OTTER CREEK COVE BRIDGE AND CAUSEWAY
Acadia National Park Roads & Bridges
Spanning Otter Creek cove on Park Loop Road
~~Seal Harbor Vicinity~~ OTTER CREEK VICINITY
Hancock County
Maine

HAER NO. ME-19

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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

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HISTORIC AMERICAN ENGINEERING RECORD

OTTER CREEK COVE BRIDGE AND CAUSEWAY

HAER No. ME-19

LOCATION: Park Loop Road, crossing bar of Otter Creek at Otter Cove, .5 mile east of Fabbri Memorial, Acadia National Park, Mount Desert Island, Hancock County, Maine

DATE OF CONSTRUCTION: 1938

DESIGN: Bureau of Public Roads, U.S. Department of Agriculture

ENGINEER: Leo Grossman, Public Roads Administration, Supervising Engineer, Public Roads Administration

CONTRACTORS: Sammons, Robertson & Henry, Huntington, West Virginia; J. M. Francesca & Co., Fayetteville, West Virginia

STRUCTURE: Three-span masonry arch deck bridge and earth-core embankment faced in hand-laid rubble masonry

FHwA STRUCTURE: 1700-019P

SIGNIFICANCE: The triple-arched Otter Cove Causeway spans Otter Cove, connecting Otter Point with the Blackwoods section of the park. One of the most impressive structures along the Park Loop Motor Road, the causeway gently curves along the ocean's edge, affording spectacular views of the Otter Cove inlet and the open sea.

PROJECT INFORMATION: Documentation of the Otter Cove Causeway is part of the Acadia National Park Roads and Bridges Recording Project, conducted in 1994-95 by the Historic American Engineering Record

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This is one in a series of reports prepared for the Acadia National Park Roads and Bridges Recording Project. HAER No. ME-11, ACADIA NATIONAL PARK ROADS AND BRIDGES, contains an overview history of the park road motor system.

HISTORY OF THE OTTER CREEK BRIDGE AND CAUSEWAY

During the late 1880s, settlers of the Mount Desert Island community of Otter Creek began constructing the first bridge across the mouth of the stream for which their community was named. When a storm on 25 January 1889 destroyed the bridge before its completion, the project was abandoned until 1913. In that year Hancock County had a wooden trestle built across the cove in order to carry a county road from Bar Harbor to Seal Harbor. Having been constructed too near the water level, however, this trestle was also destroyed when a storm surge lifted the floor off the structure. After this incident the county oversaw the construction of yet another bridge. This structure was 625' long and consisted of a 555' wooden trestle bisected by a 70' pivoting swing bridge. The central stone-filled crib pier of the swing bridge was bordered on either side by two 30' channels, while the ends of the swing spans rested on granite abutments. The connecting trestle, standing some 22' above the water level, was constructed on the north end on a natural bar composed of sand, cobbles and boulders thrown up by the sea. Although this county road, called the "Bar Harbor Drive," is shown on maps from 1926, evidence suggests that the swing-span of the bridge fell into disrepair some time before 1925.[1] The Otter Creek Bridge Company, which held the charter for the bridge, was dissolved by the Maine state legislature in July 1940.[2]

The extension of the Ocean Drive segment of the Park Loop Road to the Black Woods area of Acadia National Park necessitated construction of a more permanent bridge-like structure across the Otter Creek Cove tidal estuary. Recognizing the scenic value of the cove and desirous of presenting park motorists with the best

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[1]Waldron Bates, Edward L. Rand and Herbert Jaques, "Path Map of the Eastern Part of Mount Desert Island, Maine" (Boston, MA: Geo. H. Walker & Co., 1913, 1926, 1930); J. G. White Engineering Company, "Proposed Bridge over Otter Creek," MSS, 1925, Acadia National Park Library; Thomas G. Richardson, "Otter Creek," in Gunnar Hansen, ed., *Mount Desert: An Informal History* (Mount Desert, ME: Town of Mount Desert, 1989), 112.

[2]Philip F. Keeler to John D. Rockefeller, Jr., 24 June 1940. Acadia National Park Library.

possible views, John D. Rockefeller, Jr., who funded the reconstruction of the Ocean Drive, acquired the land necessary to construct a new crossing when the U.S. Navy agreed to relocate its radio station at Otter Point to the Schoodic Peninsula. After purchasing this land, Rockefeller funded a number of engineering and landscape surveys in order to determine the best type of structure to cross the cove.

In August 1925, Rockefeller employed the J. G. White Engineering Corporation of New York to inspect both the cove and the old swing-span bridge. The firm reported that the bridge's trestle, although in a "considerably decayed" condition, was nonetheless intact though the swing-span had disappeared. The central pier remained, although it too was in a dilapidated state. The inspection also determined that the pier had settled unequally on its foundations, casting the swing bridge into the channel. The bar across the cove was described as approximately 500' long at low tide and 350' wide, and the creek channel was measured as 55' wide and 4' deep. Interviews conducted by the firm with area residents indicated that the creek had been used occasionally by scows or boats transporting timber and other products from the interior of the island, but that "hardly any" shipping had taken place in recent years and the swing span had rarely been opened.[3]

The J. G. White report recommended that the new bridge should be constructed immediately south or seaward of the existing trestle and bridge. The natural bar, the report suggested, would offer protection for any structure built upon it. Although such a location would result in both sharp and steep road approaches to the bridge itself, grading could accommodate the proposed new road. The report also indicated that although a better alignment could be achieved if the road was relocated further southward closer to the mouth of the cove, such a location would not only more fully expose the bridge to the ocean but would also be considerably more expensive to construct. Locating the bridge to the north would likewise be more expensive, as the cove there did not narrow appreciably. From this more northerly location an unattractive expanse of tidal mud flat would also be exposed to view from the bridge.[4]

Based on this preliminary investigation, the White Corporation proposed three types of structures that could be constructed across Otter Creek Cove. One option entailed building a granite

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[3]J. G. White Engineering Corporation, "Proposed Bridge over Otter Creek, Mount Desert Island, Maine," 1-2. MSS, August 1925. Acadia National Park Library.

[4]Ibid., 2-4.

embankment or causeway across the mud flat. A second plan included a reinforced concrete girder bridge resting on granite-faced concrete piers. The final proposal involved a reinforced concrete trestle with the piles encased in granite above high tide level. Because of concerns that the concrete might deteriorate when in contact with salt water, the report also recommended that all exposed concrete be encased in granite. The firm suggested a draw bridge over the channel would most likely be necessary as the previous bridge had incorporated one and the War Department would likely require one for the new structure. The report also recommended that the final bridge should be at least 20' wide in order to provide for two lanes of automobile traffic, and stand at least 24' above the low tide level in order to protect the bridge from the ocean and to ease the grade from the approaches. Granite for the abutments and pile casing could be obtained from an adjacent ledge or a nearby quarry, while that for the embankment could be transported from these sources or from waste dumps at quarries at Stonington or other points along the coast.[5] The report also included sketches and estimated costs for each of the three variations of the bridge. The estimates were:

Reinforced concrete girder bridge on masonry piers:	$130,000
Solid rock fill causeway faced with granite riprap:	$110,000
Reinforced concrete trestle with concrete support: (protected by granite facing to 2' above high tide)	$97,000
Reinforced concrete trestle with concrete support: (without granite protection)	$91,000
Wood trestle to replace existing structure	$30,000[6]

In the fall of 1925 the company conducted a second series of surveys and borings and reported in December on physical conditions at the site. The investigations confirmed the original recommendation that the new structure be located just south of the center line of the existing trestle. The old structure, properly strengthened, could be used as a roadway for the delivery of construction materials. The new report suggested relocating approach lines to allow for 100' radius curves and 6 percent grades. Borings in the channel bar revealed its composition as a 1' layer of cobbles and small boulders underlain by 4'-8' of sand which rested on soft blue clay. Beneath the channel itself, rock was struck at depths ranging from 2'-14'. While

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[5]Ibid., 4-6.

[6]Ibid., 7-8.

most of the rocks had probably been deposited by storm tides, a granite ledge was clearly evident about 12' beneath the trestle's west abutment and served as its foundation.[7]

The December 1925 report included two revised drawings as possible options for the new structure. The first proposal, a "causeway-bridge", would consist of a 590' granite embankment with a hand-operated steel bascule lift bridge spanning a 30' channel. The granite-faced approaches would bring the total length of the structure to approximately 947'. To keep from placing the lift on a curve, a tangent would be introduced at the channel with another of identical dimension on the east side of the structure for symmetry. The seaward side of the embankment would be heavily riprapped to prevent damage from wave action. No sidewalk was included in this proposal, but the structure could be widened to allow for a 4' sidewalk at an additional cost of approximately $10,000. The design called for stone pylons equipped with electric lights to illuminate the bridge at night. The presence of clay and boulders underlying the bar would also necessitate the use of steel piling to support the abutments for the lift bridge. The high quantities of earth and rock fill necessary for such a structure raised the cost of this alternative (including 7.5 percent for contingencies and another 7.5 percent for the firm's engineering fees) to $162,000.[8]

The second option proposed by the White Engineering Corporation involved a "causeway-dam." This option differed from the above proposal in that the stone dam portion would be filled with earth, with sheet piling penetrating the fill to the level of the natural bar to prevent seepage. This option would also feature a spillway near the middle of the structure instead of the bascule span at the channel. The spillway would ordinarily be closed with stop logs to an elevation of about 1' below high tide. This would trap sea water behind the structure, creating a pond or pool which could be used for swimming. The stop logs could be adjusted for height of tide, or to adjust clarity or levels of salinity. The depth of the "pool" would range from 0' at the shore to about 14' in the channel. Due to the extra cost of the sheet piling, placing and rolling the clay fill, and construction of the spillway, the causeway-dam's cost was estimated at $229,000 including engineering fees and contingencies. The company again suggested that if a dam were to be constructed it

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[7]Idem, "Proposed Causeway at Otter Creek," MSS, 15 December 1925. Acadia National Park Library.

[8]Ibid., 5-7.

would be necessary to obtain all riparian rights above the structure, and the permission of the War Department would have to be secured for any structure as the cove was technically an historically navigable body of water.[9]

In 1926, representatives from the White company met with Rockefeller and his architect, William Welles Bosworth of New York, to discuss the options. The company representatives were instructed to prepare an application to the War Department for construction of a structure across the cove.[10]

Over the next four years, Rockefeller's chief local concern was the extension of his comprehensive carriage road system [HAER No. ME-13] and the continuation of work on the park motor road system which ultimately evolved into the Park Loop Road. In 1930, he engaged noted landscape architect Frederick Law Olmsted, Jr. to study the Otter Creek Cove crossing, and provided him with copies of the J. G. White reports. He evidently told Olmsted that he was interested in the concept of impounding the cove to allow for swimming, as ideas concerning the measure appear in the reports.

Olmsted surveyed the cove in March 1930. He agreed with the White Corporation engineers that the road should be built across the bar and not run around the head of the cove far to the north. The northern location, Olmsted argued, would result in scarring visible from both sides of the cove as well as a view from the bridge that was dominated by mud flats except during high tide. Yet whereas the White company's proposal envisioned the causeway as cutting straight across the bar, Olmsted recommended that it be curved. Olmsted also rejected the idea of a drawbridge in favor of a spillway at the top of the dam, and recommended lowering the structure about 3' for "reasons of appearance rather than economy." A separate channel, he argued, could be constructed for Otter Creek if it was determined that fresh water entering the head of the cove might "pollute" the salt water behind the dam (bacterial growth is hampered by high salinity, while fresh water encourages it). This water in this "scenic pool" behind the dam, Olmsted believed, would warm enough during the summer to permit comfortable bathing while a "much-to-be desired sand beach" could be developed against the outer wall of the raised bar, adding to the pleasure of the bathing pool on the

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[9]Ibid., 7-11.

[10]Gano Dunn, President, J. G. White Engineering Corporation, New York, to Rockefeller, 1 April 1930. Acadia National Park Library.

other side.[11] While slightly modifying the White plan, then, Olmsted nevertheless agreed that a causeway-dam was appropriate. In conclusion, Olmsted summarized his views on the matter.

> I would recommend without hesitation the construction of a solid fill causeway across the inner bar for the road-crossing with the incidental formation of a sheltered and sun-warmed tidal bathing pool behind it, as giving both the most agreeable solution of the whole problem from a landscape point of view and one of the least costly solutions that would be reasonably satisfactory.[12]

Rockefeller then had the White Corporation review Olmsted's recommendations. Gano Dunn, the corporation's president, agreed that a curved road across the bar was possible, and that the height of the dam could be lowered 2' with the only danger to cars being occasional spray from the nearby sea. Lowering the wall more than this, Dunn argued, would require more structural studies. Dunn indicated in his reply to Rockefeller that the use of stop logs would allow the water behind the dam to be kept sufficiently salty for bathing purposes without a loss of warmth. Some tidal oscillation was desirable, he stated, to prevent the upper part of the impoundment from becoming a fresh water pool.[13] Dunn also reported that the War Department had given unofficial indications that the proposed causeway-bridge design, which preserved the open channel, would be approved. The preferred causeway-dam design would probably also be approved if the riparian rights of all the owners above the structure were secured. Dunn sent sketches of the new spillways and bridge crossings for the center of the dam as replacements for the original triple arch design. One sketch included ornamental light posts across the causeway. He pointed out that the cost of a roadway over a dam would be considerably higher than the cost of a causeway with a Bascule lift bridge.[14]

By the mid-1930s, Rockefeller was withdrawing from further work on the park motor road system. Although he financed the construction of the Ocean Drive and Otter Cliffs sections of the

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[11]Frederick Law Olmsted, Jr., "Special Memorandum in Regard to Crossing of Otter Creek Cove," March 1930. Acadia National Park Library.

[12]Ibid., 2.

[13]Dunn to Rockefeller, 1 April 1930.

[14]Ibid., 5.

Park Loop Road, he ultimately declined to construct the Otter Creek Cove Bridge which would have connected the two segments. The National Park Service turned to the Bureau of Public Roads (BPR), an agency of the Department of Agriculture, for the construction of the structure. The BPR oversaw major road construction projects in the national parks under terms of a 1926 agreement, and had been active at Acadia, building the Cadillac Mountain Road and planning other parts of the loop road system.

In November 1935, Thomas C. Vint, Chief of the National Park Service Branch of Plans and Design, reviewed the preliminary plans and stake lines with Olmsted and Bureau of Public Roads engineer Leo Grossman. BPR structural engineers concluded that the causeway should be constructed of dumped rock with large blocks on the outside. Instead of a clay core, they suggested a thin concrete core wall rising only to within a foot of high water, the maximum height thought desirable to hold back tide-water in the basin. Clay, they believed, was liable to erode from tidal ebbs and flows in a loose-jointed rock structure. The openings, which could be closed with stop-logs, should be located in the deepest part of the channel. This would allow small boats without masts to pass through if the openings were left open, negating any legal objections regarding navigation. Construction of a permanent weir should be forestalled until experimentation with the stop logs indicated the best elevation for it.[15]

The BPR prescribed a road line crossing the causeway on a continuous curve of approximately 500' radius, a far more gradual line than that proposed by the White Company engineers. Although Vint and Olmsted thought a sharper curve would give the appearance of following the natural bar, the BPR convinced them such a line could only be attained through sharp, broken-back curves which would necessitate difficult maneuvering by motorists. Olmsted met with Rockefeller in late November 1935 and secured his acquiescence to these revisions.[16]

The Bureau of Public Roads began preparing new plans for the Otter Creek Cove Bridge and Causeway during spring of 1936. Acadia National Park Superintendent George B. Dorr wrote Rockefeller that any clearances required by the War Department

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[15]Olmsted Brothers, "Acadia National Park: Otter Creek Causeway and Black Woods Road - Report of Visit by Mr. F. L. Olmsted, November 12, 14, 15, 1935." Library of Congress, Manuscript Division, Record Group 9138.

[16]Ibid., 2; Olmsted to Rockefeller, 27 November 1935. Library of Congress, Manuscript Division, Record Group 9138.

would be sought as soon as these plans were finalized.[17] Following a hearing held at the Bar Harbor Assessor's office in July, the War Department granted permission for the structure to be built. A department spokesperson stated "navigation is negligible and is confined to rowboats and small power boats. A masonry arch provides openings with clearings adequate to accommodate such craft."[18]

In its 1937 appropriation, the National Park Service secured $500,000 for the construction of the Otter Creek Cove Causeway and the adjacent Black Woods section of the Park Loop Road. With the funding assured, Rockefeller transferred the adjacent land to the government so the road project could proceed.[19]

Olmsted reviewed the new cross-sections of the structure in March 1937. He rejected a proposed metal railing for the structure, arguing that it would appear "too sophisticated and probably too flimsy" for the massive stone character of the causeway. Instead he favored a solid parapet, having determined that it would obstruct only a few hundred feet of view abutting the causeway. This slight loss of foreground scenery, Olmsted argued, was more than compensated for by the long views of the cove and shore line. Olmsted also recommended that the sidewalk on the ocean side of the causeway be separated from the road by a line of narrow guard stones or curbs with short gaps between them to allow for drainage. This would allow the sidewalk to be lower than the road and thus improve the views for motorists. On the upstream side of the structure, however, Olmsted supported the idea of a metal railing since a parapet wall would severely restrict northerly views. The apparent flimsiness of a rail was less important to Olmsted because it was located on the calm cove

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[17]Dorr to Rockefeller, 26 March 1936. Rockefeller Archives Center, Offices of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 127 Folder 125.

[18]"Hearing on Otter Creek Bridge and Causeway," *Bar Harbor Times*, n.d. (June 1936); "To Build Causeway at Otter Creek," *Bar Harbor Times*, 24 July 1936.

[19]H. Eliot Foulds, Landscape Architect, and Lauren H. Meier, Historical Landscape Architect, Olmsted Center for Landscape Preservation, National Park Service, *Compliance Documentation for the Historic Motor Roads, Acadia National Park, Federal Highways Project #PRA-ACAD-4A10* (Boston, MA: National Park Service, North Atlantic Regional Office, September 1993), 45.

side and not on the open seawall. He also favored shifting the sidewalk on the upstream side down the bank toward the cove, crossing the causeway at grade level only near the openings.[20]

In a March 1937 letter to National Park Service Director Arno B. Cammerer, Rockefeller expressed his general agreement with Olmsted's recommendations. He asked, however, whether two sidewalks, one on either side of the structure, were necessary since few foot passengers would be using the bridge. Rockefeller suggested that a single sidewalk on the north side would be sufficient. Not only would the elimination of the second sidewalk prevent the incongruity of a parapet on one side and a metal railing on the other, but it would also decrease the width of the finished surface and thus reduce the cost of the bridge. Should the walk be located below the grade, Rockefeller recommended, stones set with gaps between them could be used on the north side, allowing motorists to catch glimpses of the view between the stones.[21]

Olmsted and Vint met again with several Bureau of Public Road officials at the site in May 1937. They agreed to eliminate a planned pedestrian underpass at the east end of the structure because it would complicate the design, adversely affect the appearance of the structure, and increase its cost. A grade crossing further east proved more acceptable due to the light amount of use it was expected to receive. They also decided to postpone a decision on the parapets until after the structure was substantially constructed. With this completed, a final design could then be adopted and the work carried out under the surfacing contract. All those involved in the causeway design now agreed that a low stone parapet could be used on the north side of the causeway without seriously affecting the views.[22] Later in May, Branch of Plans and Design Acting Chief Architect W. G. Barnes notified Olmsted that these revisions had been incorporated into the plans. Parapets, curbs and sidewalks would be included in a later surfacing contract. The width of the causeway would allow construction crews to place a low earth berm

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[20]Olmsted to Arno B. Cammerer, Director, National Park Service, 6 March 1937. Library of Congress, Manuscript Division, Record Group 9138.

[21]Rockefeller to Cammerer, 15 March 1937. Library of Congress, Manuscript Division, Record Group 9138.

[22]Olmsted Brothers, "Acadia National Park: Report of Visit by F. L. Olmsted, May 4, 1937," 3. Library of Congress, Manuscript Division, Record Group 9138.

on the sides of the roadway, which would serve as a temporary safety measure until the parapets could be constructed.[23]

To determine the final location for the route across the cove, BPR engineers established a location line approximating the curved top of the bar. Since the bar was composed of rounded stones or cobbles, the top surface of which shifted with the tides, it was necessary to determine if the bar could permanently bear the roadway. The engineers staked a line across the bar from shore to shore, then took borings every 50' along the line. As they had no power equipment, the engineers acquired a supply of used pipe and used local laborers to drive the pipe to the bottom. Once the information was tabulated, it was decided to construct a long concrete core wall to serve as a spine to prevent the undermining of the structure. Stone riprap would be used to protect the fill on the ocean side since it had also to be placed on a relatively flat slope to minimize damage from the waves.[24] Stop boards would be removed each fall to let the creek and cove function normally.[25]

The contract for the construction of the bridge was let to two West Virginia contractors, Sammons, Robertson and Henry of Huntingdon and J. M. Francesca & Company of Fayetteville. The structure was completed in September 1939 and the Otter Creek section of the Park Loop Road was opened to traffic. Rockefeller notified Olmsted that the road had been opened and wrote that he was especially pleased with the causeway, stating that it "looks as if it has always been there, so naturally is it related to the surrounding country, while the curve only adds to its beauty." He added that motorists were delighted with the road, and congratulated Olmsted on his role in the successful design of the structure.[26]

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[23]W. G. Barnes, Acting Chief Architect, Branch of Plans and Design, National Park Service, to Olmsted, 25 May 1937. Library of Congress, Manuscript Division, Record Group 9138.

[24]Grossman, "Unusual Engineering and Construction Features, Acadia National Park." MSS, n.d. Bar Harbor Historical Society Collection, Jesup Memorial Library.

[25]Ibid.

[26]Richardson, 112; Rockefeller to Olmsted, 15 September 1939. Rockefeller Archives Center, Offices of the Messrs. Rockefeller, Record Group 2, Homes (Seal Harbor), Box 127 Folder 126.

Despite the intentions of Rockefeller and his planners, and the provision for stop-boards in the three bridge arches, the structure was evidently never used for impounding waters in the cove. It is very likely the Park Service would have objected to the concept of an artificial swimming basin as inappropriate for a national park and would have ordered the stream flow left unobstructed. Today water levels in the cove rise and fall with the tides, though by installing simple stop boards in the slots under the arches, the water level could easily be altered as originally intended.

The bridge has not been significantly altered. In 1983, Brener Building Maintenance Company, Inc. of Arlington, Virginia, repointed the bridge. The project included removal of old mortar and regrouting and repointing the masonry joints. The $106,500 contract was completed in July.[27]

A 1990 bridge safety inspection by the Federal Highway Administration found the structure in sound condition. It did recommend some minor work, consisting of repairs to sidewalk settlement at abutment #1, repointing of deteriorated masonry joints, removal of vegetation from the deck, and placement of additional riprap around the base of the structure to reduce scouring. The report estimated the rehabilitation work would cost about $3,000.[28]

DESCRIPTION

Spanning Otter Cove approximately half a mile east of the Fabbri Memorial, the Otter Creek Cove Bridge and Causeway is one of the most impressive structures along the Park Loop Road. Sweeping in a gradual curve that follows the natural sand bar upon which the structure was built, the causeway is a long stone-faced dam with a three arched span near the western shore which allows the tide and water from Otter Creek to pass in and out of the inlet. The entire structure is 215' in length with a bridge span of 62'. The middle of the three arches is 15' wide while the two side arches are each 12' wide.

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[27]Federal Highway Administration, "EDFD Construction Status Report, Project 4A8, Acadia National Park, Regrouting and Repointing of Masonry Joints on Bridge over Otter Creek," 31 July 1983. Maintenance Division files, Acadia National Park.

[28]U.S. Department of Transportation, Federal Highway Administration. "Bridge Safety Inspection Report, Carriage (sic) Road over Otter Creek, Acadia National Park, Str. No. 1700-019P" (Sterling, VA: Federal Highway Administration, Eastern Direct Federal Division, 26 June 1990), 2.

The structure is constructed atop a natural bar which extends nearly across the upper part of Otter Creek Cove. It features a concrete core wall through part of the bar to prevent water from undermining it; otherwise the bridge is of nearly solid masonry construction. This contrasts with the other bridges on the system, which are generally reinforced concrete bridges faced in native granite. In this case, stone construction was adopted because of fears that salt water would cause deterioration of a concrete structure. The central or "bridge" section of the structure is comprised of solid stone masonry arches. These are covered with a Class A concrete backing, troweled smooth, over which there is a waterproofing membrane. Above this is a level of stone or gravel sheathing, and then a compacted earth fill between the arches and the spandrels. Above this is a standard bituminous asphalt roadway surface. The Otter Creek Cove Bridge and Causeway is essentially a filled spandrel arch bridge with causeway extensions to either side.

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HISTORIC AMERICAN ENGINEERING RECORD

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Park Loop Road, spanning Otter Creek Cove
Acadia National Park Roads and Bridges
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Jet Lowe, Photographer, May 1995

ME-19-1	OTTER CREEK COVE BRIDGE AND CAUSE WAY, VIEW WITH COVE, FACING NW BY 320 DEGREES.
ME-19-2	OTTER CREEK COVE BRIDGE AND CAUSEWAY, VIEW FACING 260 DEGREES WSW.
ME-19-3	OTTER CREEK COVE BRIDGE AND CAUSEWAY FROM ROADWAY FACING WEST BY 270 DEGREES.
ME-19-4	SOUTH ELEVATION. FACING NORTH.
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ME-19-6	DETAIL OF ARCH INTERIOR WITH STOP BOARD SLOTS.

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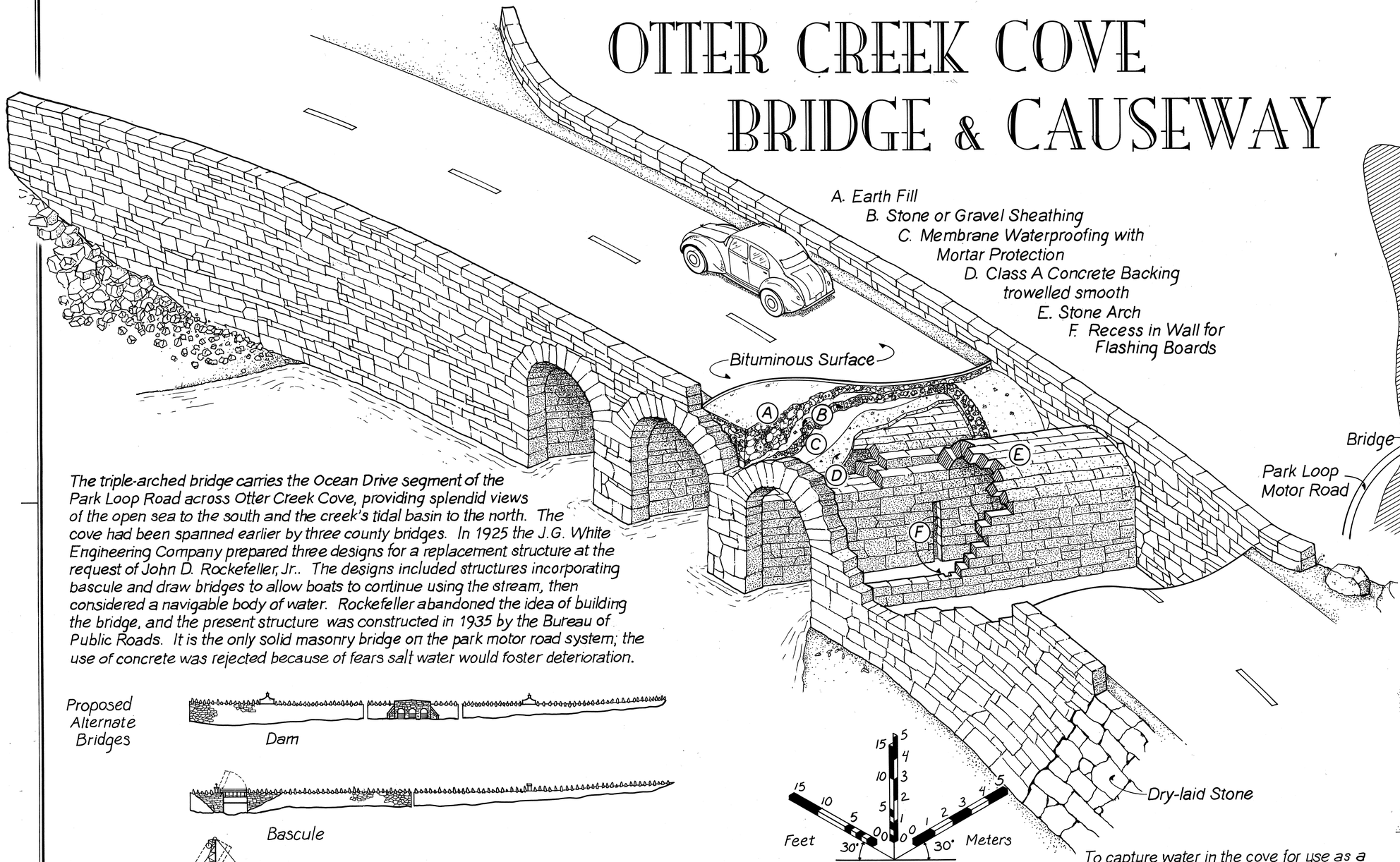
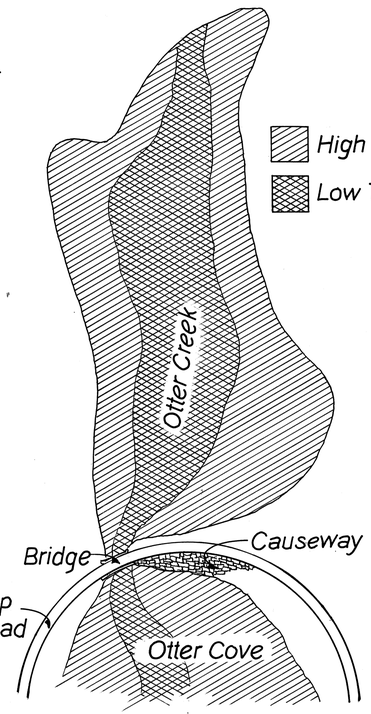
All color xerographic copies were made from a duplicate color transparency.

Jet Lowe, Photographer, May 1995

ME-19-7 (CT)	OTTER CREEK COVE BRIDGE AND CAUSEWAY FROM ROADWAY FACING WEST BY 270 DEGREES.
ME-19-8 (CT)	OTTER CREEK COVE BRIDGE AND CAUSEWAY, VIEW FACING 260 DEGREES WSW.
ME-19-9 (CT)	OTTER CREEK COVE BRIDGE AND CAUSEWAY, VIEW WITH COVE, FACING NW BY 320 DEGREES.

OTTER CREEK COVE BRIDGE & CAUSEWAY

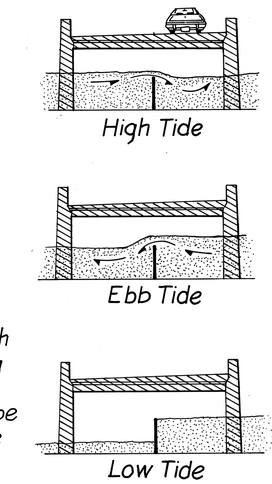




The triple-arched bridge carries the Ocean Drive segment of the Park Loop Road across Otter Creek Cove, providing splendid views of the open sea to the south and the creek's tidal basin to the north. The cove had been spanned earlier by three county bridges. In 1925 the J.G. White Engineering Company prepared three designs for a replacement structure at the request of John D. Rockefeller, Jr.. The designs included structures incorporating bascule and draw bridges to allow boats to continue using the stream, then considered a navigable body of water. Rockefeller abandoned the idea of building the bridge, and the present structure was constructed in 1935 by the Bureau of Public Roads. It is the only solid masonry bridge on the park motor road system; the use of concrete was rejected because of fears salt water would foster deterioration.

Proposed Alternate Bridges

Scale: 1/8" = 1'-0"



To capture water in the cove for use as a bathing pool, the bridge was designed with internal slots inside the arches for flashing boards which would be used to hold back water from high tides. The boards could be raised or lowered as required to retain the water or allow the pool to be flushed for sanitation. Evidently, the boards were never installed.

HISTORIC AMERICAN ENGINEERING RECORD
ME-19

SHEET 1 OF 1

OTTER CREEK COVE BRIDGE AND CAUSEWAY-1935
PARK LOOP ROAD SPANNING OTTER CREEK
HANCOCK COUNTY
MAINE

SEAL HARBOR VICINITY

DELINEATED BY: Ed Lupyak. 1995

NATIONAL PARK SERVICE
ACADIA ROADS & BRIDGES RECORDING PROGRAM
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

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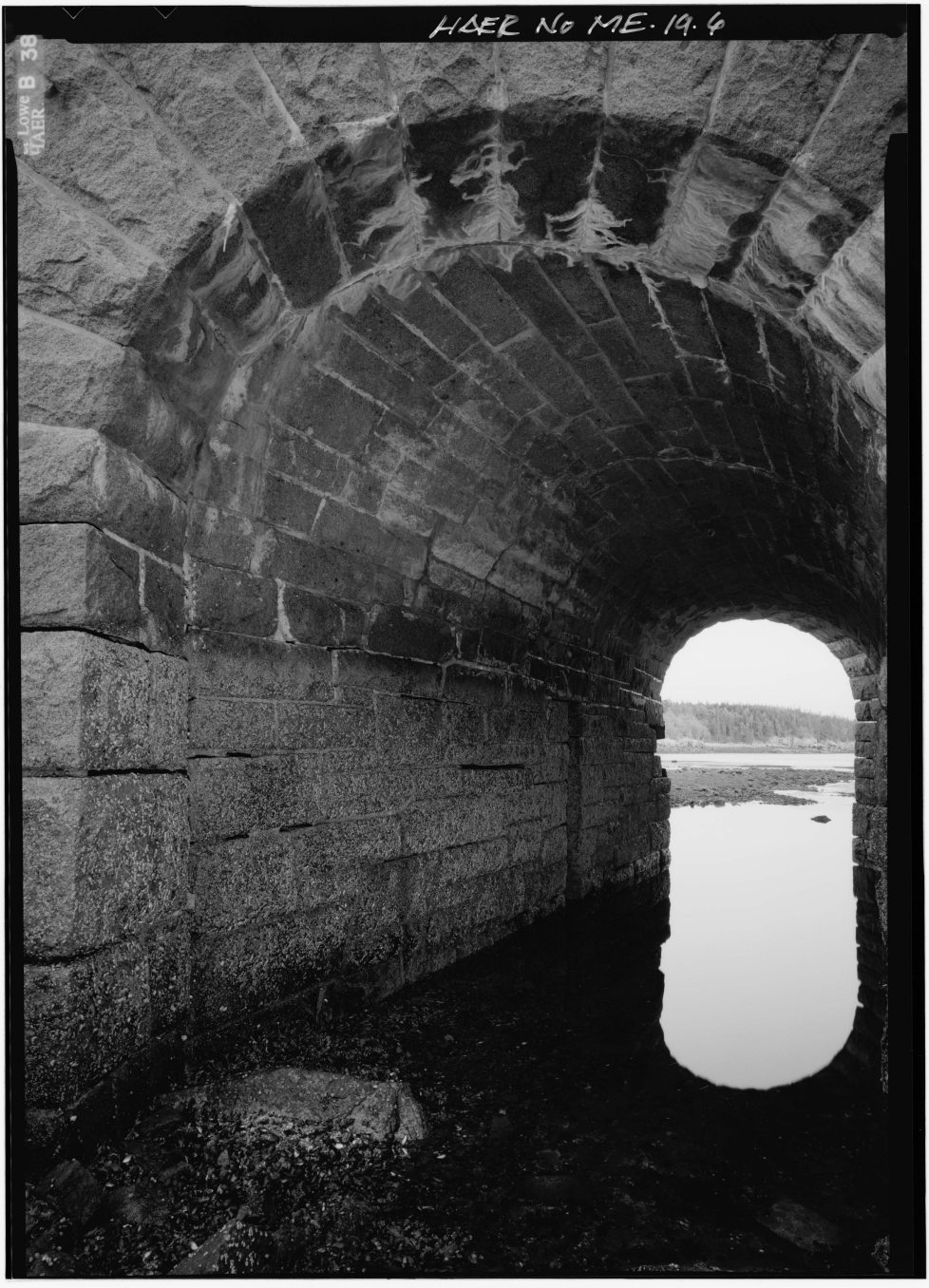
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