilities presented in the *NASA/KSC Quarterly Real Property Report*, dated September 30, 1996, served as the basis for field investigation and evaluation. The 1992 and 1995 *Master Plans* were also useful aids in assessing historic and non-historic facilities.

Listed Resources

In accordance with the NPS guidelines for completing National Register Multiple Property nominations (1991b), the bases for evaluating component resources of the Multiple Property nomination are the physical characteristics and historic significance of each nominated property. Relative information about each resource, such as date, function, associations, and physical characteristics, are weighed against the significance of the overall Multiple Property nomination to determine whether or not the resource contributes to the significance of the whole.

Individual nominations comprising the Multiple Property submission, ***Historic Cultural Resources of the John F. Kennedy Space Center, Florida***, fulfill Criteria A, B, and/or C for listing in the NRHP. The properties included have exceptional significance for their association with events or individuals nationally important in the areas of space exploration, communication, architecture, engineering, and transportation. Properties eligible for listing under the cover were constructed between 1961 and 1975, and fall under the following historic subcontexts within the Apollo Program (1961-1975): Manned Lunar Landing Program, 1961-72; Skylab Space Station, 1973-1974 (1979); and Apollo-Soyuz Test Project, 1975. The nominated resources include five buildings (VAB, LCC, Headquarters, Operations and Checkout [O&C], and Central Instrumentation Facility [CIF]), one structure (Crawlerway), two objects (Press Site: Clock and Flagpole, Crawlers), and two districts (Launch Complex 39: Pad A and Pad B). They have been

categorized into six associated property types: transportation facilities, launch processing facilities, launch operation facilities, press facilities, communication facilities, and administrative facilities.

Individual nominations were formed under the Multiple Property Documentation Form for the following historic facilities:

- Vehicle Assembly Building (VAB) - High and Low Bays
- Launch Control Center (LCC)
- Headquarters Building
- Operations and Checkout (O&C)
- Central Instrumentation Facility (CIF)
- Crawlerway
- Press Site: Clock and Flag Pole
- Missile Crawler Transporter Facilities (Crawlers)
- Launch Complex 39: Pad A
- Launch Complex 39: Pad B

The VAB, LCC, Headquarters Building, O&C, CIF, Crawlerway, Press Site: Clock and Flag Pole, and Crawlers comprise the contributing resources of each self-titled nomination.

Launch Complex 39: Pads A and B are nominated as districts. According to *Guidelines for Completing National Register of Historic Places Forms: How to Complete the National Register Registration Form* (NR Bulletin 16A), "a district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development." All resources within each district were evaluated as either contributing or noncontributing. A **contributing** building, structure, or object adds to the historic associations or historic engineering or architectural qualities for which the property is significant because:

- it was present during the period of significance, relates to the documented significance of the property, and possesses historic integrity or is capable of yielding important information about the period; or
- it independently meets NRHP criteria.

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A **noncontributing** building, structure, or object does not add to the historic engineering or architectural qualities or historic associations for which a property is significant because:

- it was not present during the period of significance or does not relate to the documented significance of the property;
- due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity or is capable of yielding important information about the period; or
- it does not independently meet the NRHP criteria.

The resources at Pads A and B were evaluated on the basis of their age; initial and current use; relation to the Apollo program; structural characteristics (e.g., capacity, size, or volume); and degree of integrity.

The LC-39: Pad A and Pad B resources considered to be **contributing** to their respective districts were all present during the period of significance (1961-1975). Collectively, they relate to the launch of the Apollo missions or to the understanding of the mission of KSC by the American public. All retain enough integrity to communicate their relative significance within the context of the Apollo program. Individually, however, no one resource is considered to independently meet the NRHP eligibility criteria. A list of contributing resources for each launch pad is provided in the accompanying tables.

Historic Property Boundaries

Amended boundaries for individual buildings, structures, objects, and districts nominated under this Multiple Property submission include the footprint and a small buffer zone for each of the aforementioned nominations except for the Crawlers, whose mobile nature limits their boundaries to the objects themselves. Boundaries of the individual historic properties nominated under this cover are described and illustrated in the NRHP Registration Forms.

Non-extant and Ineligible Historic Properties

Cited in the original NRHP nomination are the MSS and the three LUTs. The MSS is no longer extant, and thus, has been deleted from the amended NRHP

nomination. The three LUTS were drastically modified to serve the needs of the Space Shuttle program. Major modifications consisted of removing each Umbilical Tower from its two-story steel Launch Platform (now Mobile Launcher Platform). Two of the Umbilical Towers were modified by the removal of select tower arms, the 25 ton Hammerhead Crane, and lower work platforms. These two Towers were affixed (one each) to the built-up portion of each Pad where they are known as Fixed Service Structures (FSSs). The third Tower, from which launched the first successful lunar landing mission, was disassembled and removed to a site in the Industrial Area. Several portions of this Tower, including select Platforms and the Hammerhead Crane, have been relocated on KSC grounds and refurbished as part of an interpretive exhibit at the Apollo/Saturn V Center. Major modifications to the three two-story steel Launcher Platforms (now Mobile Launcher Platforms) included relocating holddown points and exhaust holes on the Platform and removing or modifying systems in order to stack and carry Space Shuttles. Each major LUT component (the Fixed Service Structures and the Mobile Launcher Platforms) has undergone a transition in use requiring modification of their Apollo era configuration and, thus, their integrity is no longer intact. Therefore, the LUT components are not included individually in the amended nominations. However, the two Towers, which are now FSSs at Launch Pads A and B, are contributing to the two districts. The FSSs are now considered as part of the built-up part of each launch pad (the hardstand) and are labeled with Facility number J8-1708 for Launch Pad A and J7-337 for Launch Pad B. Because the hardstands have maintained a substantial amount of their integrity to communicate their historic function which was vital to the Apollo mission, the combined units consisting of the FSSs and the hardstands are considered contributing parts of the districts at Launch Pads A and B (Butowsky 1981:54-55; NASA n.d.:26; NASA 1974:9-87).

Launch Complex 39 Pad A District: List of Contributing Resources.			
FACILITY #	**FACILITY NAME**	**YEAR BUILT**	**PROPERTY TYPE**
J8-1462	High Pressure GH2 Facility	1968	Structure
J8-1502	LOX Facility	1968	Structure
J8-1503	Operations Support Building A-1	1966	Building
J8-1512	Camera Pad No. 1	1966	Structure
J8-1513	LH2 Facility	1966	Structure
J8-1553	Electrical Equipment Building No. 2 (LOX)	1965	Building
J8-1554	Camera Pad No. 6	1965	Structure
J8-1563	Electrical Equipment Building No. 2 (RP-1)	1965	Building
J8-1564	Foam Building	1965	Building
J8-1565	Pump House (RP-1)	1964	Structure
J8-1613	RP-1 Facility	1965	Structure
J8-1614	Operations Support Building A-2	1966	Building
J8-1659	Compressed Air Building	1965	Building
J8-1703	Slidewire Termination Facility	1965	Structure
J8-1705	Sewage Treatment Plant No. 5	1965	Structure
J8-1705A	Sewage Lift Station	1965	Structure
J8-1705B	Sewage Equipment Building	1965	Building
J8-1707	Water Chiller Building	1968	Building
J8-1708	Launch Pad 39A	1965	Structure
J8-1714	Camera Pad No. 2	1965	Structure
J8-1753	Remote Air Intake Building	1965	Building
J8-1858	Azimuth Alignment Station	1965	Structure
J8-1956	Camera Pad No. 4	1965	Structure
J8-1961	Camera Pad No. 3	1965	Structure

Launch Complex 39 Pad B District: List of Contributing Resources.			
FACILITY #	**FACILITY NAME**	**YEAR BUILT**	**PROPERTY TYPE**
J7-132	Operations Support Building B-1	1967	Building
J7-140	High Pressure GH2 Facility	1967	Structure
J7-182	LOX Facility	1968	Structure
J7-183	Camera Pad No. 6	1968	Structure
J7-191	Camera Pad No. 1	1968	Structure
J7-192	LH2 Facility	1968	Structure
J7-231	Electrical Equipment Building No. 2 (LOX)	1967	Building
J7-241	Electrical Equipment Building No. 1 (RP-1)	1968	Building
J7-242	Foam Building	1968	Building
J7-243	Operations Support Building B-2 (LOX)	1967	Building
J7-292	RP-1 Facility	1968	Structure
J7-331	Slidewire Termination Facility	1967	Structure
J7-337	Launch Pad 39A	1967	Structure
J7-338	Compressed Air Building	1967	Building
J7-342	Camera Pad No. 2	1967	Structure
J7-384	Sewage Treatment Plant No. 6	1967	Structure
J7-384A	Sewage Lift Station	1967	Structure
J7-348B	Sewage Equipment Building	1967	Building
J7-385	Water Chiller Building	1968	Building
J7-432	Remote Air Intake Building	1968	Building
J7-537	Azimuth Alignment Station	1967	Structure
J7-584	Camera Pad No. 4	1968	Structure
J7-589	Camera Pad No. 3	1968	Structure

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