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United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name Morrison Bridge

other names/site number

2. Location

str☐ & number Spanning the Willamette River at RM 12.8 not for publication

city or town Portland ☐ vicinity

state Oregon code OR county Multnomah code 051 zip code 97204

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national X statewide X local

Signature of certifying official/Title: Deputy State Historic Preservation Officer Date 9.20.12

Oregon State Historic Preservation Office
State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:)

Signature of the Keeper Date of Action 11/14/12

Morrison Bridge
Name of Property

Multnomah Co., OR
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply.)

- [ ] Private
- [X] public – Local
- [ ] public – State
- [ ] public – Federal

Category of Property
(Check only **one** box.)

- [ ] building(s)
- [ ] district
- [ ] site
- [X] structure
- [ ] object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		district
		Site
1		structure
		object
1	0	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

Willamette River Highway Bridges of Portland, Oregon

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions
(Enter categories from instructions.)

TRANSPORTATION: Road Related, Bridge

Current Functions
(Enter categories from instructions.)

TRANSPORTATION: Road Related, Bridge

7. Description

Architectural Classification
(Enter categories from instructions.)

NO STYLE

Materials
(Enter categories from instructions.)

foundation: CONCRETE
walls: N/A
roof: N/A
other: STEEL

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

The Morrison Bridge opened to traffic in May 1958 and spans the Willamette River in downtown Portland, Oregon, at River Mile 12.8. Situated between the Burnside and Hawthorne bridges, the Morrison Bridge is located within the core of the central commercial district of the city. It is the third bridge of that name at this location. Measuring 675'-4" long, the Morrison Bridge is a steel-deck truss span rising from concrete piers with a two-leaf, Chicago-type central-bascule span. The bridge was designed by Sverdrup & Parcel, St. Louis, Missouri, working in conjunction with Moffat, Nichol & Taylor of Portland. The bridge is owned and maintained by Multnomah County.

Narrative Description

The Morrison Bridge has been well documented in recent years, primarily in relation to modifications and upgrade projects that maintain the structure as a fully functional element of the Portland-area transportation system. In 1999 Judith A. McGaw prepared documentation on the Morrison for the Historic American Engineering Record,[1] and in 2007 Liz Carter, Heritage Research Associates, prepared Section 106 documentation related to the construction of a multi-use path project on the bridge.[2] These two repositories of information serve as the primary resources for the following information, much of which is taken verbatim from these two well-researched narratives.

Setting

Located at River Mile 12.8, the Morrison Bridge connects SE Grand Avenue and SE Martin Luther King Jr. Boulevard on the east, via SE Belmont and SE Morrison streets, to SW Second Avenue, SW Alder Street, SW Washington Street, and Naito Parkway on the west. The bridge is a major connection from east Portland to southbound access to Interstate 5, via the Naito Parkway.

Located in the core area of Portland's downtown business district, the Morrison Bridge continues the connectivity of what is, essentially, the city's first trans-Willamette bridge alignment. The Morrison Bridge is an important link within the Portland street system, connecting the downtown core on the west with the business and residential areas of east Portland.

Design

The Morrison Bridge is a Chicago-type bascule span that rises from four concrete piers, the two central ones distinguished by a vertical scored pattern in the exposed side walls.[3] It crosses the river in three spans, consisting of two fixed-steel Pratt deck trusses, each 206'-8" long and 90 feet wide, flanking a 262-foot-long double-leaf bascule span that provides a 220-foot-wide clear horizontal channel with unlimited vertical clearance when open. Each leaf is 150 feet long and is opened by a counterweight, located within the piers.

[1] Judith A. McGaw. *Morrison Bridge, Historic American Engineering Record OR-100* (in cooperation with Multnomah County, 1999).

[2] Liz Carter. "Section 106 Documentation Form: ODOT/Multnomah County—Morrison Multi-use Path project" (Heritage Research Associates, 2007).

[3] A "Chicago-Type" bascule is a Strauss design with fixed counterweights, typical of the multiple Strauss-designed bascules that cross the Chicago River, in that city. This design is essentially a variation of the basic Strauss bascule, which has free, non-fixed, counterweights.

each weighing 950 tons. When closed, the bascule spans provide a 67-foot vertical clearance above mean low water elevation.

Several framing panels form each of the two bascule leafs. Starting from the bridge's centerline, each leaf includes two plate girder panels 18'-11" and 18'-8" long, followed by four 18'-8" Pratt-truss panels. To create the upward arch along the bottom of the bascule span, the panels have shortened verticals as they move nearer the span's center. Surrounding the trunnion and comprising the heel are four additional truss panels. Like all Chicago-style bascules, the Morrison's roadway break occurs on the river side of the trunnion, permitting the open leaf to serve as a traffic barrier that, when raised, closes off the travel route.

A 78-foot-wide roadway tops the trusses and, as designed, it was divided into six lanes with two 5-foot-wide sidewalks to accommodate pedestrians. The concrete sidewalks are elevated approximately 10 inches above the vehicle surface level, with an outside guard rail consisting of an approximately 18-inch-tall concrete wall surmounted by twin-tube steel railing.

Four 100-horsepower AC electric motors power the bridge, each with a motor brake and a machinery brake. Each set of motors and brakes become part of one of four separate sets of machinery, two for each leaf. Together with shafting and gearing, they are set in cast-steel frames that are keyed and bolted to the concrete substructure at a location about 15 feet above the floor of the counterweight pit.

Two poured concrete operators or "control" towers are located asymmetrically on the south (upstream) side of the bridge, marking the locations of the lift spans. Basically simple vertically elongated boxes with canted glazed window tops that mimic air-traffic control towers and reduce glare, the operator's towers are characterized by a solid lower tower with a narrow set of windows on the outer face that emphasizes the verticality of the design. A narrow cantilevered walkway or deck, enclosed by a steel-tube railing, defines the transition between the concrete lower and glass upper portions. The operator's towers have simple, flat, roof structures.

Modifications Since 1958

Other than typical wear surface and roadbed improvements, the Morrison Bridge has remained largely "as built" for most of its existence. The Morrison Bridge was the first bridge designed in anticipation of the proposed east side freeway (Interstate 5), and is the only non-freeway bridge integrated with Portland's freeway system. Accordingly, primary changes include a 1966 redesign and configuration of the eastern approaches to the bridge, resulting from the completion of Interstate 5 along the eastern shore of the Willamette River. These modifications were readily incorporated into the already extensive east side approaches and, while altering the approach spans, had little impact on the bridge's three main spans.

The steel grating on the bascule span was replaced shortly after the turn of the 21st century, due to the worn and slick surface of the original. Minor lane restriping has made the bridge more accommodating to increasing bike and pedestrian traffic, a project that was continued with the 2007 Multi-Use Path Project. The goal of that project was to provide improvements on the Morrison Bridge to increase bicycle and pedestrian access between downtown and Portland's east side. The sidewalk was widened by 10 feet, while traffic lanes were narrowed to create that additional width, though still meeting AASHTO standards. Installation of guard railings, additional bridge lighting, and other pedestrian improvements were also part of the project.[4]

[4] Liz Carter. "Section 106 Level of Effect Form, ODOT/Multnomah County-Morrison Multi-use Path Project," (Eugene, OR: Heritage Research Associates, Inc., December 2007), 1.

Summary

The Morrison Bridge was designed by Moffat, Nichol & Taylor, with Sverdrup & Parcel, and built by Manson Construction, of Seattle, Washington and the Portland office of the American Bridge Company. The bridge project was completed after two and half years of construction, opening to traffic on May 28, 1958. The bridge was financed by, and has always been owned and maintained by, Multnomah County.

The Morrison is the most recent of three draw- or bascule bridges constructed across the Willamette River in Portland. Its design is of note for its incorporation of new technical details in the pier design and a post-World War II aesthetic that distinguishes it from earlier bascule designs. The Morrison Bridge, the third span of that name on this basic alignment, remains a key link in the regional transportation system and is an important connection between Portland's east and west side commercial and residential areas, providing a well-traveled linkage between east Portland and the southbound connection to Interstate 5, via the Naito Parkway.

Essentially "as built," with only minor alterations related to wear surfaces, improved pedestrian and bicycle lanes, and a reconfigured east-bound ramp to Water Avenue, the Morrison Bridge retains very high integrity with respect to its original design and appearance as completed in May 1958. The Morrison Bridge admirably relates its historic character and effectively conveys the associations which make it significant.

Morrison Bridge
Name of Property

Multnomah Co., OR
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)

COMMUNITY PLANNING &
DEVELOPMENT
TRANSPORTATION
ENGINEERING

Period of Significance

1958–73 (Criterion A)
1958 (Criterion C)

Significant Dates

May 24, 1958, Opening

Significant Person
(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Sverdrup & Parcel, St. Louis MO/San Francisco, CA
Moffatt, Nichol & Taylor, Portland, OR
American Bridge Division, USS Steel, Portland, OR
Manson Construction & Engineering, Seattle, WA

Period of Significance (justification)

The period of significance begins with the completion of the Morrison Bridge in 1958 in response to the increasing need for cross-river transportation and ends in 1973, spanning the entire context for the Multiple Property Document entitled Willamette Highway River Bridges of Portland, Oregon.

Criteria Considerations (explanation, if necessary) N/A

Morrison Bridge
Name of Property

Multnomah Co., OR
County and State

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance and applicable criteria.)

The Morrison Bridge, the most recent movable bridge to be constructed across the Willamette River in Portland, Oregon, was completed in May 1958. Envisioned as part of Portland's massive mid-1920s bridge building program, the Morrison was not funded and constructed for almost three more decades, resulting in design changes that reflect both the post-World War II aesthetic and changes in bridge technology and engineering during the 1950s. The firm credited with the Morrison's design is Sverdrup & Parcel of St. Louis, Missouri, working in collaboration with Moffat, Nichol & Taylor of Portland.

As the third in a sequence of bridges at this key location between downtown and Portland's east-side commercial and residential areas, the Morrison Bridge is of statewide significance for its important role in Portland's transportation network, serving as an important link across the Willamette River. Designed to reflect both the influence of changes in engineering and the growing dominance of the automobile over all other forms of transportation, the Morrison also demonstrates significant technological and design elements that mark a shift from Portland's earlier trans-Willamette spans.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Nominated under the framework of the Willamette River Highway Bridges MPD and built within the third and final temporal period (1958-1973) as defined by that document, the Morrison Bridge is significant at the statewide level under National Register eligibility Criterion A, Community Planning and Development and Transportation, for its association with the development of the city and its broad transportation network between its construction in 1958 and the close of the period of significance for the MPD document in 1973. The bridge is also significant at the state level under Criterion C, Engineering, as an exemplar of post-World War II movable bridge design and technology. The period of significance under Criterion C is the date of construction, 1958. The Morrison Bridge meets all the general and the necessary specific registration requirements for listing under the MPD.

Developmental history/additional historic context information (if appropriate)

Bridges in Portland

Portland's first trans-Willamette Bridge, the first Morrison Bridge, was a wooden swing-span that private interests built in 1887 to connect Portland with the separate incorporated city of East Portland. Four years later the two communities along with Albina, another independent city in what is now North Portland, voted resoundingly to consolidate, forming a united municipality lining both sides of the Willamette River. As business and other connections grew, six more bridges followed the first Morrison Bridge, including vehicular and railroad spans, several of which had to be replaced due to poor construction between 1891 and 1910, when the current Hawthorne Bridge was completed.

The important shipping and port traffic on the Willamette made each of the trans-Willamette crossings controversial, as direct and easy vehicular connection competed with the need to maintain an open river channel. The city's earliest spans — including the second Morrison Bridge, a steel bridge completed in 1905 — were of swing-span design, meaning a portion of the bridge could rotate on a fixed center pier, turning 90 degrees from its normal cross-river orientation to a run parallel with the flow, creating two open channels on either side of the "swing" or pivoting span. Aside from the mechanical issues inherent in the operation of swing spans during this era, the slow "cycle" speed at which swing span bridges could be opened or closed proved irksome to both vehicular and river traffic. The latter of which was additionally constrained by the comparatively narrow passage afforded on either side of the central pivot point. These issues caused swing spans to fall out of favor in the early 20th century as other more efficient bridge technologies were developed. The second Morrison Bridge would be the last such bridge across the Willamette in downtown. When compared with the vertical-lift Hawthorne Bridge, completed in 1910, and the bascule or draw bridges that were selected for the Broadway (1913) and the Burnside (1927), the old swing span of the 1905 Morrison Bridge was a cause of complaint as early as 1927, a little over 20 years after its completion. In later years, as the bridge aged and suffered repeated mechanical breakdowns, it was frequently closed for repairs, eliminating its function for ever-growing cross-town traffic.

Designers

Although the genesis of this, the third Morrison Bridge, can be traced to Joseph Newell's 1927 analysis of Portland's growing bridge network, funding for the new structure languished for three decades as Portland completed four other spans in the pre-World War II era and then shifted its focus during the war to the construction of much-needed defense-related infrastructure. After the war ended and during a slowing economy in the early 1950s, the city's business community pushed Multnomah County to use local talent for construction of the new Morrison span. Using local engineers — even Oregon or Pacific Northwest-based engineers — would mark a dramatic departure from all of the earlier 20th century bridges across the Willamette, each of which were products of nationally renowned engineering firms, and none of whom were based in the West. Pre-bid discussion and budget analysis for the new Morrison span eliminated several of Newell's early concepts, including the use of a vertical-lift bridge in favor of the more common, and more economical, bascule design, as well as determining the alignment, lane width, and other factors. After county voters resoundingly passed a bond measure to pay for the new $12 million bridge, there was at least some interest in having the bridge design prepared by the staff of the Oregon State Highway Department, who were praised as being well qualified to undertake such a project and, at least according to one county commissioner, obligated to assist the county at little or no charge by state law. Commissioner George W. Buck stated that having the state design the bridge, as opposed to a private firm, could save the county more than $160,000 in engineering fees.[5]

[5] *Oregonian*, 23-June-1954, 12:5.

In the end, however, at least partially in response to local builders and engineers who advocated for keeping public money local, the Morrison Bridge was the product of a partnership between a local firm with diverse and extensive civil engineering and construction experience, Moffat, Nichol & Taylor, and a nationally prominent engineering firm, Sverdrup & Parcel, with extensive large-bridge experience. This choice set the Morrison Bridge apart from every other bridge then standing along the Willamette River in Portland. Unlike Portland's earlier trans-Willamette bridges, for which the list of noted engineers includes such lions of 20th century engineering as J. A. L. Waddell, John Lyle Harrington, Ralph Modjeski, Gustav Lindenthal and David Steinman, the Morrison was designed by a "team," not a particular person.

Historian Judith McGaw wrote that,

> As befit the decade of the Organization Man,[6] the Morrison Bridge would, instead, be a corporate product. The different approach made sense because local citizens had already made virtually all major decisions about the bridge. They wanted someone to design a conventional, cost-effective, bridge to be smoothly integrated into the local transportation infrastructure. They did not seek guidance from a brilliant innovator intent on creating something novel.[7]

Both Moffat, Nichol & Taylor and Sverdrup & Parcel, unlike Portland's earlier bridge designers, were 20th century, not 19th century-based, firms, and so brought a different sensibility and background to the Morrison project. Whereas men like Waddell, Harrington, and Lindenthal were schooled in the construction of railroad bridges, the engineers at both Moffat and Sverdrup had spent their prime years engineering the aviation and naval facilities of World War II and the Cold War. As so-called "organization men," they easily accommodated Multnomah County's request, which assumed a relatively unimaginative structure, but they inevitably reshaped the basics of Newell's 1927 bridge plans in ways that reflected their own different, and more modern, experience.

The firm of Moffat, Nichol & Taylor emerged as a direct response to the nation's many Postwar engineering opportunities. Founded in 1945 as a Long Beach, California, corporation, the firm also established itself as a Portland partnership in 1946. In addition to their local connection, Moffat's six principals brought to the Morrison project a diversity of experience especially relevant to the bridge approaches and ramps, for which they would take primary responsibility. Guy Taylor, partner-in-charge of the work in the Pacific Northwest, had come directly from active duty with the Army Corps of Engineers to join the new firm in 1946. Moffat, Nichol & Taylor's portfolio included extensive work for private, municipal, and federal clients all involving close collaboration with the heavy construction industry, providing a range of experiences similar to those the Morrison project would entail. In addition to a list of waterfront projects, as a Long Beach firm could be expected to have, Moffat had considerable experience with a list of U.S. Air Force projects from Alaska to southern California and Arizona, as well as with a number of U.S. Naval Air Missile Test Centers. Considered a mid-sized firm, with about 50 engineers and other professionals, Moffat also had a history of collaborating with other larger or specialty firms with experience that it lacked in-house. In terms of the Morrison, a large bridge project, they turned to Sverdrup & Parcel of St. Louis, Missouri.

Sverdrup & Parcel offered an even more extensive list of projects serving the Postwar military-industrial complex than Moffat, with projects ranging from the construction of a major steel plant, transmission lines, hydroelectric projects, and the design of major test facilities for the U.S. Air Force. Although 90 percent of the firm's more than employees 600 employees were technically trained, in a broad array of engineering and

[6] William H. Whyte's 1956 sociological and business classic, *The Organization Man*, examines the impact of mass organization on post-World War II American society, including technologies and lifestyles (e.g., television, affordable cars, fast food, suburbs, commercial air travel, space flight).

[7] Judith McGaw. *Morrison Bridge, HAER OR-100*, 1999, 12. At least some motivation for this approach may have stemmed from the region's last bridge building experience, at St. Johns, which relied upon the talents of David Steinman, a nationally regarded bridge designer based in New York City. From the standpoint of the 1950s, the $4 million St. Johns Bridge, while an aesthetic marvel, was generally viewed as a politically motivated structure that was under-used, overly expensive, and generally an unnecessary element within the city's transportation system. "The St. Johns Bridge sported a Gothic style that nicely symbolized its utter irrelevance to the realities of Portland's contemporary transportation needs" (McGaw, 1999:8).

architectural specialties, the firm's founding fathers set the tone. Even before Pearl Harbor, L. J. Sverdrup had been supervising the construction of the Pacific air bases under a U.S. Army Corps of Engineers contract. He entered the Corps as a colonel in 1942, continuing in the service until 1945, when he retired as a major general. During that period he supervised the construction of 200 airstrips and innumerable roads and bridges, building upon his earlier experience working for the state highway departments of both Minnesota and Missouri. John I. Parcel, who had formed a partnership with Sverdrup in 1928, represented the best of established steel-bridge engineering, having co-authored a major textbook in the field and consulted on important bridge projects such as the redesign of the 1950 Tacoma Narrows Bridge, still one of the longest such bridges in the world.[8]

The aviation-minded architects and engineers at both Sverdrup and Moffat made two significant changes in the conventional 1920s bascule span that Portland and Multnomah County were committed to build to replace the aging Morrison swing span. The first is immediately apparent when one compares Sverdrup's earliest sketches of its proposed bascule with the bridge as it was depicted in Newell's 1927 report. Whereas Newell's sketch incorporated historically based design details that are similar to those used on the Burnside Bridge, a widely hailed span that had just been completed in Portland, Sverdrup's Morrison bridge is the resolutely modern product of men for whom form clearly followed function. The Morrison's operator's houses are simple, vertically elongated boxes that serve to lift the horizontal expanse of windows that tops them high enough above the roadbed for a good view. "Lest one doubt the origin of these characteristics, the final drawings, while including the bridge-oriented general label of 'operator's houses,' show the individual structures with the label 'control tower.'"[9] Morrison's "operators houses" are essentially identical to the control towers that grace the many airports that Sverdrup had designed. Other features of Sverdrup's earliest Morrison sketch suggest that the firm's extensive aviation experience shaped aesthetic preferences that went beyond basic function. In their modern simplicity, the vertical striations on the bascule piers manage to emphasize "lift" in a stationary structure with an essentially horizontal character. Again this treatment is in stark contrast with the treatment of the earlier Burnside Bridge, where architectural treatment breaks up the massive piers into smaller units. Morrison's decorative pier treatment does nothing to diminish the substantial scale that embodies the pier's function but emphasizes it instead.

The Morrison's most striking nod to an aviation-minded aesthetic of lift is also its most subtle. In contrast to the bottom chords of the Burnside's fixed-truss spans, with simple straight members that run parallel to the roadway, the bottom chords of the Morrison's fixed truss spans curve upward to their midpoints, in a graceful arc. This is an entirely aesthetic choice, since structural demands would call for the truss to deepen, not recede, at its center point, yet the effect makes bridge feel somewhat lighter than otherwise.

Experience with aeronautics and maritime construction also prepared the Morrison's engineers to address hydraulic issues. Whereas the largely railroad-trained engineers responsible for Portland's earlier bridges had concentrated on arranging earth and steel, paying relatively little attention to such flowing media as water and air, building naval and aviation facilities made fluid dynamics central to the engineering of the 1940s and 1950s. The Burnside Bridge, for example, made only token acknowledgment of the impact of its construction on the water flowing around its massive piers with predictable results. Water tended to pile up around them, rising as much as three feet higher than the surrounding river surface, and making navigation through the bridge opening, despite its large size, that much more difficult. As river operators pointed out to Moffat and Sverdrup during the design phase of the Morrison, the problem was further complicated by the fact that because the river was only a few feet above mean sea level at the Morrison bridge site, so the Columbia River tidal flow moved in against the Willamette's current twice daily. In addition to the Willamette's November-to-

[8] The 2,800-foot-long Tacoma span opened in October 1950, as the third longest suspension bridge in the world. Today it remains the 31st longest such span. The 1950 span was the second Tacoma Narrows Bridge, built after the spectacular failure of an earlier bridge at this location, famed as "Galloping Gertie" for the way it shook apart and failed during a high wind. The 1950 bridge is today used for westbound traffic only. A second suspension span, of similar design to the original, was completed in 2007 and carries eastbound traffic (www.wsdot.gov/projects/sr16/newnarrowbridge/html, visited 29-Nov-2010).

[9] Judith McGaw. *Morrison Bridge, HAER OR-100*, 1999, 14.

April freshets, the site also felt the effects of the Columbia's April-to-July high water backing up the Willamette to raise the river level by as much as 26 feet.

Sverdrup's solution was to open up the piers between the tops of the footings and the upper portions housing the counterweights and bascule mechanism. The resulting piers rest on a solid block of concrete at least 20 feet deep. Each extended 86 feet perpendicular to and 67'-6" parallel to the river, potentially creating a substantial obstacle to the river's flow had they continued upward to the surface. Instead, two 10-foot concrete shafts continued upward from each end of the concrete foundation block, with each of the shafts measuring 64'-6" and oriented parallel to the river flow. Curved noses on the shafts, facing up and downstream with the current, further reduced the hydraulic obstruction of the piers, much as an airplane's curve directs air flow around the wings. The open section of the pier, between the shafts, extended to 22 feet above mean low water, leaving ample room for the huge counterweight pits that filled the enclosed upper portions of the piers, while still creating an opening for the freshets. Essentially what this design allowed was for the water to flow through a major portion of the pier, thereby reducing turbulence around the pier, and so significantly easing navigation on the river, especially during the higher water events. This solution, the first of its type at least in Portland, marked a major innovation brought about in no small part by the different background that the Morrison's designers brought to the problem of river flow.

While Sverdrup's experience with bascule or movable bridges was far more significant than Moffat's, it was not in fact all that extensive. Close examination suggests that Sverdrup had distinctly limited movable-bridge experience, with most of its work involving repair work. Aside from this, Sverdrup's movable bridge experience amounted to just ten spans, most of it involving swing or vertical lifts, with only two small bascules to their credit.[10]

Sverdrup's relative inexperience with bascule bridges may have helped foster some innovation, however, most notably the use of alternating current (AC) motors to power the lift mechanism, rather than the more traditional direct current (DC) motors that had long been used for that purpose due to their superior torque. By the 1950s new types of AC motors could provide adequate torque and had the advantage of complying with the primary electrical supply system of the era.[11] Sverdrup's design of the Morrison with AC motors was quite innovative at the time. Another change from standard bascule design was Sverdrup's use of a reinforced concrete beam as the "trunnion frame support," an integral element in the pier design that replaced the cross girder that had been used underneath the counterweight bascules of the common Chicago- and Strauss-type bascules, a feature that was among the key characteristics in that patented design.

Whereas firms accustomed to designing bascule bridges tended to stick with established practice, Sverdrup's lack of experience meant that it lacked such a commitment. Moreover, the firm's extensive familiarity in other areas of engineering, from fluid dynamics, aviation, and electrical generation, gave it insight and greater confidence in using newer technologies to solve long-standing problems in bascule-bridge design in a new and innovative fashion. These changes helped to separate the Morrison Bridge from a design standpoint from Portland's earlier movable bridges.

The Third Morrison Bridge

In the mid-1920s, Portland was completing a major bridge building campaign that saw not only the construction of a replacement span at Burnside Street, but two new fixed or "high" span bridges (meaning bridges that did not require a movable element to allow river traffic) at Ross Island and Sellwood. Consulting engineer J. P. Newell was hired to evaluate "Future Bridges Over Portland Harbor" and make planning

[10] Sverdrup's previous bascules were limited to a single leaf bascule over the Sacramento Barge Canal, a span of just 136 feet, and a highway bridge in Brunswick, Georgia that was less than 100 feet. The Morrison Bridge, on the other hand, would require a bascule opening of over 280 feet in length.

[11] Portland General Electric long provided a DC circuit to power Portland's other movable bridges but would eventually discontinue that service. The Hawthorne Bridge, for example, was eventually renovated to include "rectifiers" that convert supplied AC into DC to power its motors.

recommendations for the city's future bridge needs. His report, submitted in December 1925, notes of the Morrison Bridge "This bridge will probably have to be replaced in a few years, and I therefore do not recommend any changes in it be made."[12] (Newell, 1925:20). Instead, though largely against Newell's advice, Portland's next bridge project was far to the north of downtown at St. Johns, where an active local group of boosters succeeded in passing a bond measure to replace their aging ferry service with an entirely new, fixed, span. The St. Johns Bridge, a 1,207-foot-long suspension bridge that is among the city's most attractive, was completed in 1931.

In 1943 Robert Moses (1888–1981), the famed "Master Builder" of New York City's transportation network, headed a team of engineers that sought to review Portland's infrastructure and make recommendations to modernize it. Moses looked at a broad range of issues, including the creation of high-speed expressways or freeways, as well as the bridge connections across the Willamette. Citing the age and low clearance above the water (33 feet) of the 1905 Morrison, Moses reported;

> The roadway is a mere 36 feet wide and the bridge is good for 15 ton loading only. The narrow east approach crosses three groups of railway tracks at grade and while the west approach provides a good connection to Front Avenue, beyond that point Morrison Street lacks width and is congested by parking. The bridge, although located about opposite the center of the business district, carries only about 20,000 vehicles daily, due to its narrowness and unsatisfactory approaches.[13]

Wartime and the city's funding issues (the St. Johns Bridge had consumed most of the city's bonding authority) delayed any effort to replace the aging and ever-failing Morrison Bridge for more than two decades after Newell had declined to make any recommendations on its improvement. By 1948, when yet another study of Portland's traffic snarl was undertaken, this one by the city's own traffic engineer Fred T. Fowler and Oregon State Highway Engineer R. H. Baldock, the Morrison's condition received increasing criticism.

> The Morrison Bridge, according to Fowler, is antiquated. It is too narrow, and is slow opening and closing due to its swinging action, bringing a hardship to both harbor and street traffic...[It] should be replaced, Fowler reiterated, but short of this he recommends an elevated east approach.[14]

By 1950 Portland's vaunted trolley era formally ended. The technology that had really enabled the city to expand and grow as the hub of the large metropolitan area including Clackamas and Washington counties, as well as the far flung portions of Multnomah County, was no longer relevant. Despite some protest, the last of the street car routes was converted to gasoline-powered buses. The change caused at least one former trolley rider to bemoan the changes in the community.. "[T]he next time I visit Portland they will probably have the Morrison Bridge demolished for a super 20-lane speedway — curse this speed age!"[15]

A few years later, as planning to integrate Portland's bridge system into the anticipated federal highway system was underway, the approaches of both the Morrison and Hawthorne spans were increasingly seen as a problem. The approaches for both bridges dated from before the era of private automobiles and offered insufficient connection to the street grid to meet the ever-increasing demands of the growing region. The population of the three-county Portland area in 1910 — when the Hawthorne Bridge was completed and five years after the Morrison Bridge was constructed — had been about 277,000. By 1950, four decades later, the region had grown to over 450,000, with most of that growth in Multnomah County itself.[16] Transportation plans, which included modification to many of the bridge approaches so as to eliminate grade crossings on the east and better connect with existing surface streets on the west, were developed in the early 1950s. Most included as a foregone conclusion that the Hawthorne and Morrison bridges would have to be replaced or, at

[12] Newell, 1925:20.
[13] Robert Moses. *Portland Improvement*. Report to the City of Portland, November 10, 1943, 28.
[14] *Oregonian*, 1-February-1948, 24:1–8.
[15] *Oregonian*, 10-March-1950, 8:3.
[16] Robert Farrell. *Oregon Bluebook 1947–1948*. (Salem, OR; State Printing Office, 1947), 293.

minimum, the Morrison would be replaced and the Hawthorne's approaches would be modified. High anticipated costs delayed action, as the proposals ranged anywhere from $9 to $19 million.[17]

Meanwhile, increased population, as well as increased reliance on private automobiles and a growing expectation of "fast" travel times, continued to exacerbate both official and public concerns over the Morrison Bridge. In early 1954, concerns about the structural capacity of the bridge, in addition to its functional deficits, grew to the point where some feared the bridge might collapse as its structural "margin of safety" was being taxed. While these fears were quickly quelled by officials, even the county commissioners took note of the Morrison's failings.

> Commissioner M. J. Gleason said "Portland has grown too large to tolerate a bridge approach at grade across railroads..." [Commissioner]Bowes said "The Morrison Bridge, with an average volume of 22,000 cars daily, is not used to capacity because people are shunning it, for fear of being delayed by the draw opening."[18]

Later that year county voters were presented with a bond to fund the replacement of the 1905 Morrison Bridge with a modern span that would include elevated approaches. Additional funding in the bond would provide for modifications to the Hawthorne Bridge approaches, providing for grade separation for the east bank railroads and, at the west bank, for Harbor Drive and Front Avenue. The vote was scheduled for May 1958.

In the interim the *Oregonian* decided that Portland's first new bridge construction in more than two decades was an event worthy of discussion — in this case what to call what would be the third span at the Morrison Street location. A contest sponsored by the paper in March 1954 sought to identify which of Portland's several public improvement projects in the offing were the most popular. The city was also considering funding for improved street lighting, a new Fremont Street bridge, improvements to the docks, an eastside seawall, and work at the zoo, among others recommended by a recently completed Master Plan. The contest also asked voters what the new "Morrison Street" bridge should be called. Although the commissioners would quickly announce that the county was not really looking for a new name, suggestions continued to come in. In the end it did not matter. The "Morrison Bridge" (since the new bridge would not actually connect to Morrison Street anymore, was the clear winner. The bridge project was by far the most favored of the any of the proposed master plan improvement projects.[19] The *Oregonian* reported that,

> Certainly there is no civic improvement project more essential than the expansion of facilities for crossing the Willamette river....The proposed structure would pass over the railroad tracks, its ramps terminating in the arterials of Grand and Union avenues, which would become one-way streets. The bridge height would compare with that of the Burnside Bridge, which opens on average only once a day, compared to the 17 daily openings of the present Morrison Street Bridge.[20]

Strongly supported by editorials, and by an active booster campaign that urged voters to "Break this Bottleneck!," passage of Proposition 2 in the May vote was in little doubt. The vote was more than 2–1 in favor of the $12 million bond.[21]

With the passage of the funding measure, and the selection of Sverdrup & Parcel working with Portland-based Moffat, Nichol & Taylor as the designers, final planning for the Morrison span proceeded through 1954 and early 1955. A major issue was resolved when the engineers determined that they could keep the existing Morrison Street Bridge open to traffic for almost all of the construction process, greatly easing local traffic tie-

[17] *Oregonian*, 19-November-1953, 1:2–3.
[18] *Oregonian*, 27-January-1954, 8:5.
[19] *Oregonian*, 21-March-1954, 1:2–3, 22-November-1957, 43:1–3. In typical fashion, the suggestions to the *Oregonian* included both the serious, and the not-so. Some offered serious suggestions such as the "George Washington" or Roosevelt Bridge, while other favorites were the "Contract Bridge" and, as an homage to dentistry, the "Partial Plate Bridge" (See *Oregonian*, 20-November-1957, 2:1).
[20] *Oregonian*, 24-April-1954, 10:1.
[21] *Oregonian*, 22-May-1954, 5:1–3).

ups during the approach and bridge construction. Design and routing issues associated with the new expanded approaches, as well as the purchase of considerable property on either side of the river to allow their construction, required much negotiation, generating some controversy. New cloverleaf-type ramps would connect the new bridge to Front Avenue on the west (straight ramps would connect to Washington and Alder streets), while on the east, a cloverleaf would provide connection in both directions to SE Water Avenue. Straight ramps would tie the bridge directly into Morrison and Belmont streets. In a major innovation, one that required considerable new property acquisition, the elevated ramps would pass over the railway, alleviating a major traffic impediment to smooth cross-river travel. At six lanes, the new Morrison Bridge would offer an estimated daily capacity of 76,000 cars, an increase of over 300% from the 1905 bridge's 20,000 car capacity. The *Oregonian* wrote that,

> The new six-lane Morrison span, with its modern approaches, will speed motorist over the bottleneck now caused by the east-side railroad tracks and will only rarely halt traffic for ship passage. This will be the most notable change for motorists coming to the downtown area from the east side.[22]

As already noted in Section 7, the design of the Morrison Bridge, while somewhat similar to that of the Burnside, took advantage of several new technological improvements that differentiated the span from earlier bascule bridges. These were, in large part, the result of the Morrison's designers more broad-based familiarity with other engineering disciplines when compared to the predominately railroad bridge-based experience of earlier bridge designers. The open and streamlined forms of the bridge's central piers made significant hydraulic improvements for ship travel, by avoiding the currents that tended to form around the massive piers of the Burnside Bridge. The use of alternating current, and improvements in the amount of torque that Sverdrup & Parcel were able to achieve using that more available power source, also marked a noteworthy shift from earlier bascule bridge design. Finally, in Portland at least, the Morrison Bridge would mark the first trans-Willamette crossing with elevated approaches that seamlessly integrated bridge traffic into the surface street grid, particularly at the east approaches, where the railroad line was eliminated as a traffic barrier. This design would, eventually, become near standard for all of Portland's spans, as the city integrated its existing bridges into a newer, faster, highway system.[23]

Construction

Construction of the Morrison Bridge began in fall 1955, after Manson Construction Company, of Seattle, was awarded the $1.9 million contract for the bridge's four concrete piers, beating out eight other firms for the work in what was not only the greatest construction challenge of the project but would be the most hotly contested element of the contract. Manson, founded in 1900, specialized in marine work and had recently completed similar projects in Washington for the Snohomish Bridge at Everett and the Fox Island Bridge in Pierce County.[24] Local firms voiced objections to the selection of a Seattle firm and attempted to challenge the award; however, Manson's low bid, almost $200,000 below that of Portland-based General Construction, along with their obvious experience, eventually carried the day. Manson addressed the issue by making a point of hiring local workers for its crews. Multnomah County would ultimately hire Portland firms to construct the approach ramps, and the combination largely deflated the issue. With Manson under contract, the county looked toward a rapid construction schedule, with the completion date for the piers set for May 1957.[25] It also anticipated that work on the massive east and west approach ramps, which would allow bridge traffic to connect directly with Union and Grand avenues on the east and bypass Harbor Drive on the west, would begin in early 1956.[26]

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[22] *Oregonian*, 29-December-1957, 4:1–8.

[23] The approaches of the Hawthorne Bridge were also modified as part of the same bond funding that allowed the construction of the Morrison Bridge.

[24] Craig A. Holstine and Richard Hobbs. *Spanning Washington: Historic Highway Bridges of the Evergreen State*. (Pullman, WA: Washington State University Press, 2005), 188–89.

[25] *Oregonian*, 30-September-1955, 32:6–8.

[26] Portland renamed Grand Avenue as Martin Luther King Jr. Boulevard in 1989. Governor Tom McCall waterfront park replaced Harbor Drive in 1978. See Section 8 of this nomination for commentary on the Morrison Bridge approach design and the controversy that surrounded it.

A wet winter delayed in-stream work and it was not until February 1956 that the first concrete for the piers was actually placed. A fleet of 14 mixer trucks from Ross Island Premix shuttled back and forth to the site for a 34-hour continuous pour of more than 5,000 cubic yards of concrete, all sent through tremies to the pier's base, some sixty feet below the water.[27] In addition to dealing with high water, Manson also faced other hurdles in the construction of the Morrison's piers. The bascule piers, numbered 2 and 3, created the greatest challenges. According to *Pacific Builder and Engineer*, their cofferdams were "probably...the largest single wall types ever to be constructed in this country" each being 90'-0" long and 66'-6" wide.

At the end of 1956, work on the Morrison Bridge, as well as on the approach spans, was progressing on schedule. Manson Construction completed pier 3 on June 7, 1957, and work shifted to focus on the erection of the steel portions of the bridge. The Portland office of U.S. Steel Corporation's American Bridge Division garnered the contract with a bid of $2,270,433, a much less controversial award than the pier construction in that only two bids were received, the other being from a California firm. Formed in 1900 from a host of other firms, American Bridge was the largest steel-bridge fabricator in the nation and had previously worked in Portland on both the 1912 Steel Bridge and the 1926 Burnside Bridge.

The construction of the Morrison superstructure was relatively uneventful, from a technical standpoint, but was slowed by labor strikes, most dramatically by a nationwide steel workers strike that began just after American Bridge's contract with the county was signed. Sverdrup worked around this issue by proceeding with other elements of the project such as the electrical work and operator's houses until work on the steel itself could actually begin in August 1957. The commissioners accused American Bridge of dragging its feet, while the company sought a 150-day extension to the timeframe, in light of the labor issues that delayed fabrication of the steel elements at the factory and then delayed their erection on site in Portland. The first load of structural steel for the Morrison Bridge did not arrive in Portland until mid-November 1957. According to the *Oregonian*, "W. J. Grosz, contracting manager for American Bridge Company [sic] said....from here on out we'll be going full blast....You'll see steel going up in two or three weeks."[28]

American Bridge erected the Morrison superstructure using methods well-honed by this established firm. Ironworkers built the two fixed-deck truss spans on shore and then floated them into position. The bascule span was erected in the closed position, with the leaves down, closing off the river channel. To allow boats to pass, a gap was left open between piers 1 and 2, with the fixed deck truss only raised into place after the bascule was operational. Work on the final elements of the bascule span was underway in late February 1958, as the *Oregonian* reported "Steel Link Placed to Join Morrison Span Across Willamette."[29] In early April, crews installed the last steel deck truss, built at the Zidell docks in Portland, to fill the gap between piers 1 and 2.

> The Morrison Bridge became a bridge Thursday, as the last gap between east and west shores of the Willamette was filled with placement of a 450-ton span between the west side approaches and the bridge's center bascule-type lift span.[30]

At the same time, planning was nearly finalized for other major changes in the Portland-area transportation system. Most obvious, perhaps, was the construction of the second Interstate Bridge, across the Columbia River, that would double the capacity on US 99 between Portland and Vancouver. Of more long-term impact was the planning and construction of the East Bank Freeway, Interstate 5, which would provide a limited-access highway running parallel to the river through east Portland. Combined with the Morrison and

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[27] *Oregonian*, 10-February-1956, 1:103. A "tremie" is defined as a large metal hopper or pipe, used as a chute to distribute concrete over an underwater site. The foot of the tremie is kept below the concrete level, while the level of concrete in the pipe is kept above water level, to assure an undiluted mixture. (See Ira Osborn Baker. *A Treatise on Masonry Construction*. (New York, NY: John Wiley & Sons, 1912), 174.

[28] *Oregonian*, 19-November-1957, 13:4–5.

[29] *Oregonian*, 20-February-1958, 5:1–5.

[30] *Oregonian*, 4-April-1958, 6:1-6.

Hawthorne bridge approaches, the construction of the East Bank Freeway would entirely alter the character of this area over the next ten years.[31]

In early April the last steel deck truss of the Morrison Bridge was floated to the site and lifted into place, completing a connection across the river for the first time. The *Oregonian* noted that, "While the bridge thus becomes a bridge, only sure-footed steel workers can yet make their way across it from shore to shore."[32] On April 10, 1958, the bascule was opened for the freighter *Theokeeter*, carrying a load of scrap iron. It became the first ship to pass through the new lift span. Placement of concrete for the roadway soon followed and, after three weeks of curing, the Morrison Bridge was essentially complete.

By the end of May, the bridge was nearing completion and plans were underway for its opening to traffic. The newspaper added, "The new $12 million dollar Morrison Street Bridge, expected to handle a daily traffic volume of 50,000 vehicles, will replace a 53-year-old span that was built when only 23 Portlanders owned automobiles."[33] The formal dedication ceremonies were held on May 24, 1958, after nearly two and half years of construction. Formal ceremonies, following the dedication by Portland Mayor Terry Schrunk, included the marching bands of Wilson and Benson high schools, Air Force and Marine color guards, and a fly-over by F-102 fighter planes.[34] The *Oregonian* captured the moment:

> The modern six-lane structure was dedicated in a colorful ceremony at 11 a.m....as the new span took its position in the city's family of river crossings, the old Morrison Bridge closed its operations, barriers being placed at each end and the draw turned to accommodate river traffic....Splendor of the new six-lane span overshadowed the old bridge, making the latter appear a tired old man of another age....when Portland had more horse-drawn carriages than motor cars.[35]

Within days the capacity of the new bridge was making its presence felt, smoothing cross-river traffic. The Morrison Bridge was formally opened to auto traffic on May 28, 1958. On the Monday following its opening, the Morrison Bridge carried 41,000 vehicles according to daily traffic counts of the city traffic engineer's office. "The total was more than twice the figure logged on the old Morrison Bridge during a comparable period."[36]

Registration Requirements

The Morrison Bridge is being nominated to the National Register under the Willamette River Highway Bridges of Portland, Oregon Multiple Property Document. Evaluation of the bridge within the registration requirements of Section F of that document finds the following:

The Morrison Bridge meets the Minimum Eligibility Requirements:

- The bridge is located on the Willamette River, at River Mile 12.8, entirely within the City of Portland, Multnomah County, Oregon.
- The bridge's primary function is to provide highway/vehicular needs within the city's transportation system although it also provides for bike and pedestrian use, as well as auto, truck, and bus traffic.

[31] *Oregonian*, 9-March-1958, 30:1–8.
[32] *Oregonian*, 4-April-1958, 6:1–6.
[33] *Oregonian*, 23-May-1958, 23:1–7.
[34] Sharon Wood Wortman, with Ed Wortman. *The Portland Bridge Book* (3rd Edition). (Portland, OR: Urban Adventure Press, 2006), 53.
[35] *Oregonian*, 25-May-1958, 1:1–4.
[36] *Oregonian*, 27-May-1958, 7:1.

- The bridge is owned and maintained by Multnomah County. Following passage of voter approved bonds, the county managed and paid for the construction of the bridge and has been responsible for its maintenance since completion.
- The bridge was completed in May 1958 and meets the temporal context of the MPD. It is the only movable span built during the last period of construction related to the ascendency of automobile travel and the construction of the Interstate highway system, 1958–73, a defined subgroup of that context.

The Morrison Bridge meets the Minimum Integrity Requirements:

- The bridge remains on its original piers and alignment.
- The bridge remains almost entirely "as-built" with very high integrity with respect to its original steel and concrete elements. Identified modifications do not in any serious fashion alter the overall integrity and historic character of the span.
- The bridge retains very high integrity in feeling and association, effectively relating its original character, design and appearance so as to convey its relationship to the history of Portland, Oregon.

As a result of the above, the Morrison Bridge meets the eligibility requirements for listing on the National Register under Criterion A, as defined by the Willamette River Highway Bridges of Portland Multiple Property Document.

In addition to eligibility under Criterion A, the Morrison Bridge is considered to have significance under Criterion C. Evaluation against the registration requirements finds the following:

- The Morrison Bridge, designed by Sverdrup & Parcel in association with Moffat, Nichol & Taylor, reflects important Postwar changes in bridge design and engineering, exemplifying the "corporate" approach to bridge design that characterized this automobile-dominated era.
- The Morrison Bridge includes innovative pier designs that reduced turbulence and created a streamlined instream profile that corrected deficiencies of earlier bascule piers.
- The Morrison Bridge relied upon AC motors and electrical components, a marked shift from earlier bridge work, and so served as a model for later bascule bridges and the upgrade/modification of earlier DC designs.
- The Morrison Bridge includes control towers.

As a result of the above, the Morrison Bridge, in addition to its already demonstrated eligibility under Criterion A and relationship to the history of Portland and Multnomah County, is identified as having design and technological significance related to post-World War II bascule bridge design. The bridge retains sufficient integrity to accurately relate those design elements and so meets the eligibility requirements for National Register Criterion C as defined by the Willamette River Highway Bridges of Portland MPD.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

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Morrison Bridge
Name of Property

Multnomah Co., OR
County and State

Section 9 Continued

Previous documentation on file (NPS):

___ preliminary determination of individual listing (36 CFR 67 has been requested)
___ previously listed in the National Register
X previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey #_____
X recorded by Historic American Engineering Record # OR-100
___ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

___ State Historic Preservation Office
X Other State agency
___ Federal agency
X Local government
___ University
___ Other

Name of repository: Oregon Dept of Trans., Multnomah Co.

Historic Resources Survey Number (if assigned): N/A

10. Geographical Data

Acreage of Property Less than one acre
(Do not include previously listed resource acreage.)

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing		Zone	Easting	Northing
1	10	525940	5040330	3			
2				4			

Verbal Boundary Description (Describe the boundaries of the property.)

The nominated area includes the entire Morrison Bridge structure, above the river bed and between the approach spans that connect the structure to the road system on either side of the Willamette River.

Boundary Justification (Explain why the boundaries were selected.)

The nominated area encompasses the entirety of the historic Morrison Bridge, while excluding the adjacent non-contributing public streets and structures.

11. Form Prepared By

name/title George Kramer, M.S., Senior Preservation Specialist
organization Heritage Research Associates, Inc. date February 2011
street & number 1997 Garden Ave telephone (541) 482-9504 (541) 485-0454
city or town Eugene state OR zip code 97403
e-mail george@preserveoregon.com

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Morrison Bridge
Name of Property
Multnomah County, OR
County and State
Willamette River Highway Bridges of Portland, Oregon
Name of multiple listing (if applicable)

Section number 10 Page 2

Latitude/Longitude Coordinates

(Follow similar guidelines for entering the lat/long coordinates as describe on page 55, *How to Complete the National Register Registration Form* for entering UTM references. For properties less than 10 acres, enter the lat/long coordinates for a point corresponding to the center of the property. For properties of 10 or more acres, enter three or more points that correspond to the vertices of a polygon drawn on the map. The polygon should approximately encompass the area to be registered. Add additional points below, if necessary.)

Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

1. Latitude: 45.516020 Longitude: -122.66788
2. Latitude: Longitude:
3. Latitude: Longitude:
4. Latitude: Longitude:

Morrison Bridge
Name of Property

Multnomah Co., OR
County and State

Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: Morrison Bridge

City or Vicinity: Portland

County: Multnomah **State:** OR

Photographer: George Kramer
Heritage Research Associates, Inc. Eugene, OR

Date Photographed: April 2011

Description of Photograph(s) and number:

Photo 1 of 5: (OR_MultnomahCounty_WillametteHwyBridgesMPD_MorrisonBridge_0001)
General View, Looking Downstream, from the Hawthorne Bridge

Photo 2 of 5: (OR_MultnomahCounty_WillametteHwyBridgesMPD_MorrisonBridge_0002)
General View, Looking SW, from Vera Katz Esplanade

Photo 3 of 5: (OR_MultnomahCounty_WillametteHwyBridgesMPD_MorrisonBridge_0003)
Bascule and Pier detail, looking NW, from Vera Katz Esplanade

Photo 4 of 5: (OR_MultnomahCounty_WillametteHwyBridgesMPD_MorrisonBridge_0004)
Understructure and "tower" view, looking West, from Vera Katz Esplande

Photo 4 of 5: (OR_MultnomahCounty_WillametteHwyBridgesMPD_MorrisonBridge_0005)
Operator Tower detail, on bridge, looking East

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.

  A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

- **Continuation Sheets**

- **Additional items:** (Check with the SHPO or FPO for any additional items.)

Morrison Bridge
Name of Property

Multnomah Co., OR
County and State

Property Owner: (Complete this item at the request of the SHPO or FPO.)

name Multnomah County Bridge Section, attn: Ian Cannon, County Bridge Services Manager

street & number 1403 SE Water Ave telephone (503) 988-3757

city or town Portland state Oregon zip code 97214

Documents

Figure 1: Project Location Map, ODOT, City of Portland Quadrangle, Annotated

Figure 2: USGS, Portland 7.5 Quadrangle, 1990, Annotated

Figure 3: Morrison Bridge Boundary Map

Figure 4: Aerial View of Portland, c. 1927, author's collection, 1905 Morrison Bridge is 2nd from Bottom

Figure 5: Postcard Image, Second Morrison Bridge, circa 1910, author's collection

Figure 6: Newspaper Excerpt, First Concrete Poured for New Morrison Bridge
Oregonian, 10-February-1956, 1:1-3

Figure 7: Newspaper Excerpt, Steel Link Placed to Join Morrison Bridge Span Across the Willamette
Oregonian, 20-February-1958, 5:1-5

Figure 8: Newspaper Excerpt, Freighter Theokeeter First Through New Morrison Bridge Lift
Oregonian, 10-April-1958, 10:2-6

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Morrison Bridge	Name of Property
Multnomah Co., OR	County and State
Willamette River Highway Bridges of Portland, Oregon	Name of multiple listing (if applicable)

Section number Documents Page 23

Figure 1: Project Location Map, ODOT, City of Portland Quadrangle, Subject property indicated with arrow

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Morrison Bridge	
Name of Property	
Multnomah Co., OR	
County and State	
Willamette River Highway Bridges of Portland, Oregon	
Name of multiple listing (if applicable)	

Section number Documents Page 24

Figure 2: USGS, Portland 7.5 Quadrangle, 1990, Subject property indicated with arrow

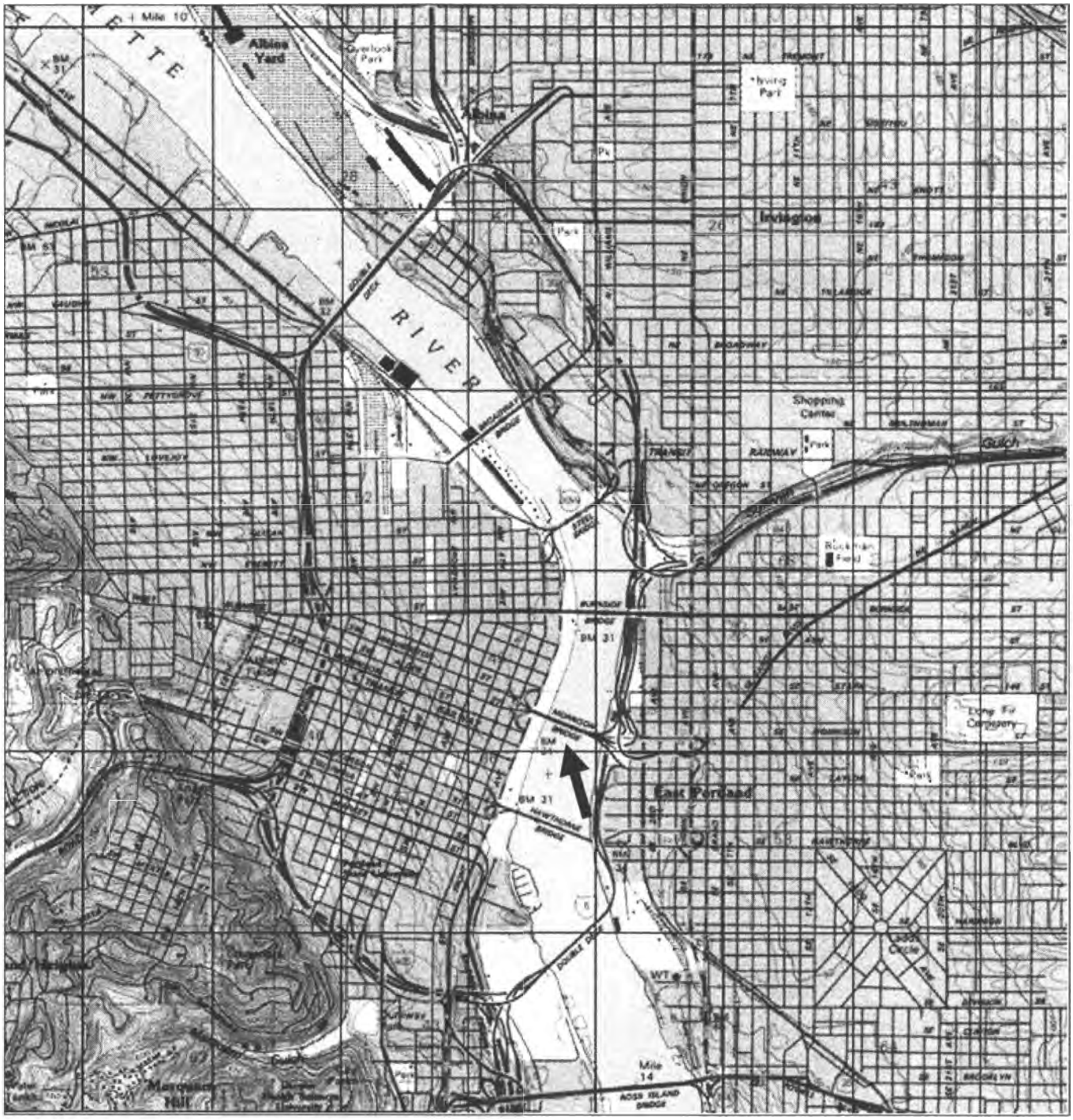


Figure 3: Morrison Bridge Boundary Map, Boundary marked with black line

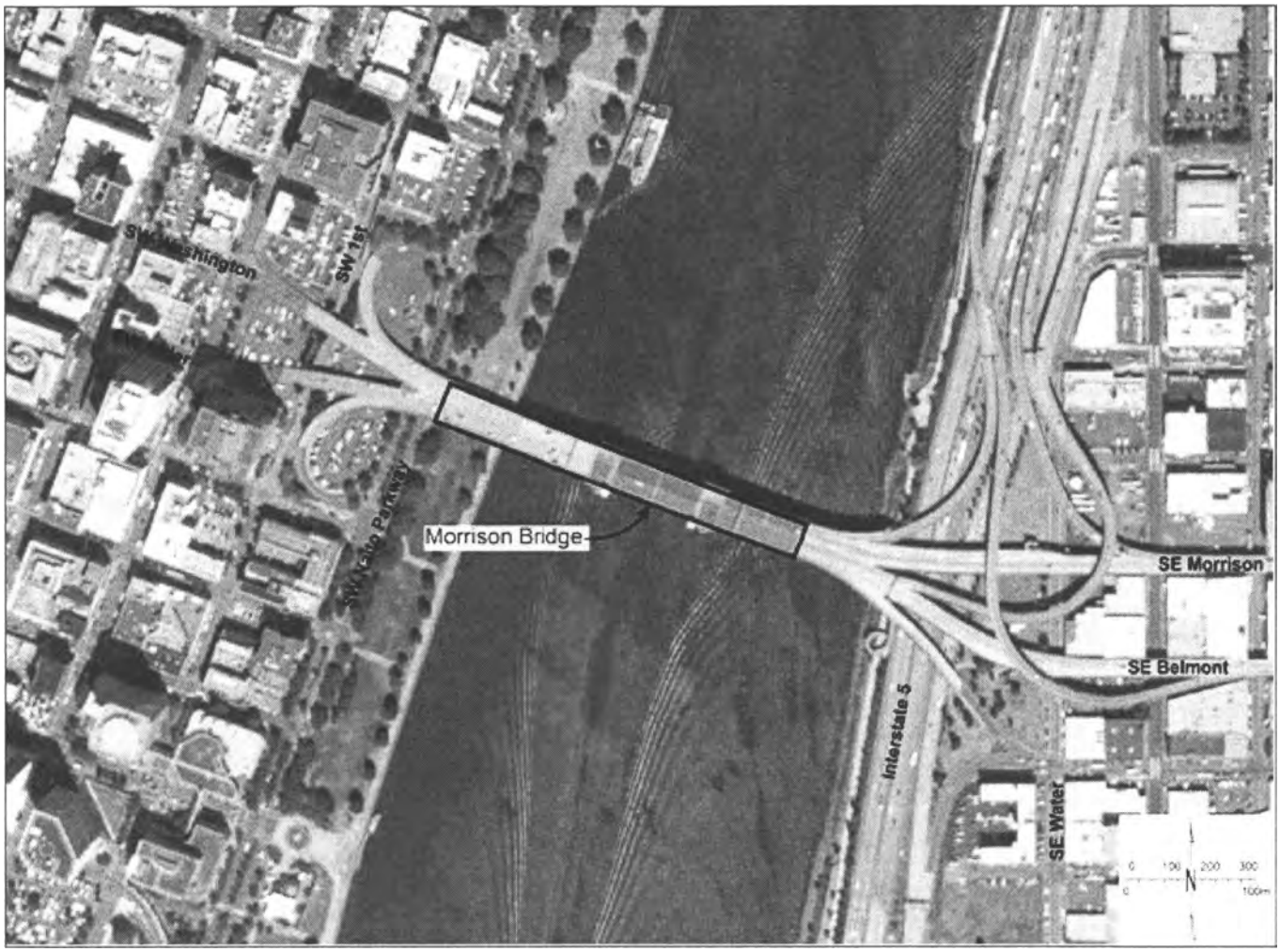


Figure 4: Aerial View of Portland, c. 1927, author's collection, 1905 Morrison Bridge is 2nd from Bottom

Figure 5: Postcard Image, Second Morrison Bridge, circa 1910, author's collection

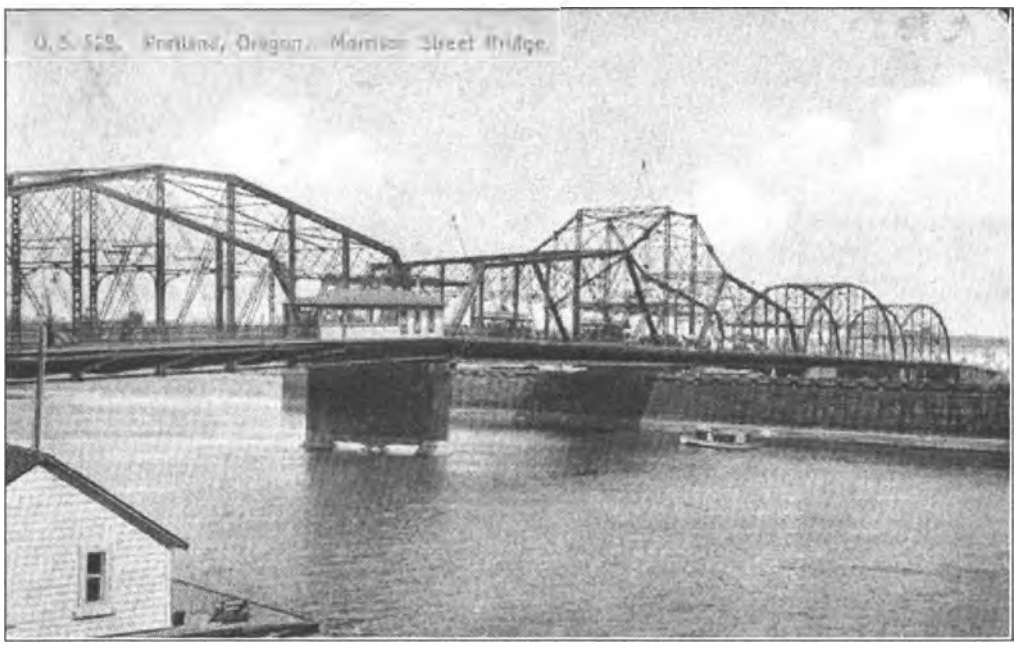


Figure 6: Newspaper Excerpt, First Concrete Poured for New Morrison Bridge
Oregonian, 10-February-1956, 1:1-3

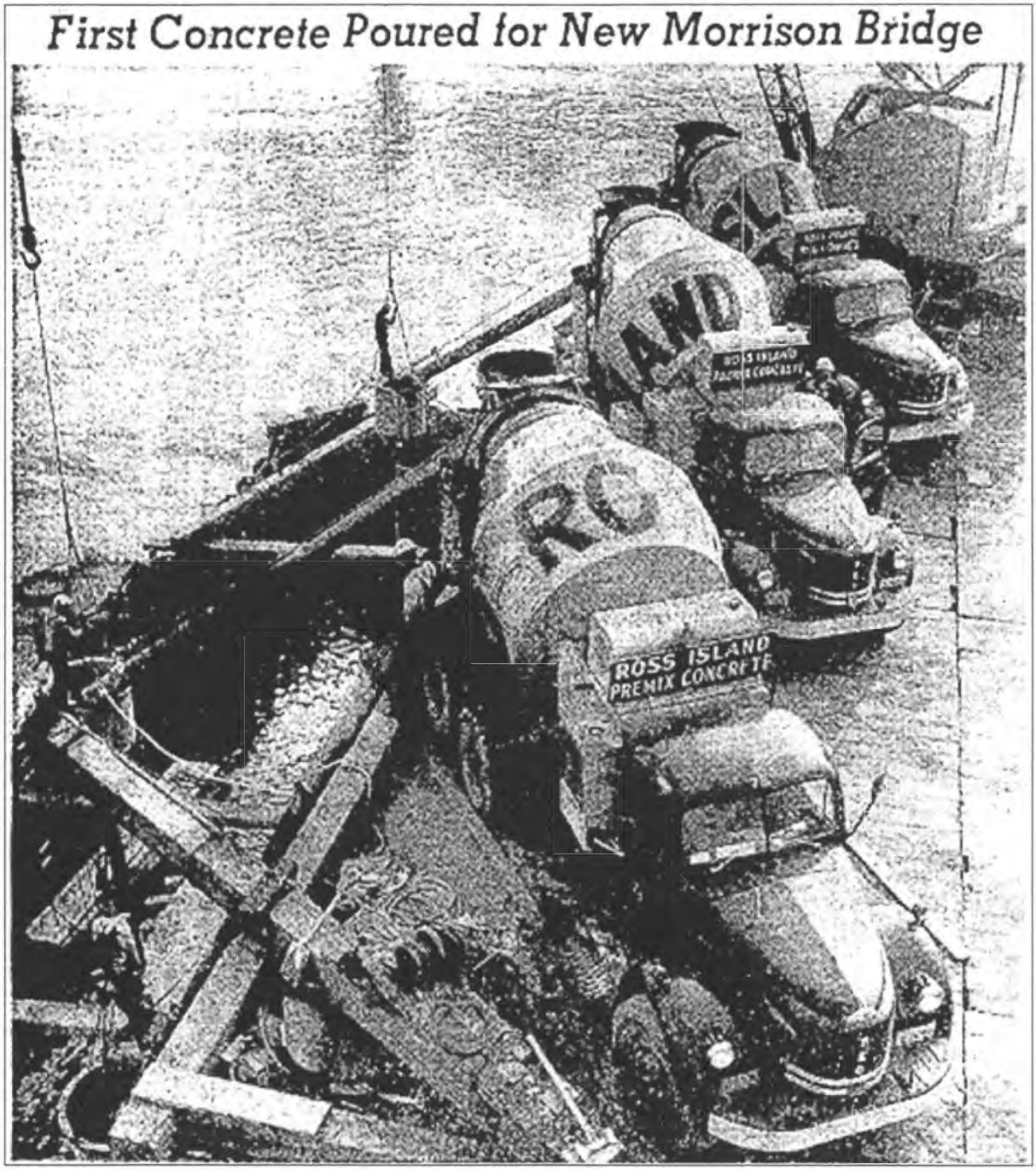


Figure 7: Newspaper Excerpt, Steel Link Placed to Join Morrison Bridge Span Across the Willamette *Oregonian*, 20-February-1958, 5:1-5

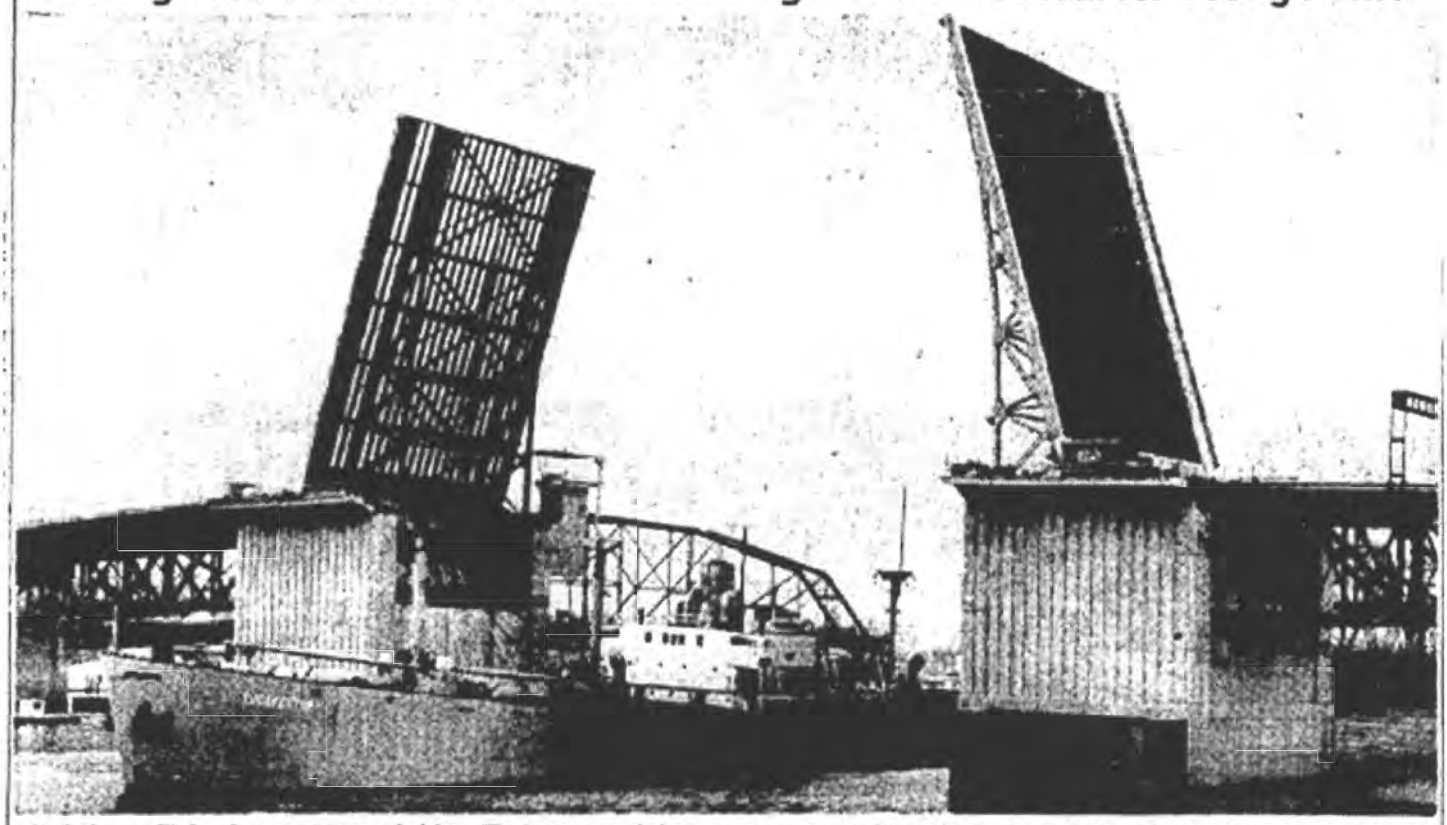
Steel Link Placed to Join Morrison Bridge Span Across Willamette

Workmen Wednesday, with the aid of this crane on barge, lifted the first steel beam to tie ends of the new Morrison Bridge center span together. Crew members are on the lower beams at left. Other pieces are to be fitted so concrete deck may be poured. Completion date is May. (Falconer photo)

Figure 8: Newspaper Excerpt, Freighter Theokeeter First Through New Morrison Bridge Lift
Oregonian, 10-April-1958, 10:2-6

THE OREGONIAN, THURSDAY, APRIL 10, 1958

Freighter Theokeeter First Through New Morrison Bridge Lift



At 5:25 a.m. Wednesday the Liberian freighter Theokeeter moved downriver through the new lift of the uncompleted Morrison Bridge. Loaded with cargo of scrap iron at Zidell Machinery Co. dock, the Theokeeter was moved to Standard Oil dock for bunkers before leaving for Japan. Three tugs, one towing and one on each side, and the sternwheeler steamer Portland, pushing, were needed to move the ship. The bridge lift was opened late Tuesday and remained aloft, as the ship movement time was scheduled before crew went on duty. There was no trouble. (Frank Sterrett)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: Morrison Bridge

MULTIPLE NAME: Willamette River Highway Bridges of Portland, Oregon MPS

STATE & COUNTY: OREGON, Multnomah

DATE RECEIVED: 9/28/12 DATE OF PENDING LIST: 10/26/12
DATE OF 16TH DAY: 11/13/12 DATE OF 45TH DAY: 11/14/12
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 12000933

REASONS FOR REVIEW:

APPEAL:	N	DATA PROBLEM:	N	LANDSCAPE:	N	LESS THAN 50 YEARS:	N
OTHER:	N	PDIL:	N	PERIOD:	N	PROGRAM UNAPPROVED:	N
REQUEST:	Y	SAMPLE:	N	SLR DRAFT:	N	NATIONAL:	N

COMMENT WAIVER: N

✓ ACCEPT ___ RETURN ___ REJECT 11/14/12 DATE

ABSTRACT/SUMMARY COMMENTS:

Criterion A - local level of significance for community planning - dev. + Transportation.
Criterion C - state level engineering 1958 steel deck truss span w/ a two-leaf, Chicago-type central - bascule span.

RECOM./CRITERIA A & C

REVIEWER Lisa Deline DISCIPLINE Historian

TELEPHONE _____ DATE 11/14/12

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.

Photograph 1 of 5: Morrison Bridge, Multnomah County, Oregon

017.jpg 10/27/11 .NNNC123N

Photograph 2 of 5: Morrison Bridge, Multnomah County, Oregon

018.jpg 10/27/11 NNNC123N


City Center

Photograph 3 of 5: Morrison Bridge, Multnomah County, Oregon

019.jpg 10/27/11 .NNNNNNNN

Photograph 4 of 5: Morrison Bridge, Multnomah County, Oregon

020.jpg 10/27/11 .NNNNNNNN

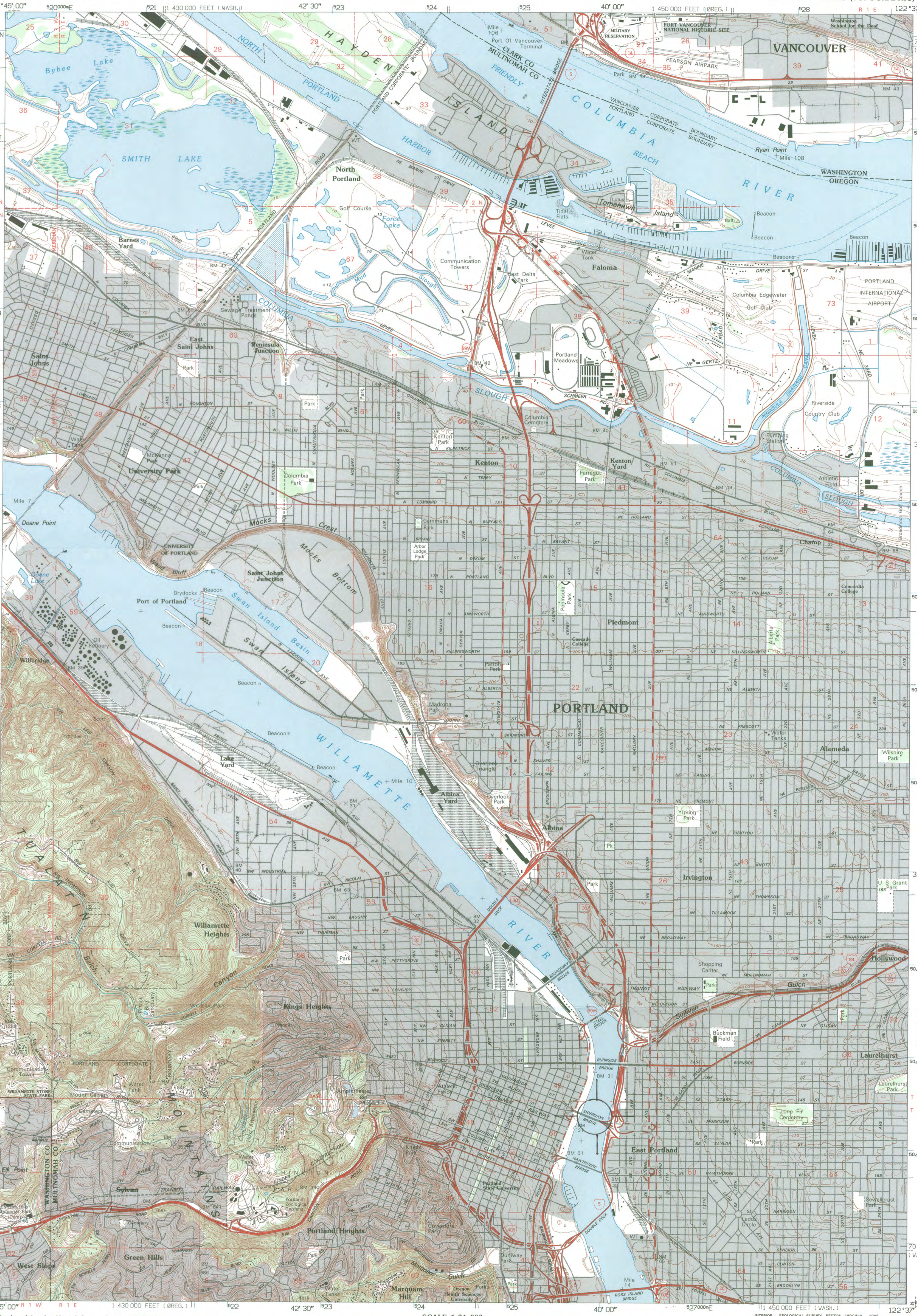
Photograph 5 of 5: Morrison Bridge, Multnomah County, Oregon

021.jpg 10/27/11 .NNNC123N

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PORTLAND QUADRANGLE
OREGON-WASHINGTON
7.5-MINUTE SERIES (TOPOGRAPHIC)

122°45'00" 45°37'30" — 520000mE — 521 — 1 430 000 FEET (WASH.) — 42'30" — 523 — 524 — 525 — 40'00" — 1 450 000 FEET (OREG.) — 528 — R 1 E — 122°37'30" 45°37'30"



45°30'00" 122°45'00" — R 1 W R 1 E — 1 430 000 FEET (OREG.) — 522 — 42'30" — 523 — 524 — 525 — 40'00" — 527000mE — 1 450 000 FEET (WASH.) — 45°30'00" 122°37'30"

Produced by the United States Geological Survey

Control by USGS, NOS/NOAA and State of Oregon

Compiled from imagery dated 1951. Revised from imagery dated 1990. PLSS and survey control current as of 1961 Map edited 1995. Contours and land elevations have not been revised and may conflict with other content

North American Datum of 1927 (NAD 27). Projection and blue 1000-meter ticks: Universal Transverse Mercator, zone 10 10 000-foot ticks: Oregon Coordinate System, north zone and Washington Coordinate System, south zone

North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

There may be private inholdings within the boundaries of the National or State reservations shown on this map

0°13' 4 MILS — 18½° 329 MILS — GN — MN

UTM GRID AND 1995 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

KILOMETERS 1 .5 0 1 2
METERS 1000 0 1000 2000
MILES 1 .5 0 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 2 FEET
TO CONVERT FEET TO METERS MULTIPLY BY 0.3048
TO CONVERT METERS TO FEET MULTIPLY BY 3.2808

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

INTERIOR - GEOLOGICAL SURVEY, RESTON, VIRGINIA - 1995

OREGON

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Primary highway hard surface	Light-duty road, hard or improved surface
Secondary highway hard surface	Unimproved road

Interstate Route — U.S. Route — State Route

1	2	3
4		5
6	7	8

1 Sauvie Island
2 Vancouver
3 Orchards
4 Linnton
5 Mount Tabor
6 Beaverton
7 Lake Oswego
8 Gladstone

ADJOINING 7.5' QUADRANGLE NAMES

PORTLAND, OR-WA
45122-E6-TF-024
1990
DMA 1475 II SW-SERIES V892

ISBN 0-607-00385-5

Morrison Bridge
Portland, Multnomah Co, OR
UTM References (NAD 83)
Zone 10
E 525940
N 5040330
Lat/Long Coordinates
Latitude
45.516020
Longitude
-122.66788