



The City of Seattle

Landmarks Preservation Board

700 Third Avenue · 4th floor · Seattle, Washington 98104 · (206) 684-0228

REPORT ON DESIGNATION

LPB 128/98

Name and Address of Property: **The Space Needle**
219 Fourth Avenue North

Legal Description:

D. T. Denny's Third Addition to North Seattle, Block 50, Lots 2 and 3. Together with the east half of the alley vacated by Ordinance Number 902676 of the City of Seattle, lying between the westerly extensions of the north line of said Lot 2 and the south line of said Lot 3.

At the public hearing held on April 15, 1998, the City of Seattle's Landmarks Preservation Board voted to approve designation of the Space Needle as a Seattle Landmark based upon satisfaction of the following standards for designation of SMC 25. 12.350:

- A. *It is the location of, or is associated in a significant way with, an historic event with a significant effect upon the community, City, state or nation.*
- B. *It is associated in a significant way with the life of a person important in the history of the City, state, or nation.*
- C. *It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, city, state or nation.*
- D. *It embodies the distinctive visible characteristics of an architectural style, or period, or of a method of construction.*
- E. *It is an outstanding work of a designer or builder.*
- F. *Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the city and contributes to the distinctive quality or identity of such neighborhood or the city.*

DESCRIPTION

Site

The site of the Space Needle is a 128' by 120' parcel located near the southeast corner of the Seattle Center, and the intersection of Fifth Avenue North and Broad Street. Prior to 1962 this parcel, Lots 2 and 3 Block 50, in D. T. Denny's Third Addition to North Seattle, bordered on Fourth Avenue. At this time, a City of Seattle fire alarm station occupied the land. The station was removed and the property incorporated into the Seattle World's Fair as the site for the Needle.

During the Fair this site acted as a gateway to the southern entrance of the fair grounds and the Monorail terminal. The "gayway" amusement area was created near this location, along with exhibit halls such as the Bell System Pavilion and the Wood Products Display Hall.

The site is partially open to views from Broad Street. Maple trees are planted along the street, bordering a wide strip of lawn. Views of the eastern portion of the Needle are obscured by heavier landscaping near the base. Currently, this area of the site is retained for a valet parking lot and a loading dock, which occur at a level approximately six feet below that of the Needle base.

Because of its prominent location, the Space Needle affords views of and can be seen from many locations and neighborhoods in Seattle including Capitol, First, and Queen Anne Hills; the downtown, Denny Regrade, Wallingford, and West Seattle; and from ships in Elliott Bay.

A plinth of concrete comprises the base of the waiting area and provides a physical transition between the surrounding Seattle Center and the entrances to the Space Needle. This plinth is formed by cast-in-place concrete retaining walls and planters, which follow the limits of the property lines and stairs along the north and south sides to manage the slightly sloping grade. The northern edge serves as the main entrance to the structure, and was the location of the original ticket kiosk for elevator rides.

The property owned by the Space Needle Corporation is a privately held parcel of 15,360 square foot area. Around the edges of the concrete plinth there is landscaping in the form of planters, grass berms and low shrubbery which somewhat conceal the existing structure. This landscaped area was designated by City Council Resolution No. 18785 in 1961 as a buffer zone where no additional structures could be constructed, to preserve views of the Space Needle.

The Original Needle Design

Kiosks, a covered walkway and small buildings are also located near the building on the Seattle Center site. These mainly occur near the north and west facades of the base structure. Several large sculptures are placed in the landscaped area of the Center grounds near the eastern and

southern edges of the plinth. From here, it is possible to walk along a perimeter path of asphalt along the west, south and east edges of the base. The southern portion of the path feeds into a main entry area for the Seattle Center site off of Broad Street.

The idea of a significant architectural structure to serve as a symbol for the 1962 World's Fair was not a unique one. In this sense, the Space Needle can be seen in the historic context of landmark pavilions and urban towers which have served as symbols and monuments throughout the world. In its specific context, however, the Space Needle marks a point in the history of the City of Seattle and represents American aspirations towards technological prowess.

Influenced by existing structures in Europe, such as the 1956 Stuttgart Television Tower and the 1958 Belgian Atomium, Edward Carlson, President of the nonprofit World's Fair Corporation, posed the challenge to the coordinators of the World's Fair to create a similar icon in Seattle. Their task was to "submit an idea for a spectacular structure to symbolize and dramatize the Century 21 Exposition and to serve as a permanent, profit-making attraction for the City of Seattle."

Fair organizers Jim Douglas and Edward Carlson had approached architects John Graham and Company to conceive of some preliminary designs. Designers from Graham's office who were initially involved in the conceptual stage of development included Art Edwards, John Ridley, and Victor Steinbrueck.

Some of the preliminary designs can be categorized as elaborations upon the "tethered balloon" or the "spiked flying saucer" concept. It was Ridley's idea of the cruciform shaft and disk structure that focused the design efforts of the entire team for the rest of the schematic stage. Further development of the tripod structural system that was to evolve into the familiar image of the Needle is attributable to Victor Steinbrueck.

The Space Needle, as originally conceived, embodies in its form and construction that era's belief in commerce, technology and progress. Three pairs of slender steel legs curve inwards from a 102' diameter base to the 373' "waist" level and flair out into an hour glass form to hold a disc-shaped structure at the top, which is comprised of a revolving restaurant, a mezzanine, and an observation deck. The top 50 feet of the structure was a flame of natural gas, which was ignited from a tripod of stainless steel. (The flame was subsequently dismantled and replaced by an aircraft warning beacon.)

Visitors to the top of the Needle ride one of three 29 passenger elevators, which travel at speeds of up to 800 feet a minute. One of these elevators is utilized also to service the restaurants and for staff. In addition to mechanical and electrical equipment, the internal core of the structure contains two separate weaving staircases of 832 steps apiece. All three elevators were replaced in 1993; the new elevators matched the capsule form of the original design.

Many of the construction techniques used in building the Space Needle were revolutionary, and set construction industry records. The structure's foundation consisted of a 30 foot deep, Y-

shaped pit, which was filled with 2,819 cubic yards of concrete and 250 tons of reinforcing steel. Laying of the foundation was performed in under 12 hours and set the west coast record for the largest continuous concrete pour. The entire structure was realized in only 400 days, from design conception to completion of construction.

The steel legs that make up the Needle were fabricated independently up to the 410 foot level by welding three, 36 inch wide flanges into triangular shapes. Above that level, the legs were comprised of two flanges, which fan out in a Y-shape and continue upwards to support the base of the restaurant level. The development of the high strength, low cost ASTM A36 carbon steel was essential for the construction of the project. Seven diaphragms were structured at intermediate levels and act to stiffen the legs and the "waist" of the Needle. (One of these diaphragms would provide a platform at the 100 foot level for the 1982 addition of a banquet/conference facility.)

The idea of a revolving restaurant is attributed to John Graham Jr., and was further developed for the 500 foot level of the Space Needle. This was "evidently a new concept for which Graham held U.S. patent No. 3125189, granted on March 17, 1964." The floor plate at this level measured 94.5 feet in diameter and accommodated up to 250 guests. The revolving portion was situated along the outer 14 foot rim of the plate to provide diners with an ever-changing 360 degree view over a one hour rotation. Rising a total of 607.88 feet, the Space Needle was deemed the highest structure West of the Mississippi in 1962. It also boasted a design capacity for resisting seismic loads nearly twice the building code specifications of the time, and 1.5 that for wind load requirements.

Ten foot tall, steel framed canopies, supported by tie rods from above and open on all sides, were constructed originally at the ground level between the legs of the Needle. These canopies provided shelter to those waiting for a ride up to the top, and enclosed a glazed wall office for the building's manager. Two entrances to the core facility for maintenance staff, as well as concession and souvenir shops, were located under the canopies.

The Needle was originally fitted with a carillon, designed by the Schulmerich Carillon Company of San Francisco. It consisted of 538 bells and an amplification system. The bells were rung during the World's Fair and their sound was reported to carry ten miles. The bell and amplification system were removed after the fair.

Modifications at the Base and Plaza

An alteration on the grade level of the Space Needle was made immediately after the World's Fair in October of 1962. This consisted of a glass and aluminum-framed enclosure fabricated in 4' sections to provide shelter to waiting patrons. Architect John Graham envisioned that this would be a semi-permanent, seasonal structure, and designed it to be readily dismantled for the warm summer months. This 3,000 square foot, heated space was enclosed, and evolved into the

current carpeted and climate-controlled base structure which currently houses retail facilities and a reception lounge for restaurant customers.

Alterations that occurred at the Plaza (base) level in 1966 included a new metal canopy, designed to align with the window mullions of the glazed walls below. New terrazzo flooring was added, and concrete planters and new sections of landscape walls were structured to match existing portions along the perimeter of the property. Drawings dated May 9, 1977, indicate internal modifications to the base facility.

The steel and glass structure at the base of the Needle's legs currently serves reception, and retail functions. Exterior glazing along the southeastern and southwestern wings, and also along the southern facade, is treated with a film that is mirrored from the exterior, and darkened on the interior. The exterior appearance is reflective rather than transparent. Glazing in the northern wing of the base structure is clear and remains untreated.

The 100' Level Addition

An additional dining and conference facility was designed for the 100' level in 1978. It consists of three wings that cantilever from the core, each projecting between the legs and characterized by bands of dark tinted windows. A center service core and lobby was accessed via the existing elevators.

The addition was constructed in 1981 and opened in 1982. It was designed to function as a single large space, or to divide into three units for smaller parties, each with a 180 degree view of the city, mountains or the Puget Sound. Each dining area corresponds with the retail wings at the base level. The internal spaces areas around the core provide for services, such as a kitchen and bathrooms, as well as a bar in the northwest portion of the space.

STATEMENT OF SIGNIFICANCE

The Seattle World's Fair and Seattle Center

The Space Needle was an important component of the 1962 Seattle Century Twenty-One Exposition. The 74 acre fair site is located approximately one mile north of the City's downtown retail core and adjacent to the Denny Regrade and South Queen Anne neighborhoods. The site is bounded by Mercer Street and Denny Way, and First and Fifth Avenues. Portions of the fair site make up the current Seattle Center.

The Fair was conceived of as a "Gateway-to-the-Pacific" trade festival, and funding for it was provided initially by a \$7.5 million public bond in 1957. World Fair status was achieved after additional local economic investment in the site and federal appropriation of \$9,000,000 for the purpose of a United States science exhibit. Official approval was granted in April of 1960 by the Bureau of International Expositions.

Seattle's fair continued the tradition of international exhibits which focused on advancements in technology, commerce, and entertainment. Late nineteenth and early twentieth century "World's Fairs" included the French Internationale in Paris, and exhibits in London, Vienna, Rome and Berlin.

America's earliest international fairs included those in Philadelphia in 1876; Chicago, 1893; Atlanta, 1895; Buffalo 1901; Portland, 1905; Seattle's Alaska-Yukon-Pacific Exhibition in 1909; and San Diego in 1915. Later twentieth century exhibitions celebrated the future as much as the present at the Chicago Century of Progress, 1933-1935; the San Francisco Exhibition, 1936-1937; the New York World's Fair, 1939-1940; and the Brussels World Fair of 1958. Seattle's Century 21 Exposition carried forward with an emphasis on science and the future.

The scheme for the fair grounds and the accompanying buildings, and their later transformation into an urban civic and cultural center, involved the talent and skills of many planners, architects, landscape architects, and contractors. Several pre-existing buildings in the Denny Regrade area were upgraded for the needs of the fair, included the Washington National Guard Armory, High School Memorial Stadium, and the Civic Auditorium.

Architect/Planner Paul Thiry was appointed the principal designer of the grounds in 1957. His design unified the pedestrian precinct of approximately 30 city blocks and ordered the spaces into "the five worlds of Century 21" which were organized through a series of pathways, streets, and plazas, known as "the Boulevards of the World."

In keeping with the theme of Century 21, the exposition grounds were linked to the downtown area via a new mode of transportation, the Monorail, an elevated light-rail system. Designed by the Swedish firm Alweg, it represented the first large-scale venture of this mode of transport in the United States. Construction of the system of elevated rails was performed by the Howard S.

Wright Construction Company, and represented the first application of prestressed, curved concrete beams in America.

Unlike many previous world fairs, the buildings on the Seattle site were permanent, and were later restructured to become part of the Seattle Center complex. The long-range vision of city planners allowed for money to be appropriated for this purpose. The fairground structures were designed at the height of Modernism, and this was reflected in their original designs. In a commercial example of a immense clear span space, Thiry's use of concrete for the Coliseum represents an innovative attitude towards this materials and its design application.

Other structures which are still utilized are the Science Pavilion, originally designed by Minoru Yamasaki; the Armory, converted into food circus for the fair and later the Center House; the Swedish Pavilion/Northwest Crafts Center; and the Opera House. Many of these structures have been refurbished for more permanent, contemporary uses.

Due to planning and the economic provisions arranged before the inception of the World's Fair, the site of the exposition became a permanent, multi-purpose complex for the citizens of Seattle. In the site's Master Plan Paul Thiry and Landscape Architect Richard Haag developed a scheme of connecting covered passageways and tree-lined paths to guide visitors to the various areas of the site and frame vistas of the surrounding city and horizon. Internal zones of the Seattle Center grounds were treated individually.

The area of Memorial Stadium would be transformed into a plaza with underground parking, and would thus serve as a formal landscaped link with a proposed convention center. The northwest court area was envisioned as an open space for flower shows and other community events. (These uses were supplanted with the construction of the Bagley Wright Theater.)

A large, sculptural fountain, designed by landscape architect Lawrence Halprin, had been placed near the center of the fair to serve as a permanent site amenity. The International Fountain and flag plaza were located at the center of the exposition grounds, occupying the space of the "crossroads of the world," and aided in the formal arrangement of the surrounding area. These remain today and continue as focal points of the complex.

Paul Thiry envisioned the eventual removal of the fair's periphery walls to make the Seattle Center visually more open to the public. Some of these features of Thiry's plan have been implemented over the past 35 years. Much of what has been executed on the grounds is in the form of landscaping and permanent paving, which has helped to make the site usable and enjoyable throughout all months. Expansion and addition of performance and theater spaces, and exhibit halls have occurred in the recent decade.

As a convenient, large location, the Seattle Center has served and continues to be used for major public events such as Bumbershoot, the Folk Life Festival, Bite of Seattle, and Star Trek Conventions. With cultural facilities -- such as the Opera House, the Children's Theater, the Bagley Wright Theater, and the Pacific Northwest Ballet headquarters -- the Coliseum/Key

Arena, and the Science Center forming the complex, it is utilized constantly by both residents and visitors to the Puget Sound region.

The Space Needle in the Cityscape

Anchoring the southeast corner of the Century 21 exposition site, the Space Needle embodied the beliefs of the time. Its futuristic form and height engendered awe, and it was immediately seized as the new emblem for Seattle. The building is a pervasive presence within the city and is used as a geographical marker by visitors and Seattleites. Because it is so clearly identifiable in its concept, form, and materials, the Needle is also a visual reminder of the optimism which accompanied technology in the 1960s.

The Space Needle provides encompassing views of the city for visitors to its upper levels. Its exterior has been utilized continuously for display and special events that affect the city or the region, such as holidays, sporting events, or fireworks celebrations.

Modern Visionary Building Design

The Space Needle is a unique example of an urban monument. As a tower form, it encompasses the historic uses and typical functions of observatories, monuments, and markers. Architecture has been used throughout each world exposition to serve as an expression of its time. Examples include the Crystal Palace of the First International Exposition held in London in 1851, the 984 foot tall Eiffel Tower from the 1889 French International Exhibition, and the Tylon and Perisphere from the 1939 New York Fair.

These structures helped to influence schools of art and architecture, and thus the philosophy of future design movements. What was fantastical by nature was translated into revolutionary, yet practical, designs for furniture, cars, dwellings and mass-produced products. The significance of the common object was emphasized through its expression of modern ideas concerning form and materials.

The Designers, Architects John Graham, Jr. and Victor Steinbrueck

Prior to 1962, Architect John Graham, Jr. was perhaps best known for the design of Northgate Mall. This mall was the first of its kind in the United States, and would later develop as a typological element in the suburban landscape. The firm of John Graham Jr. and Company specialized in large-scale, fast-track jobs.

Graham's reputation for correctly assessing a project's schedule, budget and feasibility had earned him the title "a businessman's architect". Because of his reputation, organizers of the 1962 World's Fair hired Graham to design the Space Needle.

Having been assigned the challenge to design a visionary piece of architecture to embody the spirit of the theme "Century 21", John Graham Jr. conceived of the form that would later become more highly developed and refined by Victor Steinbrueck, a member of the original design team of John Graham and Company.

In addition to this, investors were interested in securing in the Space Needle an attraction for the City of Seattle that would become a permanent commercial enterprise. Graham, who had utilized the idea of a revolving restaurant previously in Honolulu, developed this idea further by combining these facilities with an observation deck and lounge.

While the initial conceptualization of the form of the Space Needle can be ascribed to John Graham Jr., it is believed that Victor Steinbrueck and other design team members from Graham's firm were responsible for the formal design development.

Difficulties arose during the first weeks of the schematic design phase in terms of matching visionary ideas of the scheme with practical realities concerned with structural integrity. It has been suggested that the form of the tripod-shaped leg structure was one of a number of solutions offered by architect Victor Steinbrueck. This design was later recognized as having wedded "drama and imagination with a sound commercial concept."

The Needle's unique design can also be attributed to the skills of its structural engineer, John K. Minasian of Pasadena, California, an internationally-known steel specialist. Keeping with the theme of the space age, it is coincidental and fitting that other works of Minasian included facilities for NASA at Cape Canaveral.

The General Contractor, the Howard S. Wright Construction Company

The Space Needle is closely associated with its original contractor and co-owner, Howard S. Wright. Wright was a prominent businessman and developer in Seattle and owner of the Howard S. Wright Construction Company, a firm which was established by his grandfather and namesake in the 1890s. (The senior Howard S. Wright was born in Nova Scotia Canada 1861 and worked as a carpenter. He arrived in the U. S. in 1883 and moved to Port Townsend in Washington Territory in 1885 where he began building houses. In the 1890s he moved his home to Everett and became actively engaged as a contractor.)

Throughout its history the company that was founded by the senior Howard S. Wright has been an active participant in shaping the character of the built environment in the Puget Sound region. The Howard S. Wright Company was also involved with the development and construction of industrial projects in the area. In 1935 the company completed the Puget Sound Pulp and Timber Company mill in Bellingham. This project represented the first \$1,000,000 project undertaken by a private firm in the Pacific Northwest. Howard S. Wright brought his son Howard H. Wright (born 1899) into the business in 1923. Shortly after that he offered to sell the company to his son, and son-in-law, George J. Schuchart (born 1909).

As business partners Howard H. Wright and George J. Schuchart expanded the firm's expertise with construction of large commercial buildings in downtown Seattle and Everett, and work on the Washington State University campus. As Wright Schuchart the company also expanded into fields such as marine construction and military projects. This included building structures such as bridges, cargo and oil rig deck structures, pump mills, as well as military housing facilities in Port Orchard and a B-52 bomber hangar at Larson Air Force Base in Moses Lake for the Boeing Company.

Expansion into the American Tugboat Company and its affiliated subsidiaries in the early 1940s helped to secure these contracts, as well as provide the owners of the construction company a solid knowledge of Northwest industries for the development of business interests in the future.

Howard H. Wright's son, Howard S. Wright (1927 - 1996) joined his father's company and eventually assumed direction of the Wright Schuchart Companies along with George J. Schuchart's son, George S. Schuchart. After the 1962 World's Fair the company formed Harbor Mechanical, Inc., Harbor Electrical, Inc. and Schuchart Industrial Contractors, Inc. to serve additional construction markets. By the 1980s the companies included Howard S. Wright Construction, Wright Schuchart Harbor Company, and General Construction Company, each of which provided services for different markets.

For the World's Fair, the Howard S. Wright Company was responsible for construction of the Coliseum, the Monorail, and the Skyride, and the privately financed Space Needle. The Company's participation as an investor in its construction provided Wright with co-ownership along with Architect John Graham and three other investors. Eventually Howard S. Wright became the sole owner of the Needle.

After the World's Fair, the firm's industrial projects were handled by a separate division of the company, while Howard S. Wright Construction Company continued to focus on commercial projects. Construction achievements by the firm of Howard S. Wright Construction Company, in addition to the Space Needle, include the 76 story Columbia Seafirst Center, the Washington Mutual Tower, the IBM building, the Westin Hotel, and Northgate Mall in Seattle; the Monterey Sheraton Hotel, a 20-story apartment towers in Marina del Ray, and two 10 story medical buildings in Los Angeles, California; the U. S. Bank Corps and Orbanco Buildings in Portland, Oregon; and major office buildings and hotels in Denver, Boise, Houston, Anchorage, Vancouver and Calgary.

In Seattle alone the company was responsible for construction of 18 major buildings and over seven million square feet of space to the city. The extent of construction by the Howard S. Wright Company helped to create the current skyline of Seattle, shaping its physical character and contributing to its growth as an urban center.

The features of the Landmark to be preserved, include:

The exterior of the building, and the site.

Issued: April 29, 1998



Karen Gordon
City Historic Preservation Officer

KG:cjh

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