

## **1<sup>st</sup> Space Shuttle Mockup**

### **“INSPIRATION”**

#### **Background**

The North American Rockwell (NAR) Corporation in 1970 was engaged in bidding on the Space Shuttle Project with NASA. As part of these efforts a corporate decision was made to invest in the design and fabrication of a physical mockup of their concept to facilitate the company proposal. A full scale concept mock-up was created at the Downey, California site.

After the award of the Shuttle Contract to NAR, the mockup was housed in a special facility and used by the designers and engineers during the following years as an engineering aid and for PR purposes.

After the Boeing Company acquired the Rockwell Space assets, the mockup was donated to the City of Downey when Boeing decided to leave Downey and the NASA site. The mockup remained on site in the DEI facility until 2009.

The buildings and property of the site were sold in 2005 to the Industrial Realty Group who had plans for development of the site as the Downey Studios. In 2009 a studio client required the demolition of the DEI room for a film production. An agreement was made to relocate the mockup to a temporary facility within the same building (Building 001) with proper curation and facility environmental and security controls. It remained stored here until 2011.

Scheduled demolition of Building 001 required a relocation of the mockup to a temporary portable tent structure on Columbia Way for approximately 1 year. During this time the mockup was given a name. Actions by the Major and council sponsored a public contest to name the mockup and the name “Inspiration” was chosen.

In 2012 site development activities required Inspiration to be moved again. The decision by the City Manager was to separate the mockup into smaller elements bag them to protect them from environmental conditions and store them at the Public Works yard on Bellflower Blvd. indefinitely or until a suitable display site could be developed.

Inspiration is currently still located at the Public Works yard in Downey, California.

#### **Historical Initiatives:**

There are no known specific terms or conditions on the transfer of the mockup to the City by the Boeing Company. It was gifted to the City for disposition at their discretion.

The City has continuously expressed a desire to provide a public facility for its display. Because of the large size of the mockup (full scale) it precludes any currently locally available facilities.

In 2005-2007 the Aerospace Legacy Foundation (ALF) began discussions with the City regarding development initiatives that would insure the preservation and public presentation of historical sites

1/22/2018 1:29:12 PM

and artifacts. A NASA Memorandum of Agreement was prepared and signed which established some basic caveats on any future site development.

Once the property was purchased by the Industrial Realty Group (IRG), discussions were held with stakeholders including the L.A. Conservancy and SHIPO regarding future developments. The major result was the retention of the Kauffman Wing of Buildings along Lakewood Blvd. No specific discussions were held regarding the mockup.

Two separate historical site reviews were conducted and described several significant buildings on the site. No actions were taken to file for historic preservation.

The ALF did apply to American Institute Aeronautics Astronautics (AIAA) and were granted in 2009 "Historic Aerospace Site" status. A bronze plaque was presented to the City and IRG. The Plaque is in the possession of IRG for future mounting and display.

The City and Columbia Memorial Space Center (CMSC) applied for federal funding for a permanent building and facility for the mockup in 2015. The funding was denied.

Currently the CMSC Executive Director is planning for development of a future building on the site to display "Inspiration" and several other artifacts. Estimates for this projects are 20-50 Million dollars and 3-5 years.

## **Issues and Considerations:**

### **Historic Preservation**

- From day one the historic preservation of this property has been a concern. Economic development for the community is also a concern. The balance of these two goals is complicated. A substantial archive of documentation has been accumulated on the site but over 90 % of the buildings and structures are gone. The ALF and the Downey Historical Conservancy are still exploring alternative ways of making the history of the site public.

### **Inspiration Mockup**

The Inspiration Mockup is a historic and significant National Artifact. It is was the foundation of the Space Transportation System designers being able to visualize and realize the concepts of the Space Shuttle. The history of this article, that includes celebrity participation i.e. Queen Elizabeth, Gov. Brown, John Glenn etc. is significant.

Considering the initial temporary life anticipated for the mockup, it is remarkable that it has lasted this long. Most of the construction materials were wood and plastic, but the craftsmanship that went into its construction have certainly been a factor it its survival to date.

The two greatest consideration in any disposition of the mockup are its size and fragility. Finding a semi-permanent location for inspection, curating and repair and modifications is the first priority.

1/22/2018 1:29:12 PM

Regarding condition, the last serious inspection was in 2009 before it was moved from the DEI. Condition was rated good with some minor areas of degradation. Inspections again in 2011-2012 showed some progressive deterioration. Since bagging, outside storage monthly inspections have been limited to integrity checks of bags.

While more detailed inspections would be desirable, costs to open the bags for inspection are estimated at around 8-12,000 dollars.

Assuming an indoor processing facility could be locally acquired, moving costs and inspection costs would be close to 200-250,000 dollars.

Retro fitting designs and efforts would require inspection, damage repair, degradation mitigation, replacement materials. This could easily be close to 500,000 – 1,000,000 dollars

The mockup can be separated into three sections for transport. Each section is capable of standard truck transport. See figure.

The mockup weight is estimated at \_\_\_\_ 18-20,000 lbs \_\_\_\_\_

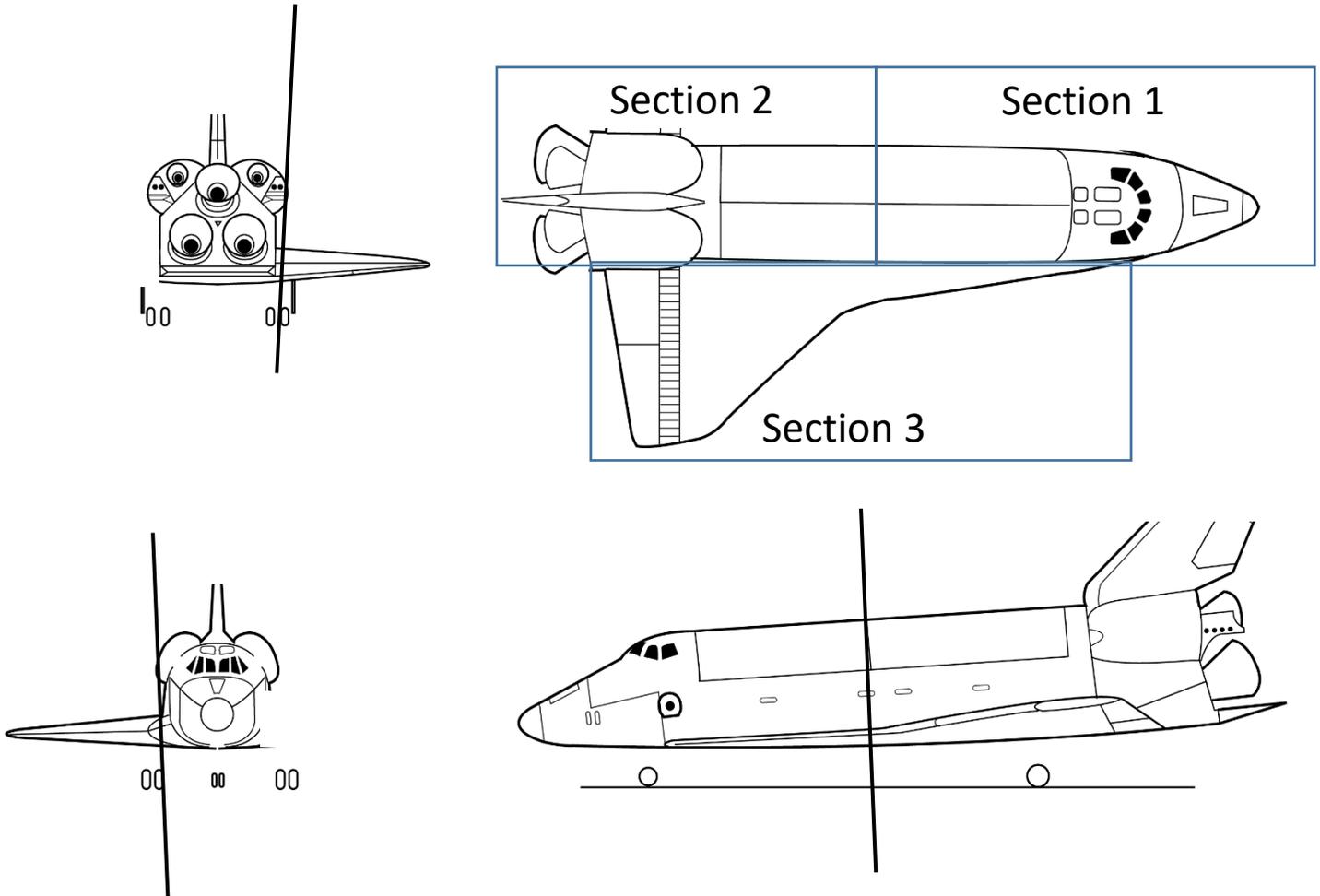
The Mockup height is \_\_\_\_ 14.5 m \_\_\_\_\_

The mockup length is \_\_\_\_ 37.237 m \_\_\_\_\_

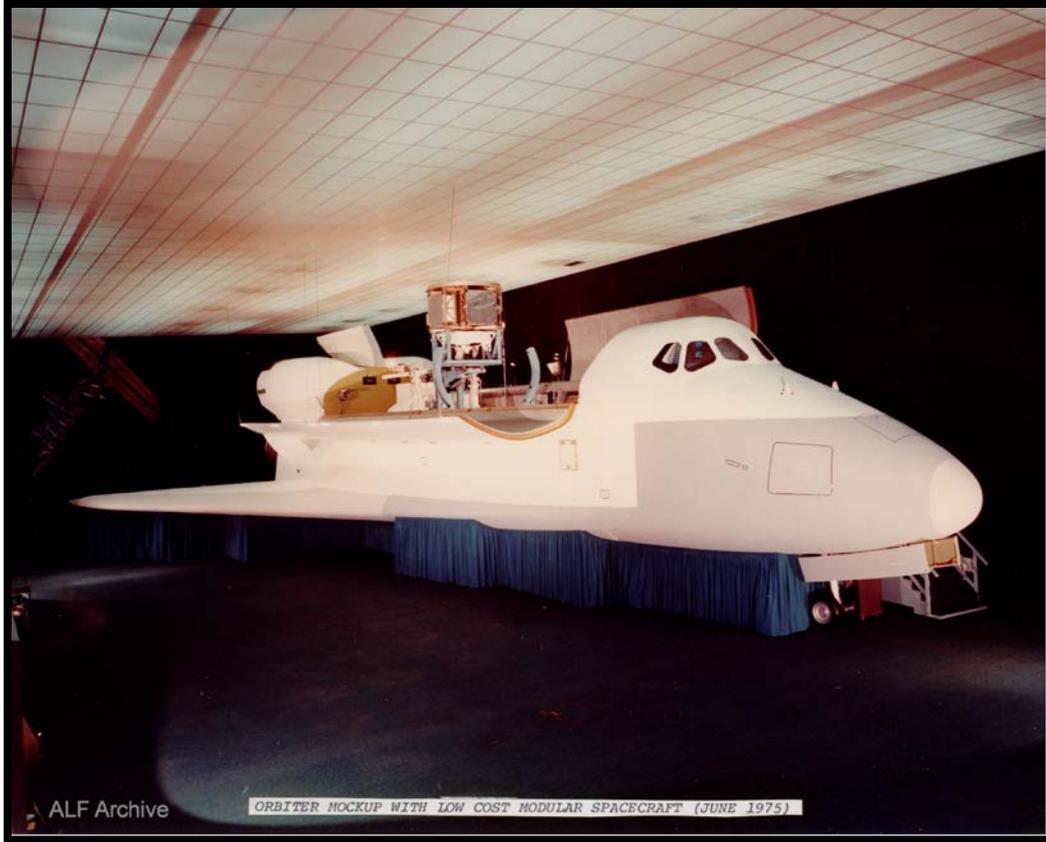
The mockup width is \_\_\_\_ 9.0 m \_\_\_\_\_

Design retrofit considerations have been considering an interactive exhibit concept that would be accessible by the public. Any major project development is still several years from happening.

# INSPIRATION MOCKUP



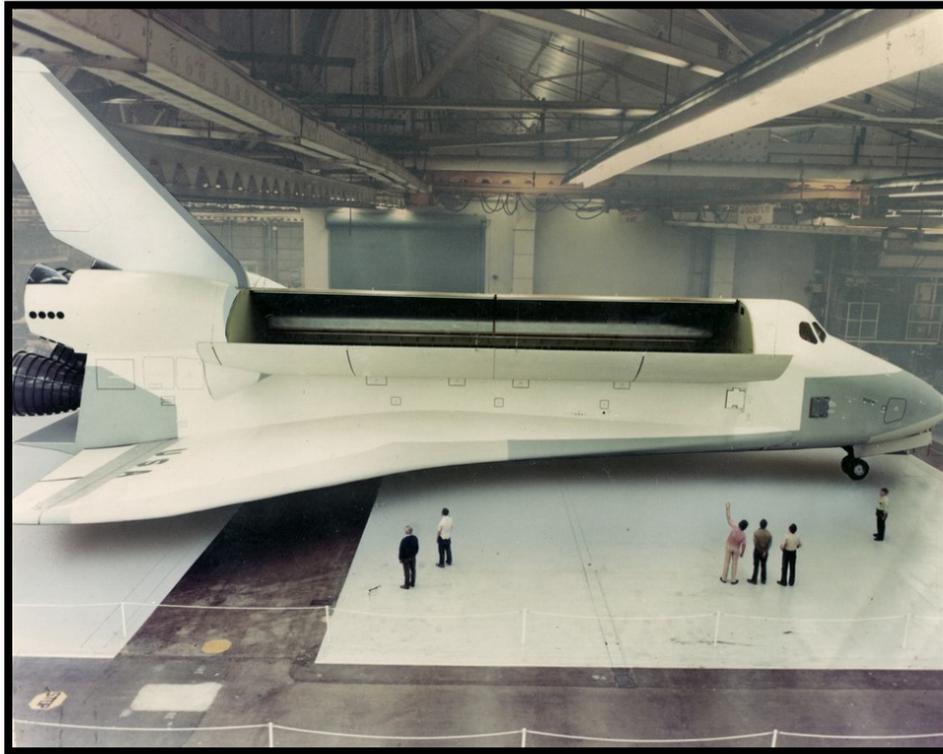
Figure



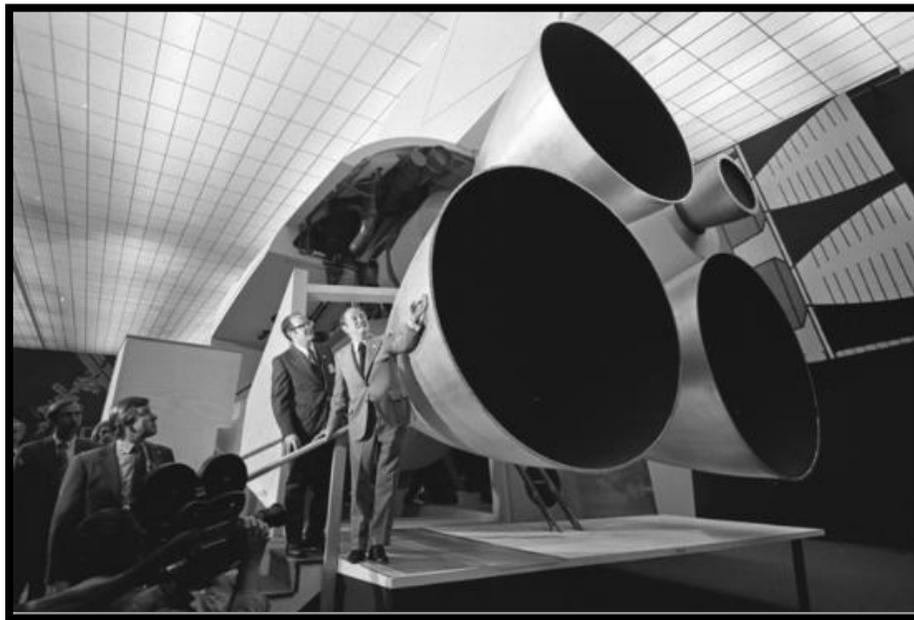
Mock-up in DEI Room at Rockwell in 1975



Mock-up in Downey City Yard



**Full-scale mockup in Downey, California, from February 27, 1975**



**Sen. Hubert H. Humphrey inspects mockup of engine section of space shuttle during visit to North American Rockwell plant in Downey 1972**

1/22/2018 1:29:12 PM



**Shuttle mock-up at Rockwell**

**Images added by Larry Latimer 1-23-18**