BRIDGE NO. 3585,
GOOSEBERRY FALLS STATE PARK
SPANNING GOOSEBERRY RIVER AT TRUCK HIGHWAY 61.
TWO HARBORS VICINITY
LAKE COUNTY
MINNESOTA

HAER NO. MN-87.

PHOTOGRAPHS

REDUCED COPIES OF MEASURED DRAWINGS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Rocky Mountain Regional Office
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287
HISTORIC AMERICAN ENGINEERING RECORD
BRIDGE NO. 3585
Gooseberry Falls State Park

I. INTRODUCTION

Location: Spanning the Gooseberry River at Trunk Highway 61 in the vicinity of Two Harbors, Minnesota

Quad: Split Rock Point

UTM: 15/522040/616155

Date of Construction: 1925 (bridge modified in 1937-38 and stone concourse constructed 1936-40)

Present Owner: Minnesota Department of Transportation 395 John Ireland Boulevard St. Paul, Minnesota

Present Use: Vehicular and pedestrian bridge to be replaced by a new vehicular and pedestrian bridge.

Significance: Bridge No. 3585, a steel deck truss bridge, was constructed in 1925 by the Illinois Steel Bridge Company to meet the needs of the developing tourist economy along the North Shore of Lake Superior. The bridge and the adjacent stone concourse built by the Civilian Conservation Corps illustrate the ascendance of the automobile in American life, the role of tourism in the development of northern Minnesota, and National Park Service policies and design standards for state parks.

II. HISTORY

A. CIRCUMSTANCES BEHIND BRIDGE CONSTRUCTION

Beginning in the late 19th century, Minnesota's North Shore along Lake Superior and its many trout streams ranked as a popular destination for recreational fishermen. By the late 1920s, the North Shore, the "rimland of unsalted seas," was a well established destination for nonfishing recreationists as well, offering "the vacationist a varied and interesting series of attractions." Most prized was the opportunity for "retreat, relaxation, resplendence." By 1931, the Gooseberry River, which empties into Lake Superior, was known as "a favorite place for campers and its waters are frequented by bathers."¹

An important factor in the recreational development of the North Shore was the construction of Trunk Highway No. 1 (renamed T.H. 61 in 1934). The then-unpaved road opened with great fanfare in July 1925, linking an area destined "to be the retreat of the camper, the inspiration of the artist, paradise of the sportsman, and the haven of the sweltering leisure class" seeking relief from summertime heat. Through the efforts of boosters in

the north country counties of Minnesota, the 168-mile highway they called the Lake Superior International Highway was "built along the rugged shores of Lake Superior, with rocks towering skyward on the one side and the blue waters of the lake, sometimes hundreds of feet below, on the other; and presenting to view many rushing waterfalls."²

Completed in 1925, the construction of Bridge No. 3585 spanning the Gooseberry River was a fundamental component of the development of the International Highway and the appreciation of the Upper and Lower Falls of the Gooseberry River. Before construction of the present highway, the road route had turned inland, away from the inspiring views of Lake Superior. After its construction, the motoring public could readily view these splendid natural features.

The trunk highway system in Minnesota was established after a constitutional amendment passed in 1920. Truly a planned system, the trunk highways were conceived as a network of roads and bridges serving the entire state. As early as the mid-1920s, Minnesota Highway Department engineers had developed standards

² "Survivor of Indian massacre to be honored at road celebration," July 1925 news release, in Lake County Scrapbook, Vol. I, Lake County Historical Society, Two Harbors, quote about camper, artist, etc.; "Dedication of Highway No. 1," newspaper article dated July 11, 1925, Lake County Scrapbook, Vol. I.
for highway and bridge construction. While adapted to the specific soils and terrain of the disparate regions of the state, these standards resulted in more uniform road and bridge designs.³

In concert with the development of the trunk highway system was the program to pave the roads. Three aspects dominated decisions of when to pave: areas of population concentration, tourist destinations, and points of entry from outside the state.⁴ The International Highway ranked highly in these areas. Duluth was a population center, North Shore tourism was rapidly developing, and the highway extended to the Canadian border.

Four years after the 1925 opening, the International Highway was paved from the Iowa-Minnesota state line north all the way to Two Harbors just south of Gooseberry Falls. An estimated 5,000 people attended ceremonies in Two Harbors acclamining the paving of the road. Termed "one of the most elaborate programs ever staged for a road dedication," the festivities included a twenty-six-unit parade with representations of the many modes of transportation, from airplanes to covered wagons. The popularity


⁴Alexander, p. 13.
of Gooseberry Falls as a tourist destination undoubtedly increased with the construction of Bridge No. 3585 spanning Gooseberry River and the paving of the International Highway.5

Gooseberry Falls State Park

As early as 1910, North Shore residents were promoting the concept of governmental involvement in recreational facilities there. Noting the "wild, rugged, Switzerlandic beauty" of the area and its "reputation as a veritable sportsman's paradise," a 1910 promotional booklet suggested the area was an "ideal place for a national park and game preserve." In the decades around the turn of the century, local boosters across the country often looked to federal protection as the means for preserving and promoting natural resources.

Under the direction of a group of Two Harbors businessmen, the area of interest for a government-owned land reserve came to be centered by 1925 on a 600-acre portion of 30,000 acres held by the Vilas estate. Senator William F. Vilas of Wisconsin had purchased vast tracts in Lake County and other Minnesota and Wisconsin timberlands as an investment. Upon his death, trustees of the estate were responsible for the property. The University

5"Thousands attend highway dedication," Duluth Herald, September 27, 1929, quoting; "New highway section passes through scenic North Shore country," Duluth News Tribune, September 26, 1929.
of Wisconsin was the primary beneficiary. At the initial inquiry by the Two Harbors contingent, the Vilas estate representatives were not interested in selling any land. Knowing that the late senator had felt that northern Minnesota and Wisconsin lands should be retained because they would increase in value, the trustees felt it was their responsibility not to sell any land for any reason. But in 1932, when a representative of the Minnesota Highway Department contacted them regarding a widened right-of-way and, incidentally, a state park, he was not rebuffed. A change of opinion on the part of the late senator's son-in-law was reportedly an important factor in the decision to sell. The parties reached agreement in 1933, but title problems delayed formal acquisition of the 661.07 acre tract until the following year.6

With owner interest in selling the land secured, the next step was to enlist State of Minnesota participation and funding. To provoke interest, the Lake Superior International Highway Association (LSIHA), a booster organization, provided members of the Minnesota Commerce Commission with their opinions regarding a lakeshore park at Gooseberry Falls. Writing in June 1933, before a crucial commission meeting, LSIHA president Thomas Owens

revealed local interests. He noted that the Upper Falls provided a "fine swimming pool." It was so popular that on summer Sundays and holidays "it is difficult to get by because of the density of the traffic." Since Lake Superior was too cold for swimming, people used the falls as well as a spot at the mouth of the river for bathing. The situation was reaching a crisis stage in Owens' estimation. Private parties were rapidly buying up suitable park land, and Owens feared that "one of the finest scenic drives in America" was in danger of being marred by a sea of "'Private' or 'Keep off the Grass'" signs signifying private ownership.  

Members of the Conservation Commission concurred with North Shore sentiments and passed a resolution on June 16, 1933, authorizing negotiations for the "Gooseberry River Project." Gooseberry Falls State Park was the first state park on the North Shore. While functioning as a state park in many respects, it was not formally incorporated into the system until April 26, 1937, along with nine other state parks.

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7 Thomas Owens to John R. Foley (Chairman, Conservation Commission), June 12, 1933. Letter on file, Lake County Historical Society.

8 Frank Yetka, Secretary, Conservation Commission to Dr. R. L. Burns, Two Harbors resident, June 17, 1933; Roy W. Meyer, Everyone's Country Estate. A History of Minnesota's State Parks (St. Paul: Minnesota Historical Society Press, 1991), p. 112.
"Gooseberry Park to be a reality," may have been the headline in August 1933, but in truth no state funds had been appropriated for park development. In the depths of a nationwide financial depression, Minnesota lacked the fiscal resources to apply to Gooseberry Falls. Beginning in July 1934, a federal public works program, the Civilian Conservation Corps, provided the means, in concert with National Park Service expertise, to accomplish the goal of providing public facilities on the North Shore.

Beginning the spring of 1934, the National Park Service (and the Civilian Conservation Corps under its direction) was directly involved in the design and construction of facilities at Gooseberry Falls State Park. As part of a massive federal public works program, the National Park Service was directed to provide assistance to Civilian Conservation Corps (CCC) personnel at state parks in Minnesota as well as other states. CCC camps were located in 405 state parks across the nation, ten of them in Minnesota.  

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Principles and policies developed for national parks by the National Park Service since its inception in 1916, especially the master plan, rustic design, and landscape naturalization, were applied to the development of state parks. National Park Service personnel supervised construction activities and approved master plans which outlined for each park the design and construction of roads, trails, buildings, and related facilities. State park inspectors visited parks under development to oversee improvements. Technical specialists drawn from the private sector, including landscape architects, architects, and engineers, were assigned to state parks as part of CCC camps and were responsible for directing the daily activities of CCC enrollees.\textsuperscript{11}

The ease with which the park's scenic qualities could be experienced was a factor in the popularity of Gooseberry Falls State Park. Nowhere was the relationship between motoring tourists and the ability to experience nature more apparent than at the bridge and concourse of Gooseberry Falls State Park. As the middle class increasingly took to the highways in their automobiles, the falls became a popular, readily reachable, and briefly visited destination. One need merely park the car and

hop out to experience an awesome site. Directly upstream from the highway bridge lie the Upper Falls, which have an approximate 25' drop. Less than 300' downstream is the two-tiered Lower Falls with a total drop of around 75'.

The facilities at Gooseberry Falls State Park were built in the rustic style. Of paramount importance was the visual harmony among facets of the built and natural environments. The rustic style emphasized use of local materials and building design and placement which complemented the topography and scenery. Refined by the National Park Service in the 1920s and 1930s, the approach was influenced by a variety of American architects and landscape architects, including the Arts and Crafts movement, camps in the Adirondack region of New York, and regional styles.

Constructed between 1933 and 1941, the thirteen buildings, eight structures, and sixty-five objects which are the contributing resources in the Gooseberry Falls State Park Historic District constitute the original major resources of the


\[13\] McClelland, pp. 50-68.
park. No resources outside the district are known. The park resources are located in the original 640 acres of the park and are arrayed along the Gooseberry River and its falls as well as the shoreline of Lake Superior. All major components the CCC constructed remain, including entrance portals, trickling filter building, water tower, campground facilities, and lookout shelters, all constructed using granite. Built to accommodate travelers arriving by automobile, the massive stone concourse and stone bridgehead refectory are the primary resources in the park located by Bridge No. 3585 and Trunk Highway 61.

In keeping with National Park Service principles stressing the use of indigenous materials, the distinctive combinations of red, blue, brown and black granite were quarried locally. Red granite was obtained from an outcrop in nearby Duluth at the College of St. Scholastica, and the darker shades came from a site near East Beaver Bay, north of the park. Mortar sand was brought from Flood Bay, south of the park, and logs were cut at Cascade River State Park.\textsuperscript{14}

Edward W. Barber of the Minnesota Central Division Office of the National Park Service served as principal designer, and

\textsuperscript{14}Gooseberry Falls State Park National Register Nomination. On file, Minnesota State Historic Preservation Office, St. Paul, Minnesota.
George C. Lindquistfunctioned as on-site architect for the Civilian Conservation Corps. Developed according to a master plan, the park contains a refectory, cabins, drinking fountains, curbing, and more, all in stone. The collection is regarded as the "most distinctive visually of any masonry construction in the [Minnesota] state park system."  

One of the most prominent elements at the park, the massive stone concourse, was built in 1936-40 to accommodate visitors arriving by automobile. To gain the best views of the falls, automobilists drove on the trunk highway, parked at the concourse, and walked onto the bridge, posing a growing safety hazard. (See Roadway/abutment Plan.) Sunday visits were especially popular, and one resident wrote of seeing both sides of the bridge "lined from one end to the other." As a safety measure, local residents, including the Lake County Conservation League, called for the construction of pedestrian walks on the bridge. In 1937 an ornamental iron railing was added to pedestrian walks appended to either side of the bridge spanning the Gooseberry River. (See Downstream Elevation, 1937 Bridge Expansion.)

15 Ibid., p. 8-1.
16 Secretary, Lake County Conservation League to N.W. Elsberg, Commissioner of Highways, June 29, 1935, quoting; Resolution. Lake County Conservation League, June 19, 1935; Minneapolis Ornamental Iron Company to Minnesota Department of
B. CONSTRUCTION OF BRIDGE NO. 3585

Using plans approved October 12, 1923, the Illinois Steel Bridge Company, 551 Gilfillan Block, St. Paul, Minnesota, submitted a proposal to the Minnesota Highway Department on or about November 7, 1923 for constructing Bridge No. 3585 on then-Trunk Highway No. 1. The company is known to have constructed seven bridges in Minnesota between 1910 and 1939.17

The Illinois Steel Bridge Company's proposal estimated that the following materials would be required: 187 cubic yards of concrete, 20,778 pounds of reinforcing steel, and an estimated 160,550 pounds of structural steel, at a lump sum cost of $34,984.00. The company planned to begin work by December 1, 1923 and to complete the project by August of the following year.

It does not appear that the proposed schedule was precisely met because in September structural steel was still being inspected. On September 18, 1924, Minnesota Highway Department inspectors found that all fabrication was done according to

Highways, July 29, 1937. Letters and resolution on file, Lake County Historical Society.

specifications, the rivets were driven properly, and the joints were milled true and square. In addition, they noted that the dimensions agreed with detail drawings, and the painting was proper. They pronounced the quality of the work to be "good."\(^{18}\)

According to a detailed record of repairs, the bridge was completed June 26, 1925 at a cost of $38,453.53.\(^{19}\)

Because of an apparent sag in the bridge arches, V.R. Wood of the Minnesota Highway Department wrote an unusually detailed description of the method of erection for Bridge No. 3585:

...The erection was done in the following manner. One half of each lower chord was assembled and bolted up on the ground 65% to 70% of the holes at each point filled up. After assembling the half arch chord was raised in place and pin driven to position with the upper end of arch resting on falsework built at the center. A jack was placed under chord on falsework and raised to elevation set by instrument. After placing the down stream half arch in position, the two chords on the east side were assembled and raised. The up stream arch was connected up first and fit perfect to elevations given. Chord later and diagonal braces were then placed to prevent sway or displacement.

Erection of posts, diagonal and floor beams was started at the south and worked up grade. Before starting a post was placed at right angles to chord under second panel point to take care of any settlement of joint as erection progressed, toward the center.

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\(^{18}\) Final Report on Shop Inspection of Structural Steel for Bridge 3585. Bridge 3585 file, Mn/DOT Records Storage.

\(^{19}\) Bridge Maintenance, Repairs and Renewals. Bridge 3585. Bridge 3585 file, Mn/DOT Records Storage.
All holes and plates matched well. After reaching the center the falsework at that point was taken down. Erection progressed on across the bridge until the arch was completed. The only irregularity in matching of holes came in the last two panel points on the up grade end of the arch where the main diagonals were about 1 1/2 inches short and the lower chord joints at these points had to be jacked up to connect.

Up to the time that erection proceeded as far as connecting up the last two diagonals mentioned, camber in the bridge was at 2 inches. After jacking in place and connecting these diagonals, the camber lowered to only 1/2 inch instead of 2 inches.

After the floor slab was poured a deflection of 2 1/2 inches took place. The pouring was done in a manner suggested by Mr. E.J. Miller who inspected the first pouring of Lummite cement.

In checking over the bridge for possible causes of sag in the arch we first rechecked distance between pin centers and elevations of piers. The distance between pin centers is 150 feet and 1/4 inch. The elevation of pier seats checks [with] the plans.

As suggested by Mr. Ellison we checked the lengths of posts to be sure of all steel work, rechecked each chord and diagonal for distance. Each measurement checks exactly with the shop plans.

Elevations were taken at the panel points on the lower chord and they show a uniform curve with sag of 2 inches at the center. Elevations as found on April 9, of chord at panel points were below plan elevations by the following amounts. Center -.17; first panel N&S -.14; second panel N&S -.11', third panel N&S -.07; fourth panel N&S -.03'.

In as much as the elevation over each pier is 1 1/8 inches above the direction of grade, as designed for camber, appearance of the whole bridge, appearance of the bridge rail with slight sag in the arch is such that a hump shows up over the piers. This point is the one that brings out and maginfys [sic] the appearance of sag.

I admit that I can not show cause for this defect and have set forth the facts as I know them so that
others might figure out the failure of retaining camber.

There is no further mention in the available files of this situation, including in the repair record for the bridge.

III. THE BRIDGE

A. DESCRIPTION

Bridge No. 3585 was first constructed in 1925. Work on the adjacent stone concourse commenced in 1936 and was completed in 1940. In 1937-38, the bridge was expanded with the addition of pedestrian walks, a change undertaken in conjunction with the design of the concourse.

Bridge No. 3585 is a steel deck truss bridge. As such, vehicular and pedestrian traffic is carried level with the top chords. The design was chosen in order to span a long space, the rocky bed and deep ravine of the Gooseberry River. Three sets of 150'-0" arch trusses now form the visually arresting curved lower chords. Steel deck girder approaches on either side, each 60'-0" long, frame the distinctive arch of the main span. The concrete floor of the roadway is 30'-0" wide, and there are 2'-6" concrete sidewalks cantilevered on both sides of the bridge. The wrought iron ornamental railing has slender 3/4" vertical bars in units of four which are separated by 2" bars. A course of circles at the top of the panels provides contrast and is surmounted by a 3"
wide top railing. Riveted plates connect the ten members which form each arch. Vertical and diagonal bracing is located between the top and lower chords. Wind- and sway-bracing is set transversely between the ribs and between the top chords of the trusses. Abutments are reinforced concrete that was cast in place. Piers for the main span are solid reinforced concrete pedestals which have sloping faces designed to receive the thrust of the arch. The metal plaque has the following information:
Minnesota Highway Dept. Bridge No. 3585. 1937.

The relatively even topography across much of Minnesota dictated that through truss bridges were the norm, and metal deck truss bridges were relatively uncommon. Only seven examples constructed between 1922 and 1952 are known. Of that number, only three date from the 1920s: Bridge No. 3459 (1923) across the Baptism River, Lake County; Bridge No. 3585 (1926) over the Gooseberry River, Lake County; and Bridge No. 4175 (1927) in Scott County.20

B. MODIFICATIONS

Major alterations to the bridge dating from 1937-38 and the concourse construction dating from 1936-40 were undertaken in direct response to the recreational uses of the bridge. Ever

increasing numbers of tourists and, in the 1930s, visitors to the Civilian Conservation Corps camp at the park paused on the bridge to view the Upper and Lower Falls of the Gooseberry River. In 1935, Minnesota Department of Transportation personnel recommended the following: "Add another arch ring on down stream side and make 30' roadway with two 2.5' sidewalks. Use Trilock floor system." Planning for these changes began that same year, and in 1937-38 Megarry Brothers completed the modifications for $73,337.61. New ornamental railings replaced the original mesh patterned barriers.21 As a cost saving measure, a girder from bridge No. 3586 was recycled and used in the Bridge No. 3585 expansion.

A new strut was added to either end of the arch span to provide additional bracing. The new concrete piers which were added in conjunction with the additional arch span were specified to be identical to the existing north abutment but slightly larger than the original for the south abutment.22

Bridge No. 3585 was considered an integral part of Gooseberry Falls State Park, and park construction and bridge

21Bridge Maintenance, Repairs and Renewals. Bridge 3585 file, Mn/DOT Records Storage.

22Plan & Elevation, Bridge 3585. Bridge 3585 file, Mn/DOT Records Storage.
modifications were planned together. The concourse built from 1936 to 1940 at the southerly end of the bridge was designed specifically to accommodate park visitors arriving by automobile. The concourse area provided parking on both sides of the highway, vantage points for viewing scenery, latrine facilities, access to the bridge, and access to trails. Squat log balusters shown on early plans for the concourse proved unsatisfactory and were replaced in 1939 with the present stone.23

C. CHARACTER-DEFINING ATTRIBUTES

Bridge No. 3585 and the adjacent stone concourse and parking area epitomize the pivotal role of highway design and construction in fostering tourism along the North Shore of Lake Superior. The aesthetically pleasing design of the bridge, which is apparent to those viewing the falls of the Gooseberry River, represents Minnesota Highway Department policies and principles of highway design during the developmental years of the state's trunk highway system. Trunk Highway No. 1 was intended to be a scenic highway affording the motoring public the opportunity to view and enjoy the bracing qualities of the North Shore. One of the most photographed bridges in Minnesota, Bridge No. 3585 and the cultural landscape of Gooseberry River represent, in

compressed form, the recreational opportunities associated with the North Shore.

D. OWNERSHIP AND FUTURE

Bridge No. 3585 became unsafe and prohibitively expensive to repair. The replacement bridge is to be located in nearly the same position as the present bridge, but at a slightly different angle. The opportunity to view the Upper and Lower Falls as well as other aspects of the park's scenery from the bridge will be changed but not dramatically.

As a safety feature, the present parking on the concourse will be replaced with off-highway parking associated with a new park interpretive center. Uncontrolled pedestrian access of the bridge has long been considered a major safety concern. Construction of a new bridge, coupled with the new off-highway interpretive center, affords the opportunity to increase safety levels and also provide access for the handicapped to historically and aesthetically significant views.

Important concourse elements, including the massive stone retaining wall and steps, will not be changed when the replacement bridge is constructed. Some landscaping and changes to the original parking areas are expected, including interpretive plaques. Concourse latrines were closed a number of
years ago, and it is not expected they will be reopened, if only because they are inappropriate for modern park users, including the handicapped. Because of the location of the proposed visitor center and removal of highway parking, park personnel expect that more visitors than ever will traverse the path along the concourse retaining wall. More visitors will thus view the immense stone blocks so expertly laid up by the Civilian Conservation Corps.
ADDENDUM TO:
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PHOTOGRAPHS

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