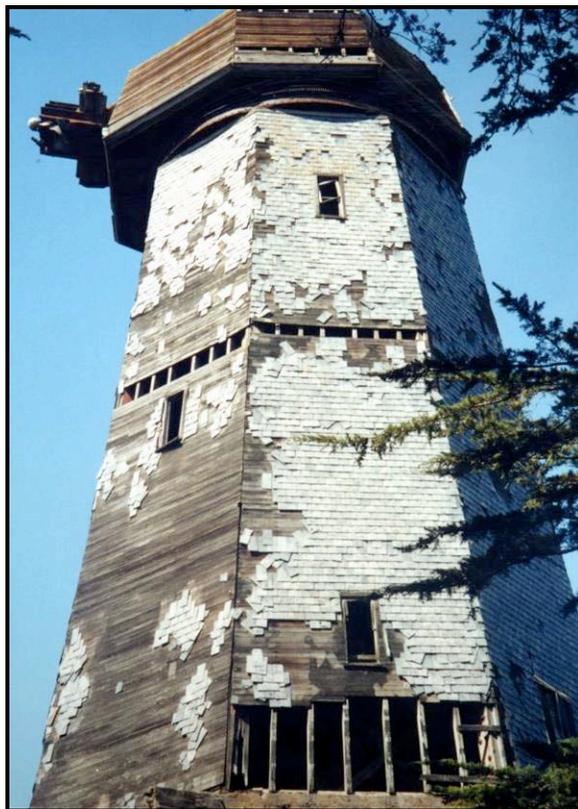


**Campaign to Save the Golden Gate Park Windmills:
A Preservation Planning Critique**



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Table of Contents

<i>Introduction</i>	1
<i>Windmills</i>	1
<i>Murphy Windmill History</i>	3
<i>Preservation Efforts</i>	8
<i>Existing Conditions</i>	9
<i>Preservation Plan</i>	11
<i>Fundraising History</i>	12
<i>Project Scope</i>	14
<i>Organizational Critique</i>	15
<i>Conclusion</i>	18
<i>Additional Photographs and Drawings</i>	19
<i>Bibliography</i>	26

Introduction

The Murphy Windmill, located in the southwest corner of San Francisco, California's Golden Gate Park, was built between 1905 and 1907 to pump fresh water into the park. The six-story, octagonal, 97-foot tall structure consisted of three parts: a pink concrete base, wood tower, and copper clad cap. The tower portion was sheathed in Pennsylvania

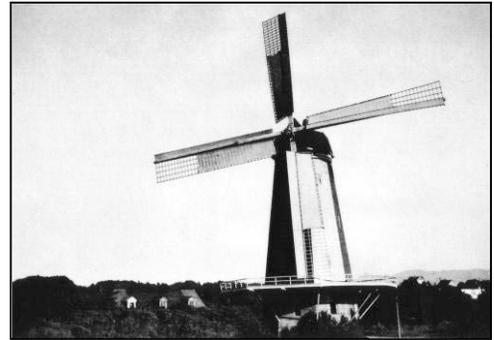


Figure 2. Murphy Windmill c. 1920. (San Francisco Historical Society Collection FN-32850)

blue slate shingles and a wooden deck encircled the mill. Massive sails, 114 feet long, turned from the top of the

Murphy Windmill's tower. The windmill was instrumental in irrigating Golden Gate Park, which allowed it to develop into the lush oasis that characterizes it today. For many years, the Murphy Windmill, and its companion several hundred yards to the north, the Dutch Windmill, stood as



Figure 1. Windmill Base, March 13, 2007. (Sarah LeVaun Graulty)

important landmarks in the park. However, as electricity rendered their function obsolete, these "San Francisco Giants", as they are known internationally, suffered from neglect and severe deterioration. Today, all that stands on the Murphy Windmill site is the thirty foot tall concrete base and adjacent brick millwright's

cottage. Until 2000, the windmill sat decaying and overlooked on its overgrown lot, with pieces of its sails rotting in the bushes on the ground beside the base. Since then, the Murphy Windmill's extant machinery and tower components were removed by preservationists and put into storage as part of an effort known as the Campaign to Save the Golden Gate Park Windmills. After years of delays due to insufficient funding, the Murphy Windmill is about to be re-erected on its original site thanks to the efforts of the Campaign, including many individuals, organizations and, especially, the San Francisco Recreation and Parks Department.

Windmills

A windmill is a machine built to transform the energy created by the wind into a power source for grinding grain, sawing wood, or pumping water, as with the Murphy Windmill. Historically, windmills enjoyed popularity in the United States from the colonial period until the advent of steam power.¹ Water-pumping windmills became indispensable during westward expansion because they

allowed vast expanses of land to be transformed into farm and ranchland. More recently, a new generation of windmills, referred to as wind turbines or wind generators, has emerged as a clean energy source for today's environmentally conscious society.

The Murphy Windmill is a smock mill: a many-sided wooden mill that typically sits on a brick base (although the Murphy Windmill's base is concrete) and is topped by a cap which rotates on a curb and carries the sails, fantail, and brake wheel. An outside stage is added to give the miller access to the sails and striking gear. With a smock mill only the windmill's cap rotates, as opposed to a post mill where the entire structure turns in the wind. As a result, the windmill is sturdier and, therefore, can be much bigger and taller, like the oversized Murphy Windmill. A smock mill commonly has a six or eight sided frame supported by a series of corner or cant posts held together by tie beams and ledges mortised onto them. Vertical studs and diagonal braces between the cant posts and tie beams are mortised together to create an enormously strong interlocking structure. The mill's high base achieves the dual function of elevating the sails up into the wind and keeping the wood members clear of ground water and potential rot.² Figure 3 depicts the Murphy Windmill's position high above surrounding vegetation.



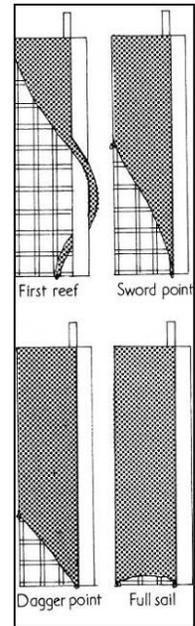
Figure 3. Murphy Windmill postcard dated 1911 (California Historical Society FN-35177)

A windmill's sails are blown by the wind, turn, and rotate the axle, called a windshaft, upon which they are set. Inside the top of the mill, also on the windshaft and opposite the sails, is the brake wheel, which contains the gears and drives the windmill's machinery.³ In order to turn, the sails must be faced into the wind. The beams that pass through the canister socket at the exterior end of the windshaft, called stocks, form a cross and carry the long bars, known as whips or spars, which bear the framework of the sails. The cloth sails are set at an angle to the plane of movement created by the revolving whips. The ideal angle has been found to be approximately 20 degrees. The greater the sail area, the stronger the force exerted, and the faster the sails and mill machinery will turn. However, an excess of speed produces added stresses on the machinery and, thus, higher speeds does not necessarily mean greater productivity. In general, a sail must complete at least twelve to fifteen full revolutions in order to pump (or grind) efficiently.⁴



**Figure 4. Windmill
(California Historical
Society FN-35181)**

Cloth sails are tied at an inner end, or heel, of the frame or attached to rings on an iron rail. The sail can be adjusted by lines or cords running down both edges to increase or reduce surface area, thereby controlling the force of power generated. This process is called reefing and includes four settings: first reef, sword point, dagger point, and full sail, as illustrated in Figure 5. Weathered sails, which are angled at 20 degrees at the inner end and flattened to 5 degrees at the tip, like those on the Murphy Windmill, were thought by many to maximize sail efficiency, although they are slightly harder to start than constant pitch sails.⁵



**Figure 5.
Windmill sail
positions**

The Murphy Windmill also employed an addition small mill with several vanes, known as a fantail, which served as a secondary windmill set at a right angle to the main sails, as seen in Figure 4. The fantail is geared through a spur pinion to turn the windmill's cap on its curb. When the wind shifts and the fantail begins to spin, the cap rotates and readjusts the main sweeps directly into the wind.⁶

Murphy Windmill History

In the 1850s and 1860s, the area in the northwest tip of the San Francisco peninsula that would become home to Golden Gate Park was known as the "Outside Lands", an arid, windswept, desolate stretch of sand dunes. (Figure 6) On April 4, 1870, the State of California passed legislation



**Figure 6. Sand dunes in the
"Outside Lands", circa 1865**

enabling the creation of a park for the city of San Francisco, to be known as "Golden Gate Park". On December 30, 1871, the park plan devised by Civil Engineer William Hammond Hall was adopted by the Board of Park Commissioners. The plan called for stabilizing the sand dunes and introducing vegetation such as hearty grasses and forest trees thereon. From its inception, the plan emphasized that the park was to be "natural in appearance – a woodland park. Nothing in the park was to

be suggestive of the city."⁷ The use of windmills to pump water was thus discouraged. Instead, Hall proposed a steam plant for pumping could be built underground and then completely hidden.

In 1887, John MacLaren became Supervisor of Golden Gate Park and, along with Park Commissioners Adolph Spreckles and Reuben Lloyd, advocated strongly for the use of windmills to pump fresh water into the park, despite the general opinion that it would be impossible to find fresh water so close to the ocean. Fresh water would facilitate the greening of the park's expansive dunes through irrigation. In 1902, after a great deal of discussion, MacLaren finally succeeded in persuading the Park Commission to order the construction of a North, or "Dutch" windmill in the northwest corner of the park at a cost not to exceed \$14,000.⁸



Figure 7. The Dutch Windmill today (Liz Hafalia, San Francisco Chronicle)

The Dutch windmill was designed by Alpheus Bull Jr., a San Francisco mechanical engineer. The Fulton Engineering Company won the contract for the windmill's ironwork at a cost of \$3,100, and the Pope and Talbot Lumber Company donated spars of Oregon pine.⁹ Prior to the Dutch Windmill's construction,

sprinkling wagons, hired from Spring Valley Water Company at \$1,050 a month, brought in water to irrigate

seventy acres of park. The new windmill supplied the first pumped water into Golden Gate Park and was able to irrigate one hundred acres of land¹⁰ at an entire cost of just over \$18,000.¹¹

In 1905, Mayor Eugene Schmitz praised the Park Commission for its vision and success.¹² Also impressed, Samuel G. Murphy, a San Francisco banker and philanthropist, was inspired to donate \$20,000 for the construction of a second windmill in order to make Golden Gate Park "the most beautiful spot in the world".¹³ An inscription on the granite lintel above the windmill's entrance doorway bears the words "Gift of Samuel G. Murphy 1905" in honor of his contribution. Others offered donations to support construction as well, including



Figure 8. Windmill under construction (California Historical Society FN-32851)

300 barrels of cement by Park Commissioner Dingree, granite for the window sills and lintels by Raymond Granite Company, copper for the windmill cap by Louis Sloss,¹⁴ and timber by the Wendling Cross Lumber Company.¹⁵ The Park Commission hired J. Charles Henry Stut, a German-born, Oakland-based mechanical engineer, to prepare plans and specifications for the new windmill, which were approved in August 1905. Construction began immediately.

Stut's original drawings for the Murphy Windmill, dated July 18, 1905, are almost an exact copy of Bull Jr.'s design for the Dutch Windmill, with the exception of the roof line, fan tail, and operating mechanism.¹⁶ Neither windmill, however, was built as initially planned. The Murphy Windmill was proposed with gently inward-curved walls above the base but, by 1907, the design had changed and the tower was built of wood with flat, straight sides. This alteration may have been related to the massive earthquake that shook the city



**Figure 9. November 5, 1907
(San Francisco Public Library)**



Figure 10. Postcard, no date

on April 18, 1906 and substantially delayed completion of the mill. The windmill was completed in 1907, and a dedication ceremony took place on April 11, 1908. The structure stood at a height of approximately 97 feet, including an octagonal thirty-foot concrete base and a fifteen-foot copper clad dome atop the tower, and pumped 40,000 gallons of water per hour.¹⁷

In late 1908, Park Commissioners ordered Superintendent MacLaren to consult with Reid Brothers, an architectural firm who offered to donate their services and design a millwright's cottage beside the Murphy Windmill. On September 8, 1909, a contract for constructing the cottage was awarded to the Andrew Wilke Company on a low bid of \$3,383.¹⁸ The cottage, a one and

and a half story brick structure laid in Flemish bond, was completed in 1910 and served as home to the keeper of the windmill, who oiled the bearings regularly and applied the emergency brake whenever high winds or storms threatened.¹⁹

According to Dutch windmill expert Lucas Verbij, both the Murphy and Dutch windmills evidence great ingenuity of engineering and design.²⁰ They are unlike any others in the world, built as massive machines to catch the fierce winds and storms that came in off the nearby ocean, 300 feet to the west. Stut's contribution is especially notable. Although based in America, he researched windmills throughout Europe as he formulated his eventual plan for the Murphy Windmill. He devised a system in which the sails turned clockwise, the opposite direction of its Dutch and European counterparts. In addition, all of the machinery was fashioned from steel and cast iron, unlike Dutch windmills which have historically used wooden gear systems, including the bearings. Stut's father was a blacksmith, and it is possible that he was able to translate the wood machinery to metal based on his knowledge of blacksmithing.²¹ Finally, the substantial size of the windmills, known as the "San Francisco Giants" in the Netherlands today, makes them uniquely American in design. Mark de Jong, a Dutch-born contractor currently working on the Murphy Windmill project whose specialty in the Netherlands was historic preservation, noted, "In Holland, windmills are about half that size."²² In fact, at 114 feet each, the Murphy Windmill's sails were, and will be again, the longest in the world.



Figure 11. Golden Gate Park ca. 1872.



Figure 12. Windmill and sump, no date (California Historical Society FN-35179)

The Dutch and Murphy Windmills were instrumental in transforming the western end of Golden Gate Park, an area between Strawberry Hill, at 19th Street, and the Pacific Ocean, from sand dunes into the green, grassy expanse that exists today. Figure 11 depicts the park in 1872 and demonstrates the barren state of the park west of Strawberry Hill during this era. Together, the two windmills provided the park with an average of 70,000 gallons of water every day.²³ Both the Dutch and Murphy Windmills pumped water from an aquifer located approximately 200 feet below the surface. While the location of the original well is unknown, a pump at the base of the well shaft brought the water into a sump, or storage area, just west of the Murphy Windmill, as seen in Figure 12 and Figure 13. The

windmill drew water from the sump and pushed it to a reservoir on Strawberry Hill.²⁴ A second well was sunk to a depth of 231 feet for the Murphy Windmill in 1926, and the pump was set at 200 feet. This well head still exists today in a location northwest of the Millwright's cottage. The pumphouse is in an underground chamber behind the windmill, and, according to a Historic Structures Report published in 2003, "the piping used to pump water from the windmills to Strawberry Hill is the same piping installed at the beginning of the twentieth century when the windmills were constructed."²⁵

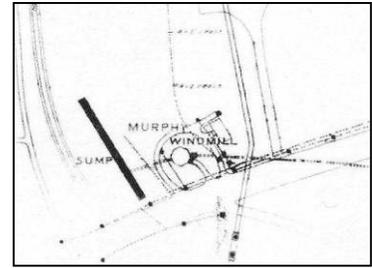


Figure 13. Ca. 1916 map showing windmill site

The advent of electricity precipitated the demise of wind-powered pumping in Golden Gate Park. In 1913, electric motors were installed in the Dutch Windmill to enhance its power, increase reliability, and decrease maintenance needs, but not to fully replace the wind-driven motor. By October 1916, the Murphy Windmill pumps, too, were electrified.²⁶ The windmills no longer served a primary function in the park and, over time, become obsolete. Both the Dutch and Murphy windmills were removed from service circa 1935.²⁷ During World War II, some components of the windmill's machinery were melted down for weaponry.²⁸ In the intervening years, the windmills have slowly declined in both structural integrity and public appreciation, despite occasional efforts toward their preservation.



Figure 14. Postcard, no date

Raymond H. Clary's book, *The Making of Golden Gate Park, The Growing Years: 1906-1950*, documents a handful of appropriations for repairs to the Murphy Windmill. In October 1944, Park Superintendent Julius Girod reported that one of the spars on the Murphy Windmill was "in such a state of dry rot that it was in danger of falling. If it fell, it would probably destroy the entire structure."²⁹ The board petitioned the city for \$800 for its removal and, the following month, the mayor approved the request and the J. Philip Murphy Company was awarded the contract for \$750. The windmill also underwent restoration in 1948.³⁰ On July 13, 1958, it was reported that the city was preparing to tear down both the Murphy and Dutch Windmills due to lack of funds unless the \$30,000 needed to repair the Murphy windmill could be found.³¹ On March 21, 1966, the sails

were dismantled and removed from the Murphy Windmill.³² Luckily, the windmill tower survived intact until the present day.

Preservation Efforts

In 1964, Eleanor Rossi Crabtree, daughter of San Francisco Mayor Angelo Rossi, initiated a fundraising campaign to rescue the dilapidated north Dutch Windmill. By the early 1980s, her efforts were realized and the windmill underwent cosmetic repair. A small electric motor was installed that allowed the sails to occasionally spin again. In 1981, the city created the Queen Wilhelmina Tulip Garden on the site (Figure 15) and designated the Dutch Windmill a city landmark. The windmill turned until around 2003, when a storm proved too strong for the electric motor and the sails had to be tied down forcibly, risking the lives of the people involved and ruining the metal machinery in the process.³³



Figure 15. Dutch Windmill, March 13, 2007 (Sarah LeVaun Gaulty)

While the Dutch Windmill enjoyed a cosmetic restoration and a rejuvenation of public interest, the Murphy Windmill to the south remained all but forgotten. Several false starts signaled hope for the mostly overlooked structure, but to no avail. In 1993, San Francisco Beautiful (SFB), a local non-profit group, and the Recreation and Park Department initiated an effort to preserve the Murphy Windmill. SFB funded a rehabilitation cost assessment study and enlisted the help of Dutch windmill design and construction expert Lucas Verbij. After Verbij traveled from the Netherlands and completed an extensive study, he reported that both the Dutch and Murphy Windmills required "immediate attention".³⁴ However, the study was shelved and no action as taken as a result.

In 1997, the Golden Gate Park Conservancy, a partnership between the nonprofit Friends of Recreation and Parks (renamed the San Francisco Parks Trust in 2004) and the Recreation and Park Department, kicked off a multi-million dollar project focusing on the fifty acres on the park's westernmost edge. This western end had been designed to be the "natural" counterpart to the park's cultured and manicured east end, but neglect in recent years had rendered it an overgrown, uninviting locale. As part of this project, crews cleared dense underbrush from the Old Railroad

Trail, a half-mile path that began by the then dilapidated and generally ignored Murphy Windmill site on the southwest edge of the park and concluded near the Dutch Windmill at the northwest corner. Donna Ernston, executive director of Friends of Recreation and Parks, said in 1997, "The trail, so overgrown that visitors could not see far in any direction, had developed a forbidding and desolate feeling... Its foliage had become a hiding place where people would set up camp, sell drugs or cruise for sex."³⁵ Once the Old Railroad trail was opened up with new landscaping and improved visibility and security, the Murphy Windmill enjoyed newfound recognition.

Renewed interest and activity surrounding the Murphy Windmill made it clear that the site represented significant potential in a reinvigorated west end. In June 2000, at a reception presenting plans for a nearby community center pavilion, San Francisco Supervisor Mark Leno announced a pledge of \$500,000 on behalf of the City towards the windmills' restoration process. (In 2002, the city would contribute another \$500,000.) Don Propstra, a local Dutch-American businessman and philanthropist, offered to lead the effort to preserve the Murphy and Dutch windmills. On August 1, 2000, the Campaign to Save the Golden Gate Park Windmills held its first official Steering Committee meeting. In these early stages, the Campaign was a citizens group composed mainly of Dutch-Americans from San Francisco who viewed the windmills as an important symbol of their ethnic heritage. They took the first steps toward stabilizing the structure and evicted the hundreds of pigeons and ravens that had taken up residence in the windmill's cap.³⁶ As the movement gathered momentum, it expanded to include a wide variety of

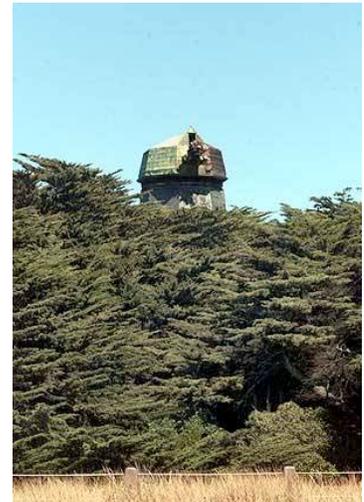


Figure 16. Murphy Windmill, 2001 (John O'Hara, San Francisco Chronicle)

individuals, businesses, and organizations. In 2001, the Recreation and Park Commission voted in support of a restoration plan presented by the Campaign and, on June 26, 2002, the Campaign officially kicked off its public and private fundraising effort.

Existing Conditions

By this time, the Murphy Windmill was in a severely deteriorated state. Wind and water damage, and the effects of time and neglect, had taken their toll on the structure. The sail mechanism had been removed from the tower, and the remains of the sails and fantail lay on the ground, decaying, next to the windmill's base. (Figure 17) In March 2002, the San Francisco Recreation and Parks



Figure 17. Dilapidated remains of the sails and fantail (Carey & Co.)

Department asked Carey & Co., a local architectural firm specializing in historic preservation, to prepare a proposal for the repair and rehabilitation of the Murphy Windmill. Over the ensuing months, they conducted an extensive study of the windmill, including several site visits and in-depth archival research.

On December 19, 2003, Carey & Co. submitted a Historic Structures Report to the Recreation and Parks Department. According to the report, the three panels on the windward (ocean) side of the eight-sided structure were in a critical state, due to the direct exposure to the weather coming off the Pacific Ocean. These panels were characterized by a heavy loss of shingles, extensive dry rot, loss of wood cladding, and biological growth. The report noted that "dry rot has decimated the exposed wood cladding and members, and is continuing to eat the wood away."³⁷ The five panels on the more protected leeward side fared better and had survived nearly intact, despite significant biological growth on the remaining slate, shingles, and wood. Fortunately, despite major failure, Carey & Co. found that "the exterior of the Murphy Windmill retains a very high degree of integrity, with exceptionally few alterations."³⁸



Figure 18. Murphy Windmill in 2002 showing exposed wood cladding and shingle loss



Figure 19. Severely deteriorated iron and steel mechanism inside the Murphy Windmill (Carey & Co.)

The windmill's interior was suffering from serious moisture problems. Water was entering the tower from a number of places including the floors, window opening, and roof and causing acute degenerative conditions. The failure of the roof over time had led to "large-scale failure", with evidence of rot, fungal infestation and other destructive forces throughout. The windmill's steel and iron mechanisms were severely deteriorated, as illustrated in Figure 19. The floors varied in condition from fair to poor, but Carey & Co. believed that they were reparable.³⁹

Preservation Plan

The Campaign devised a two-part plan for the preservation of the Murphy Windmill structure. The



Figure 21. Removal of antique gear mechanism via crane, June 26, 2002 (Scott Sommerdorf, San Francisco Chronicle)

scope of the first phase, called 1A, called for removal and restoration of the top part of the windmill. In May 2002, the Recreation and Park Commission awarded a construction contract to Lucas Verbij of Hoogmade/BV Windmill Construction/Restoration and the Bloemendal Construction Company, a joint venture. The windmill's dome and pump mechanism were removed and nearly forty tons of machinery were then shipped to the Netherlands for restoration by fourth-generation windmill expert Verbij, whose family has been constructing, restoring, and maintaining windmills throughout the world since 1868.⁴⁰ Verbij was also charged with restoring and rebuilding the sails, fantail, and windshaft. The removal of the cap was timed to coincide with the Campaign's official launch on June 26, 2002, and project partners and donors assembled at the Murphy Windmill site as engineers dismantled the dome and removed the pump mechanism from the tower via crane, seen in Figure 20.



Figure 20. Windmill gear mechanism and Lucas Verbij, right. (Scott Sommerdorf, San Francisco Chronicle)

In the second part of Phase 1A, the remaining structure was meticulously documented, catalogued,



Figure 22. Restoration of cap in the Netherlands (Campaign to Save the Golden Gate Park Windmills)

and partially dismantled, and the vintage windmill components were stored in a secure warehouse on the Murphy Windmill site. Carey & Co., as part of their extensive study, assessed each piece of wood within the windmill. Their comprehensive Historic Structures Report, delivered on December 17, 2003, became a vital tool in creating the windmill's preservation plan.

As of today, Phase 1A is essentially complete and the second phase, 1B, is just getting underway.

Phase 1B consists of the stabilization and restoration of the Murphy Windmill tower, the return of the restored cap from the Netherlands, and its remounting in place. However, deep problems in

fundraising complicated the preservation project planning and led to substantial delays in initiating this phase.

Fundraising History

Initially, the Campaign was spearheaded by a group of concerned local citizens but, by 2002, the group had grown to include a diverse collection of individuals and organizational partners. By the time the Campaign officially kicked off in the summer of 2002, it had already raised \$1.9 million to fund the restoration of the Murphy Windmill from a variety of public and private donors, including individuals, nonprofit groups, public agencies, and businesses.⁴¹ Soon after, however, the organization began to face severe fundraising problems. Despite attention from the press, the involvement of influential and high profile people such as Boudewijn van Eenennaam, Ambassador of the Netherlands, and the support of the Mayor, the Campaign was unable to meet its initial fundraising deadlines.

Though stalled in their efforts, members of the Campaign persisted and won a major victory in 2003, with the award of a sizeable grant. On August 15, 2003, the Bay Area Conservancy, a program within the California State Coastal Conservancy (SCC), recognized the project's importance and announced that it awarded a \$750,000 grant to the Friends of Parks and Recreation to support the Murphy Windmill's restoration. "The Golden Gate windmills are spectacular structures whose historical significance extends far beyond San Francisco," said Larry Goldzband, Vice-Chairman of the Conservancy. "Towering above the surrounding landscape, they are unique and delightful elements of California's coastal heritage."⁴² According to Campaign fundraiser Paula March, the Friends of Parks and Recreation intended to use the SCC funds to help finance tower restoration, landscaping around both the Murphy and Dutch windmills, and installation of educational materials.⁴³

In spite of this major grant, the Murphy Windmill project had to be pushed back. In December 2003, the Recreation and Park Commission granted an extension from 365 consecutive calendar days for the Phase 1A contract to 822 days, with a substantial completion date of September 25, 2004 in order "to allow the Campaign to raise more funds for Phase 1B, the restoration of the tower".⁴⁴ Phase 1A could not be fully completed without the implementation of 1B.

The Recreation and Park Department, seeing that the Campaign was struggling with fundraising and had essentially become dormant, stepped up their efforts to preserve the Murphy Windmill. In late 2004, the city earmarked an additional \$600,000 for the project, which Recreation and Park Commission member John Murray said would help the city compete for a dollar-to-dollar matching California Cultural and Historical Endowment (CCHE) grant.⁴⁵ In May 2006, the Recreation and Park Department and the Campaign to Save the Golden Gate Park Windmills applied for and were awarded a CCHE grant in the amount of \$488,411 to fund a portion of the Murphy Windmill Project, Phase 1B, Tower Restoration. In the application, funding was requested for "improvements to the base/tower foundation, first floor level, gallery and gallery floor, wooden tower and exterior wall covering... [and] dome fantail and sail installation."⁴⁶

The CCHE is relatively new grant program. In 2002, the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act, known as Proposition 40, created the CCHE to support "the acquisition, development, preservation, and interpretation of buildings, structures, sites, places, and artifacts that preserve and demonstrate culturally significant aspects of California's history and for grants for these purposes."⁴⁷ In August 2003, the state budget authorized CCHE to distribute \$128 million to carry out its programs, \$43 million of which were available in the Endowment's second round of one-to-one matching grants, in 2006. The Murphy Windmill's \$488,411 came from these Proposition 40 funds.

Because of the CCHE grant, the Murphy Windmill project could finally proceed. In August of 2006, the Commission approved Phase 1B of the project contingent on securing the remaining funds and granted a further extension by another 380 calendar days, which set completion at December 31, 2007.⁴⁸ By February 15, 2007, the Department announced that it had "now secured the funding necessary to move forward".⁴⁹ Although the windmill cap restoration had been completed by January 2005, the lack of funds in 2005-2006 and delayed tower restoration prevented its homecoming. Lucas Verbij agreed, for a fee, to house the restored windmill components at his facility in the Netherlands until the tower is rebuilt and he can return and reassemble the cap.⁵⁰ With the final funds in place at last, the Department has been able to secure a new construction contract and anticipates the return of the cap near the beginning of 2008. According the Lena Ch'en at the Department, the project should be entirely complete and open to the public by March 2008.⁵¹

On March 13, 2007, Murphy Windmill project team members met for the first Phase 1B construction meeting. Attendees included Lena Ch'en; Charlie Duncan from Carey & Co.; and Mark de Jong, a Dutch contractor with Bloemendal Construction Company who has been involved with the Campaign since its inception and was awarded the contract for Phase 1B. At the meeting, project details such as copper and slate types for the windmill's cap and wall cladding were approved. Since then, the first stages of construction on the tower have begun.

Project Scope

The Campaign's original vision for the windmill project was very broad. A 2002 press release stated that the effort included plans "to restore the South Windmill to demonstrable capacity and continue the preservation and maintenance of the original structure and design of both the North and South Windmills. New landscaping will link the giant structures back to the surrounding grounds, creating a hiking and biking pathway circling the two windmills."⁵² In addition, the plan called for interpretive programs concerning history and wind power, as well as an endowment to ensure continued maintenance.⁵³ Fundraising shortcoming necessitated a dramatic scaling back in scope: only the Murphy Windmill would undergo restoration. The immediate area of the windmill will be minimally landscaped and although the pumping machinery will be reinstalled, it will not be operational. Pumping systems work most efficiently when the mechanism has a force to pump against, so the lack of an intact water system means that the restored windmill will spin, but not pump.⁵⁴ Unfortunately the budget, as it exists today, also does not provide for continued maintenance of the Murphy Windmill.



Figure 23. Murphy Windmill, 2002 (Carey & Co.)

The city hopes that someday the windmill's pumps may be used to irrigate nearby soccer fields, or pump into the Chain of Lakes, which are bodies of water in Golden Gate Park reserved for recreational use.

The lakes are draining water and, instead of repairing leaks, an ideal solution would be to recycle the water back in using the windmill, but no funding is available to finance such a plan. In addition, although the windmill project's scope was reconfigured to exclude any restoration work at the Dutch windmill, the city studied the mill and now knows what it needs structurally, but lacks the money to

implement any changes. Future improvements at both windmills will have to come gradually, when money becomes available.⁵⁵

Organizational Critique

Although the Campaign to Save the Golden Gate Park Windmills ultimately found success and the sails of the Murphy Windmill will turn again in 2008, the path to this eventual achievement was lengthy and, at times, quite difficult. The Campaign faced obstacles from the beginning in its fight to save the Murphy Windmill. First, there was a lack of appreciation for the windmill: local citizens generally either ignored the structure, or saw it as blight. In a 1997 *San Francisco Chronicle* article applauding efforts to reinvigorate the park's west end and detailing the many appealing features found in that portion of the park, the Murphy Windmill is mentioned only to say that it is "broken down" and that "the nearby Millwright's House... probably will be razed" because, according the president of a local nonprofit, "the house was damaged in the earthquake, has termite and asbestos problems and is not accessible to the handicapped."⁵⁶ The 1995 Golden Gate Park Master Plans likewise recommended that the building be demolished.⁵⁷ Beginning in 2000, the Campaign initiated an effort to raise the public's awareness of the Murphy Windmill site's historical value and built local pride in the structures. That same year, the structure joined the Dutch Windmill on the list of designated city landmarks. Over the next several years, the windmill grew in reputation through marketing efforts, a polished website, newspaper articles, and a high-profile Campaign fundraising kickoff in 2002.

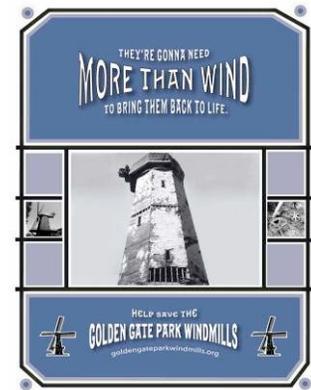


Figure 24. Bus stop placard advertising the Campaign (Steven Anacker, Designer)

After an initial flurry of donations, the Campaign was beset by a second obstacle: decreasing donations and limited funding. Financial problems are certainly not uncommon to efforts such as these. In his book *A Richer Heritage*, Robert E. Stipe remarks that in historic preservation, "our principal problem centers on money."⁵⁸ However, this somewhat common setback was aggravated by what Lena Ch'en of the Recreation and Park Department characterized as the Campaign's lack of fundraising experience.⁵⁹

The Campaign, like many historic preservation undertakings, emerged from a grassroots effort. Local citizens, afraid that their beloved Murphy Windmill would be lost, rallied together to advocate for its preservation. The group members had passion, but



Figure 25. Campaign chairman Don Propstra in the second story of the windmill (Liz Hafalia, San Francisco Chronicle)

they were short on expertise. In their essay "Local Government Programs: Preservation Where It Counts", Confresi and Radtke explain that the high number of grassroots efforts within the

broader American preservation movement has meant that many preservation organizations lack the skills necessary to operate in the most efficient manner. "Training in the areas of volunteer political leadership, tactics, fiscal management, and strategy... is desperately needed."⁶⁰ Poor fundraising skills in particular, due to a lack of training, was likely a major factor in the financial problems that besieged Campaign in the years after 2002.

The Murphy Windmill project eventually managed to find financial success after the city of San Francisco stepped up its active involvement in the project, bringing much-needed expertise. From this point forward, the Campaign (now steered to a greater degree by the Recreation and Park Department) expanded the methods in which they sought funds for the restoration of the windmill. State grants are a vitally important funding source for historic preservation throughout the country. In their essay "The States: The Backbone of Preservation", Lyon and Brook note, "Since passage of the landmark National Historic Preservation Act of 1966, the states have become both the central and the critical mechanism for the administration of the national-state-local historic preservation partnership."⁶¹ Because the city turned to state administered grants and were awarded a CCHE grant in 2006, Phase 1B tower construction could finally begin.

In addition, the city brought the skills to ensure careful money management to the Campaign. For example, the SCC grant awarded in 2003 was originally set to expire on March 30, 2007, but the Campaign had not yet expended and submitted reimbursement requests by that date, as required by the state. A total of \$336,000 remained unspent. So, on February 15, 2007, the Recreation and Park Department requested approval to "move the front end portion of work in the second phase of the project, Phase 1B, to the currently active contract of Phase 1A, in order to execute this work in the

time allowed."⁶² The Recreation and Park Commission approved the increase to Phase 1A, and the grant funds were preserved.

In addition to fundraising obstacles, the Campaign faced the challenge of sustaining momentum. The effort, like many preservation movements and nonprofit organizations, was need-driven. The Campaign formed around one specific preservation project, the windmills, because members recognized them as significant monuments in danger of collapse and felt passionately about their protection. In speaking about the Murphy Windmill, Campaign chairman Don Propstra said, "The windmill would have been lost forever if we hadn't stepped in... It was on its very last rotting legs."⁶³ Because the group formed in response to a specific need, the Campaign was very singularly focused, making it hard to maintain a high level of energy and optimism in the face of setbacks, such as dwindling donations. Their highly ambitious original plans to restore both windmills, add landscaping, and provide for interpretation and maintenance may have made the project seem especially daunting to the Campaign as time went on. Eventually, the Campaign lost momentum and fell dormant, despite much great work and early successes.

In evaluating its strengths and weaknesses, the Campaign must be praised for its commitment to preservation policy and strict adherence to the Secretary of the Interior's Standards. Preservation architect Charlie Duncan from Carey & Co. has continued to be closely involved with the project since 2002, when the firm was hired to complete a Historic Structures Report. Respect for historic materials has been a priority throughout the project planning. For example, at Phase 1B's first construction meeting, contractor de Jong explained a preservation-friendly solution to problems with failing original materials in the windmill structure. Because many of the ends of the windmill's supporting timbers had to be cut off due to water damage, the contractor will use new compatible lumber at the base, where longer pieces are needed. The now-shorter historic materials will be installed beginning at the next stage up in the tower, where consecutively shorter members will be necessary as the structure tapers toward the cap. In addition, the Murphy Windmill restoration is in step with environmental concerns. Due to decay, the windmill's eight vertical corner posts, fifty feet long, twelve inches square, and milled from old growth Douglas fir trees, have to be replaced. De Jong contracted with Pacific Western Lumber Company, who opposes the cutting of old growth forest, to mill the new posts.

Conclusion

In the end, despite substantial stumbling blocks, the Murphy Windmill is being preserved because a number of parties united in a cooperative public-private partnership. The Campaign to Save the Golden Gate Park Windmills initiated a fundraising effort that created a financial base on which the San Francisco Recreation and Park Department could build in order to achieve necessary funding levels by early 2007. The Campaign succeeded in utilizing both private and public monies at the local and state levels toward their eventual goal of rescuing a threatened San Francisco landmark. While the project is ultimately a success story, the dedicated and enthusiastic Campaign's inability to sustain momentum without the city's aid underscores the need for training at the grassroots level to encourage the success of smaller-scale preservation efforts.

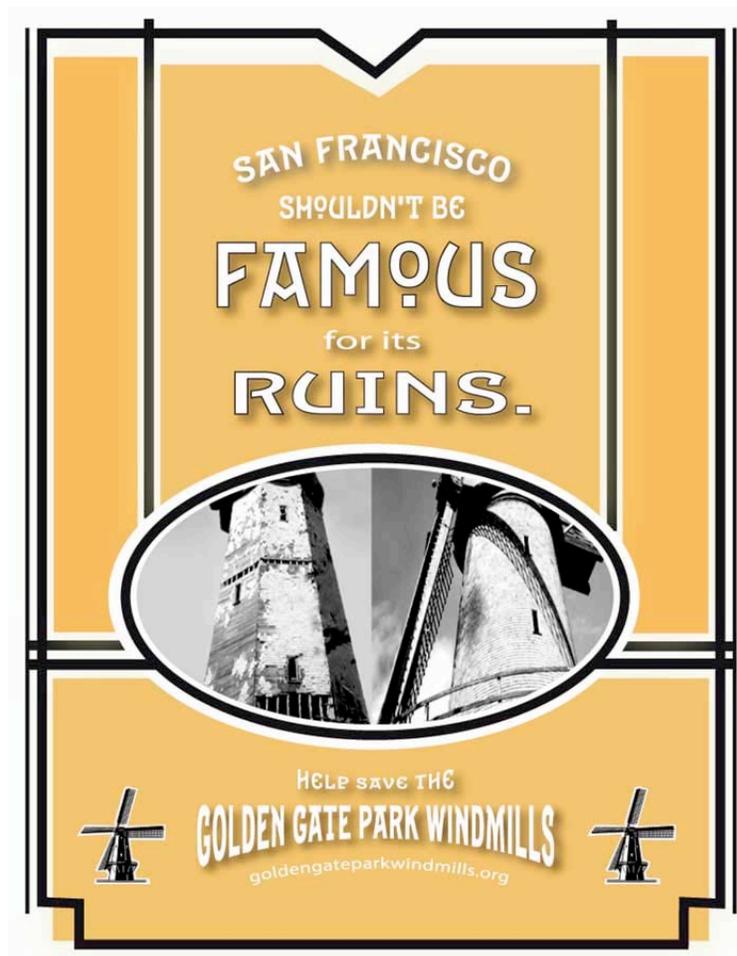


Figure 26. Bus stop placard advertising the Campaign (Steven Anacker, Designer)

Additional Photographs and Drawings

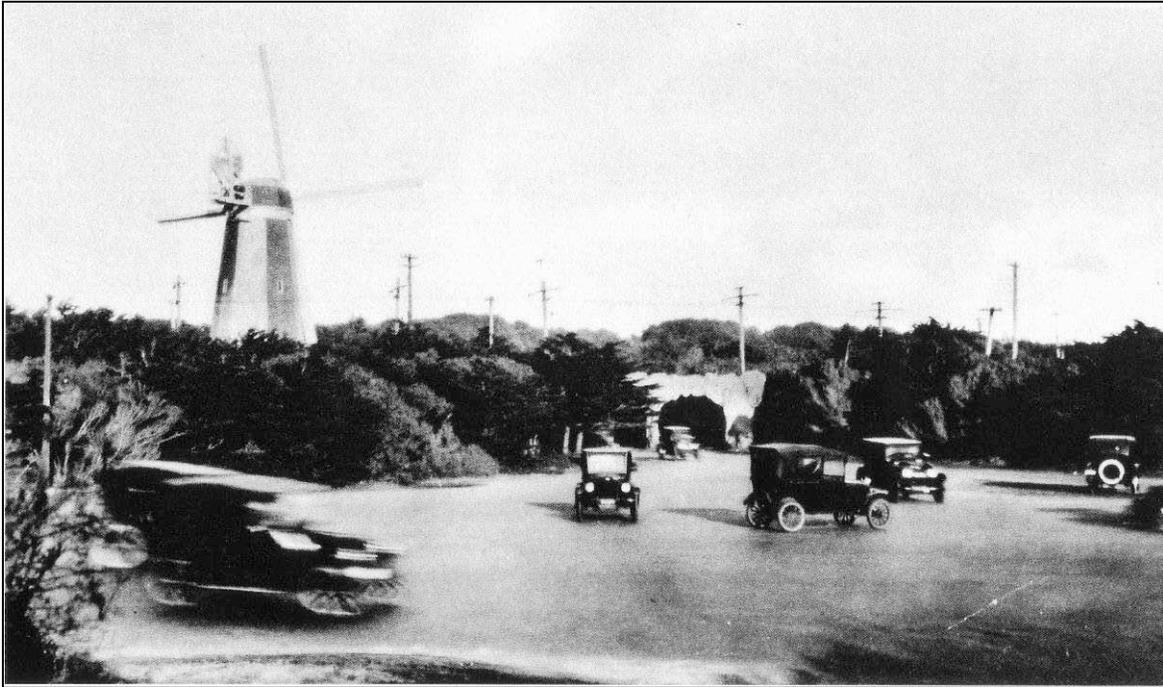


Figure 27. Murphy Windmill during the late nineteen-teens or twenties (California Historical Society FN-24858)



Figure 28. Ca. 1926 (California Historical Society FN-21080)



Figure 29. View west to the Murphy Windmill, no date (California Historical Society FN-35182)



Figure 30. No date (California Historical Society FN-35180)

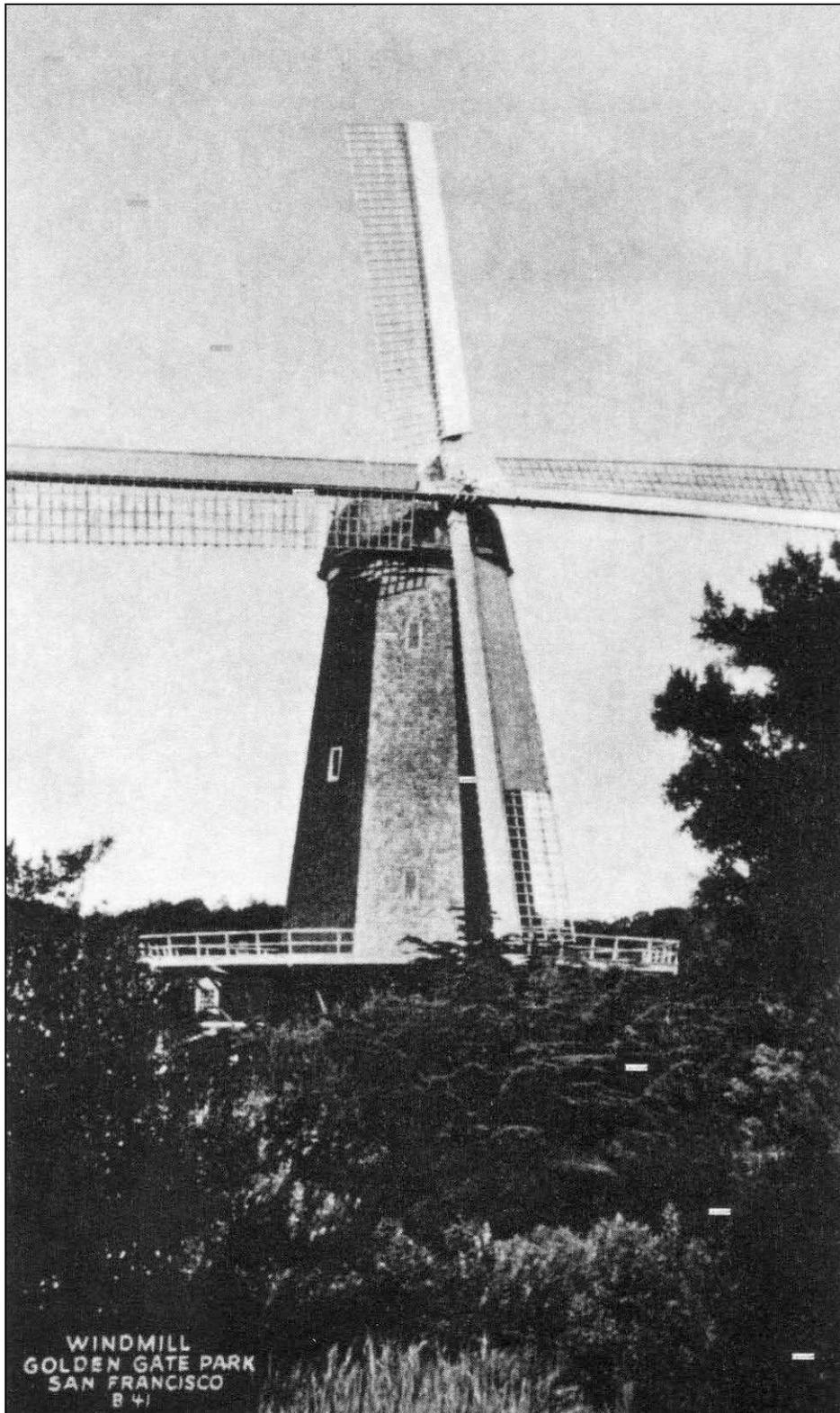


Figure 31. Postcard, no date (California Historical Society FN-35175)

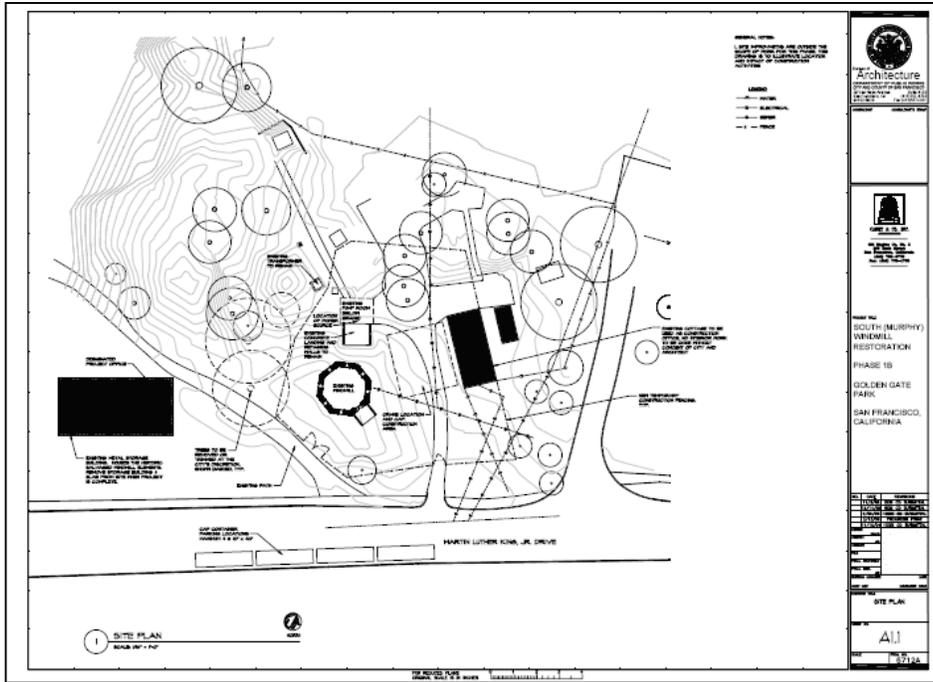


Figure 32. Murphy Windmill Phase 1B (Carey & Co.)

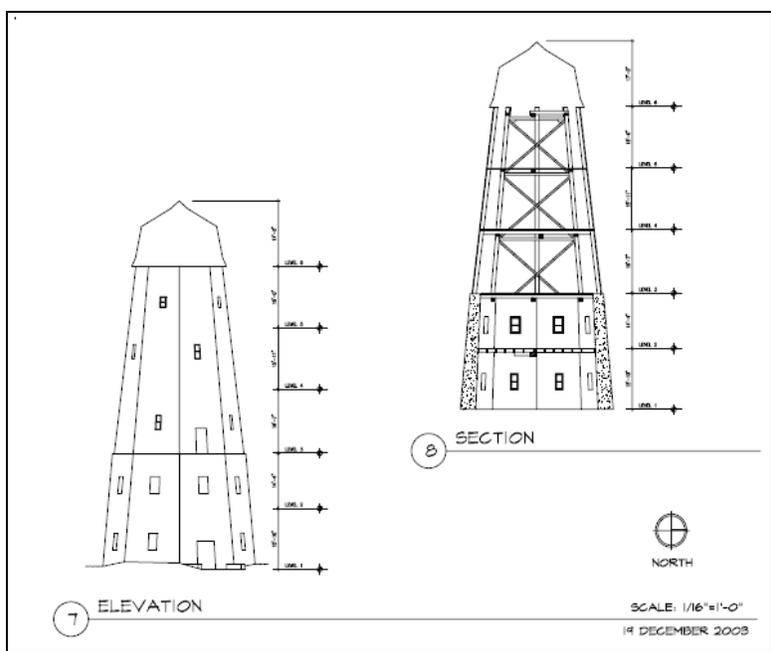


Figure 33. Murphy Windmill Elevations (Carey & Co.)

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- ¹ Susan Beedell, *Windmills* (New York: Charles Scribner's Sons, 1975) p. 123.
- ² Susan Beedell, *Windmills* (New York: Charles Scribner's Sons, 1975) p. 81.
- ³ Susan Beedell, *Windmills* (New York: Charles Scribner's Sons, 1975) p. 19.
- ⁴ Susan Beedell, *Windmills* (New York: Charles Scribner's Sons, 1975) p. 19.
- ⁵ Susan Beedell, *Windmills* (New York: Charles Scribner's Sons, 1975) p. 22, 27.
- ⁶ Susan Beedell, *Windmills* (New York: Charles Scribner's Sons, 1975) p. 38.
- ⁷ Raymond H. Clary. *The Making of Golden Gate Park, The Early Years: 1895-1906* (San Francisco: California Living Books, 1980) p. 21.
- ⁸ Raymond H. Clary. *The Making of Golden Gate Park, The Early Years: 1895-1906* (San Francisco: California Living Books, 1980) p. 146-7.
- ⁹ Raymond H. Clary. *The Making of Golden Gate Park, The Early Years: 1895-1906* (San Francisco: California Living Books, 1980) p. 147.
- ¹⁰ Raymond H. Clary. *The Making of Golden Gate Park, The Early Years: 1895-1906* (San Francisco: California Living Books, 1980) p. 149.
- ¹¹ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 4.
- ¹² Campaign to Save the Golden Gate Park Windmills, <http://www.goldengateparkwindmills.org/history/index.html>.
- ¹³ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 4.
- ¹⁴ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 4.
- ¹⁵ Campaign to Save the Golden Gate Park Windmills, <http://www.goldengateparkwindmills.org/history/index.html>.
- ¹⁶ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 5.
- ¹⁷ A. L. Harris, "'Pacific Service' as an Aid to Nature in Golden Gate Park." *Pacific Service Magazine* (June 1914).
- ¹⁸ Raymond H. Clary. *The Making of Golden Gate Park, 1906-1960* (San Francisco: Don't Call It Frisco Press, 1987) p. 26.
- ¹⁹ Christopher VerPlank, "Catching up with Recently Designated San Francisco Landmarks: Murphy Windmill & Millwright's Cottage." *Heritage News* 28 n 4 (July/Aug 2000) p. 7.
- ²⁰ Sheila Kolenc, "Saving a San Francisco Giant: Windmill to Undergo Restoration". *Heritage News, San Francisco Architectural Heritages* 30 n2 (Mar/Apr 2002): 5.
- ²¹ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 7.
- ²² Sullivan, Kathleen. "Windmills taking a turn for the better: Nonprofit group adopts long-neglected landmarks." *San Francisco Chronicle* (Mar. 18, 2005) p. F1.
- ²³ Katherine Madariaga, "The Campaign to Save the Golden Gate Park Windmills officially kicks-off on June 26." *Landis Communications Inc.* (June 26, 2002).
- ²⁴ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 7-8.
- ²⁵ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 9-10.
- ²⁶ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 9.
- ²⁷ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 14.
- ²⁸ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
- ²⁹ Raymond H. Clary. *The Making of Golden Gate Park, 1906-1960* (San Francisco: Don't Call It Frisco Press, 1987) p. 156.
- ³⁰ Raymond H. Clary. *The Making of Golden Gate Park, 1906-1960* (San Francisco: Don't Call It Frisco Press, 1987) p. 167.
- ³¹ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 15.
- ³² Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 15.
- ³³ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
- ³⁴ Sheila Kolenc, "Saving a San Francisco Giant: Windmill to Undergo Restoration". *Heritage News, San Francisco Architectural Heritage* 30 n2 (Mar/Apr 2002): 5-6.
- ³⁵ Kathleen Sullivan, "Golden Gate Park: West end reawakens" *San Francisco Examiner* (Feb. 2, 1997) p. C.
- ³⁶ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
- ³⁷ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 27.
- ³⁸ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 26.
- ³⁹ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 37.
- ⁴⁰ Katherine Madariaga, "The Campaign to Save the Golden Gate Park Windmills officially kicks-off on June 26." *Landis Communications Inc.* (June 26, 2002).
- ⁴¹ Katherine Madariaga, "The Campaign to Save the Golden Gate Park Windmills officially kicks-off on June 26." *Landis Communications Inc.* (June 26, 2002).

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- ⁴² Chuck Squatriglia, "Grant helps S. F. abandoned park windmill" *San Francisco Chronicle* (Aug. 16, 2003) p. A17.
- ⁴³ Chuck Squatriglia, "Grant helps S. F. abandoned park windmill" *San Francisco Chronicle* (Aug. 16, 2003) p. A17.
- ⁴⁴ San Francisco Recreation and Park Commission. 824th Regular Meeting. *Minutes*. (Feb 15, 2007).
- ⁴⁵ Kathleen Sullivan, "Windmills taking a turn for the better: Nonprofit group adopts long-neglected landmarks." *San Francisco Chronicle* (Mar. 18, 2005) p. F1.
- ⁴⁶ San Francisco Recreation and Park Commission. 814th Regular Meeting. *Minutes*. (Feb 16, 2006).
- ⁴⁷ California State Library. "California Cultural and Historical Endowment (CCHE)." Online. Accessed April 18, 2007, <http://www.library.ca.gov/CCHE/index.cfm#background>.
- ⁴⁸ San Francisco Recreation and Park Commission. 824th Regular Meeting. *Minutes*. (Feb 15, 2007).
- ⁴⁹ San Francisco Recreation and Park Commission. 824th Regular Meeting. *Minutes*. (Feb 15, 2007).
- ⁵⁰ San Francisco Recreation and Park Commission. 824th Regular Meeting. *Minutes*. (Feb 15, 2007).
- ⁵¹ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
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- ⁵⁴ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
- ⁵⁵ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
- ⁵⁶ Kathleen Sullivan, "Golden Gate Park: West end reawakens" *San Francisco Examiner* (Feb. 2, 1997) p. C.
- ⁵⁷ Carey & Co., "Historic Structures Report: Murphy Windmill, Golden Gate Park" (Dec 19 2003) p. 16.
- ⁵⁸ Robert E. Stipe, "Where Do We Go From here?" In *A Richer Heritage: Historic Preservation In The Twenty-First Century*, edited by Robert E. Stipe (Chapel Hill: University of North Carolina Press, 2003) p. 454.
- ⁵⁹ Lena Ch'en, Interview by author. San Francisco, CA (March 13, 2007).
- ⁶⁰ Lina Confresi and Rosetta Radtke, "Local Government Programs: Preservation Where It Counts." ?" In *A Richer Heritage: Historic Preservation In The Twenty-First Century*, edited by Robert E. Stipe (Chapel Hill: University of North Carolina Press, 2003) p. 131.
- ⁶¹ Elizabeth A. Lyon and David L. S. Brook, "The States: The Backbone Of Preservation." In *A Richer Heritage: Historic Preservation In The Twenty-First Century*, edited by Robert E. Stipe (Chapel Hill: University of North Carolina Press, 2003) p. 81.
- ⁶² San Francisco Recreation and Park Commission. 824th Regular Meeting. *Minutes*. (Feb 15, 2007).
- ⁶³ Kathleen Sullivan, "Windmills taking a turn for the better: Nonprofit group adopts long-neglected landmarks." *San Francisco Chronicle* (Mar. 18, 2005) p. F1.

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