

PH 0661694

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**DATA SHEET**

FOR NPS USE ONLY

RECEIVED JAN 31 1978

DATE ENTERED MAY 23 1978

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

**1 NAME**

HISTORIC  
Caledonia Bowstring Bridge  
AND/OR COMMON

**2 LOCATION**

STREET & NUMBER  
Spanning the Olentangy River  
*N of Caledonia*

CITY, TOWN  
Village of Caledonia *vic.* VICINITY OF

STATE  
Ohio

CODE  
039

COUNTY  
Marion

CONGRESSIONAL DISTRICT  
7 - Brown

NOT FOR PUBLICATION

CODE  
101 ✓

**3 CLASSIFICATION**

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input checked="" type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL
<input type="checkbox"/> SITE	<b>PUBLIC ACQUISITION</b>	<b>ACCESSIBLE</b>	<input type="checkbox"/> ENTERTAINMENT
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY
			<input type="checkbox"/> MUSEUM
			<input type="checkbox"/> PARK
			<input type="checkbox"/> PRIVATE RESIDENCE
			<input type="checkbox"/> RELIGIOUS
			<input type="checkbox"/> SCIENTIFIC
			<input checked="" type="checkbox"/> TRANSPORTATION
			<input type="checkbox"/> OTHER:

**4 OWNER OF PROPERTY**

NAME  
Village of Caledonia  
STREET & NUMBER

CITY, TOWN  
Caledonia VICINITY OF

STATE  
Ohio

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.  
Marion County Engineer's Office

STREET & NUMBER  
Courthouse

CITY, TOWN  
Marion

STATE  
Ohio

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE  
None

DATE

FEDERAL  STATE  COUNTY  LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

CITY, TOWN

STATE

# 7 DESCRIPTION

44-1000-119

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input checked="" type="checkbox"/> MOVED
<input checked="" type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		DATE April, 1976

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Caledonia Bowstring Bridge is a 104 foot long and 16 foot wide bowstring arch-truss of wrought iron. The arches are composed of "Phoenix-type" columns which in cross-section are formed of four flanged longitudinal segments riveted in pairs. They are united at top and bottom by channel bars and spacer blocks through which the verticals supporting the deck are bolted. The verticals alternate between lattice work and angle bars and have round diagonal tension rod bracing. The main bracing against lateral movement is provided by the two patented lattice girders which stretch between the tops of each arch. They are bolted to both the arches and the verticals below, and there is additional top diagonal lateral bracing between these two girders. The wooden deck is supported by I floor beams that rest on the lower chord constructed of double flat rolled bars.

The bridge is now positioned on abutments composed of concrete piers and a steel I-beam. Two circular concrete piers resting on bedrock were poured as the base for each abutment. The arch shoes of the bridge are seated on the I-beam stretching between the two piers at each end. Fill material was packed around the piers and beams to form ramps to the deck. The deck has not yet been completely replaced and the modern steel guardrails that were added by the county have been removed.

# 8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
—PREHISTORIC	—ARCHEOLOGY-PREHISTORIC	—COMMUNITY PLANNING	—LANDSCAPE ARCHITECTURE	—RELIGION
—1400-1499	—ARCHEOLOGY-HISTORIC	—CONSERVATION	—LAW	—SCIENCE
—1500-1599	—AGRICULTURE	—ECONOMICS	—LITERATURE	—SCULPTURE
—1600-1699	—ARCHITECTURE	—EDUCATION	—MILITARY	—SOCIAL/HUMANITARIAN
—1700-1799	—ART	XENGINEERING	—MUSIC	—THEATER
X1800-1899	—COMMERCE	—EXPLORATION/SETTLEMENT	—PHILOSOPHY	XTRANSPORTATION
—1900-	—COMMUNICATIONS	—INDUSTRY	—POLITICS/GOVERNMENT	—OTHER (SPECIFY)
		—INVENTION		

SPECIFIC DATES 1873

BUILDER/ARCHITECT Wrought Iron Bridge Company

## STATEMENT OF SIGNIFICANCE

The Caledonia Bowstring Bridge represents an important segment of engineering history in Ohio and the Midwest because of its rare metal bowstring arch-truss type and its fabrication in 1873 by the Wrought Iron Bridge Company of Canton, Ohio.

The bowstring arch-truss was first patented in 1841 by the famous bridge engineer Squire Whipple. The "Column and Channel Arch Bridge" design of this bridge was patented in 1873 by David Hammond, Job Abbott, and Michael Adler. The design utilized an overhead lattice work brace that provided, at a minimal cost, lateral and vertical stiffness under rolling loads for an arch structure.

Hammond, Abbott, and Adler were all employees of the Wrought Iron Bridge Company. David Hammond was a native of Stark County, Ohio, where he learned the carpenter trade. He began building bridges in 1861 and organized the Wrought Iron Bridge Company five years later with himself as president. Hammond was the patentee of a number of bridge designs and improvements in the 1860s and 70s. Job Abbott was the vice-president and chief engineer of the company, and Michael Adler was the general superintendent.

The Wrought Iron Bridge Company became one of the leading and widest ranging metal bridge fabrication firms in the nation. They circulated agents and erected structures throughout the New England, Eastern, Midwest, Southern, and Southwestern states. Their Book of Designs of Wrought Iron Bridges published in 1874 included a variety of bowstring arches; deck arches; low trusses; single, double and triple intersection Pratt through trusses; combination trusses; and girder and swing bridges. They were also among the forerunners in heralding the advantages of wrought iron bridges over wood or cast iron. The same Book of Designs included a history of iron bridge buildings in Europe and America, and articles on the strength, durability, resistance to corrosiveness, and working loads for wrought iron structures.

The Caledonia Bowstring Bridge originally spanned the Scioto River along with a small steel truss on the Espyville Road in the same county. It was closed to traffic for several years because of its inability to meet modern load capacities. The bridge was relocated to Caledonia in 1976 by the county engineer's office in order to build a new structure on its former site. The Village plans to use it to span the Olentangy River as the entrance to a community park.

# 9 MAJOR BIBLIOGRAPHICAL REFERENCES

Book of Designs of Wrought Iron Bridges Built by the Wrought Iron Bridge Company of Canton, Ohio. Canton: Hartzell & Saxton, 1874.

Danner, John. Old Landmarks of Canton and Stark County, Ohio. Logansport, Ind: B.F. Bowen, 1904.

# 10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY less than one  
UTM REFERENCES

A | 1,7 | | 4,3,3 | 8,0,0 | | 4,5 | 0,0 | 7,3,0 |  
ZONE EASTING NORTHING  
C | | | | | | | | | | | | | | | | | | |

B | | | | | | | | | | | | | | | | | | |  
ZONE EASTING NORTHING  
D | | | | | | | | | | | | | | | | | | |

## VERBAL BOUNDARY DESCRIPTION

Spanning the Olentangy River approximately 200' north of the incorporation line of the town of Caledonia just off of route 746 in the Caledonia Village park.

## LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

# 11 FORM PREPARED BY

NAME / TITLE

David A. Simmons  
ORGANIZATION

June 10, 1977  
DATE

Historian, Ohio Historic Preservation Office  
STREET & NUMBER

TELEPHONE

I-71 and 17th Avenue  
CITY OR TOWN

STATE

Columbus

Ohio

# 12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

Slip

DATE

1/12/78

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

5-22-78

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

DATE OF THE NATIONAL REGISTER

ATTEST:

Handwritten signature of the Keeper of the National Register

DATE

5-12-78

KEEPER OF THE NATIONAL REGISTER

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

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RECEIVED JAN 31 1978

DATE ENTERED

MAY 23 1978

CONTINUATION SHEET

1

ITEM NUMBER

9

PAGE

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Bibliography

Heald, Edward T. The Stark County Story. Canton, Ohio: The Stark County Historical Society, 1949.

Illustrated Pamphlet of Wrought Iron Bridges Built By the Wrought Iron Bridge Company. Canton, Ohio: Canton Repository, 1885.

Official Gazette of the United States Patent Office. Vol. III. Washington, D.C.: Government Printing Office, 1873.

Property Caledonia Bowstring Bridge

78002131

State OH

Working Number 7.31.78.2346

Marion

**TECHNICAL**

Photos 5  
Maps 1

*accept!*

**CONTROL**

*OK 2.1.78*

**HISTORIAN**

*Joe Zimm 5/8/78*

**ARCHITECTURAL HISTORIAN**

*ACCEPT  
MAC DONALD  
5/10/78*

**ARCHEOLOGIST**

**OTHER**

*a good example of ~~a~~ a bowstring arch-truss bridge fabricated by the wrought iron bridge Co. Though structure has recently been moved it still possesses integrity of design - accept*

**HAER**

Inventory X  
Review 4/18/78

*Donald C. Jackson*

**REVIEW UNIT CHIEF**

*rare example of type of bridge construction. Although moved, it is over water and will serve as park entrance*

*Accept  
Lebowich  
5/11/78*

**BRANCH CHIEF**

**KEEPER**

*Approved  
5/23/78*

National Register Write-up \_\_\_\_\_  
Federal Register Entry 7.5.78

Send-back \_\_\_\_\_  
Re-submit \_\_\_\_\_

Entered MAY 23 1978

INT:2106-74



Caledonia Bowstring Bridge, Marion Co., Ohio

Photo; David Simmons, Feb. 1977

Negative: Ohio Historic Preservation Office

View of south perspective

1. 85

JAN 31 1978

MAY 23 1978

PROPERTY OF THE NATIONAL REGISTER

New site  
2/77  
DTS



Caledonia Bowstring Bridge, Marion Co., Ohio

Photo: David Simmons, Feb. 1977

Negative: Ohio Historic Preservation Office

View of arch and south web

2.

45

JAN 31 1978

MAY 23 1978

PROPERTY OF THE NATIONAL REGISTER

new site  
2/77  
DAS



Caledonia Bowstring Bridge, Marion Co., Ohio

Photo: David Simmons, Feb. 1977

Negative: Ohio Historic Preservation Office

Detail of Construction

3.

05

JAN 31 1978

MAY 23 1978

PROPERTY OF THE NATIONAL REGISTER

News, 2

2/77

DAS



Caledonia Bowstring Bridge, Marion Co., Ohio

Photo: David Simmons, Feb. 1977

Negative: Ohio Historic Preservation Office

Portal View

4. 45

JAN 31 1978

MAY 23 1978

PROPERTY OF THE NATIONAL REGISTER

New site  
2/77  
DS



Caledonia Bowstring Bridge, Marion Co., Ohio

Photo: Jeff Darbee, Dec. 1975 //

Negative: Ohio Historic Preservation Office

View on original location

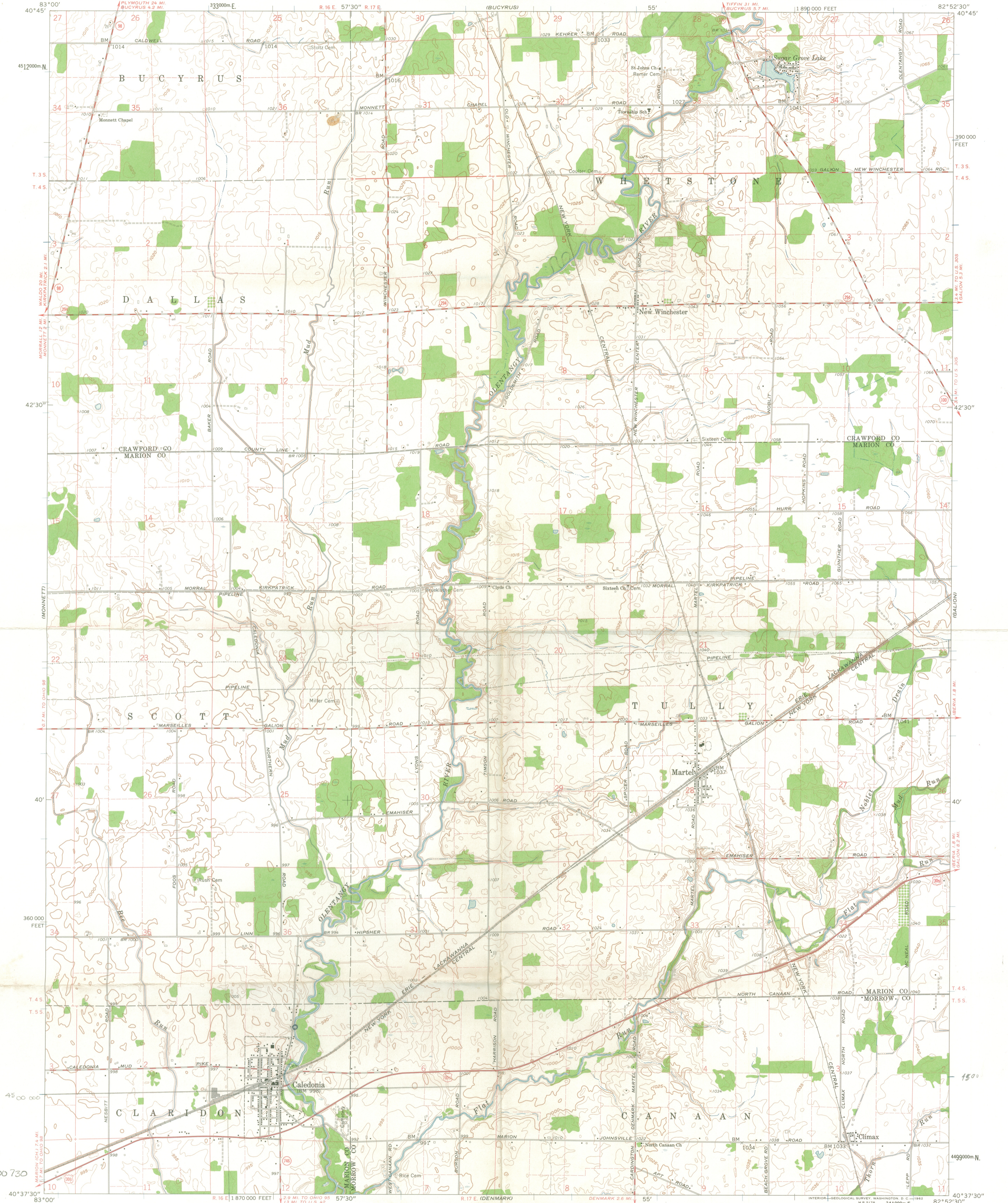
5. 95

JAN 31 1978

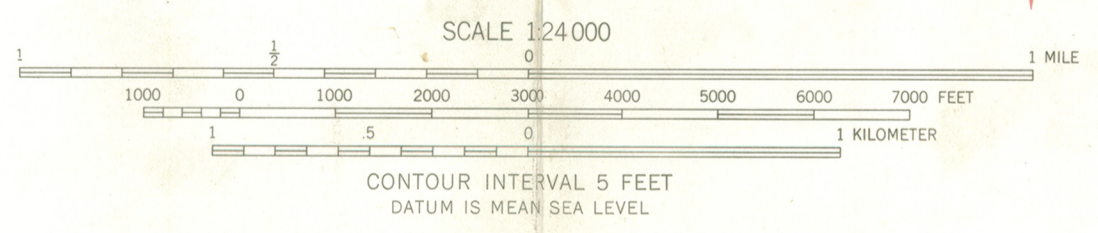
MAY 23 1978

PROPERTY OF THE NATIONAL REGISTER

ROAD  
CLOSED

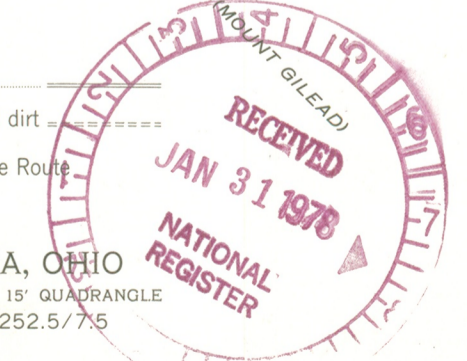


Mapped, edited, and published by the Geological Survey #33000  
Control by USGS and USC&GS  
Topography by photogrammetric methods from aerial photographs taken 1960. Field checked 1961  
Polyconic projection. 1927 North American datum  
10,000-foot grid based on Ohio coordinate system, north zone  
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue  
Entire area lies within Congress Lands  
Land lines based on the First Principal Meridian  
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
U. S. Route	State Route



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON 25, D. C.  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

CALEDONIA, OHIO  
NW/4 MOUNT GILEAD 15' QUADRANGLE  
N4037.5-W8252.5/7.5

5

ENTRIES IN THE NATIONAL REGISTER

STATE OHIO

Date Entered      MAY 23 1978

<u>Name</u>	<u>Location</u>
Georgetown Historic District	Georgetown Brown County
Oak Hill Welsh Congregational Church	Oak Hill Jackson County
Terra Vista Prehistoric District	Cuyahoga County
Gabel, Daniel, House	Seven Hills Cuyahoga County
Sunday Creek Coal Company Mine No. 6	East Millfield vicinity Athens County
<u>Caledonia Bowstring Bridge</u>	Caledonia Marion County

Also Notified

Honorable Howard M. Metzenbaum  
Honorable John H. Glenn, Jr.  
Honorable William H. Harsha  
Honorable Ronald M. Mottl  
Honorable Clarence E. Miller  
Honorable Clarence J. Brown

State Historic Preservation Officer  
Dr. Thomas H. Smith  
Director, The Ohio Historical  
Society  
Interstate 71 at 17th Avenue  
Columbus, Ohio 43211

NR

Mott/bjr

6/2/78

# NATIONAL REGISTER DATA SHEET

<b>1</b> NAME as it appears on federal register: Caledonia Bowstring Bridge				<b>2</b> OTHER NAMES:		<b>3</b> date of entry: MAY 23 1978		<b>4</b> county code: 101											
<b>5</b> LOCATION street & number N of Caledonia, spans Olentangy River			city / town Caledonia		vicinity of Caledonia		state OH		county Marion		<b>6</b> NPS REGION: MW								
<b>7</b> OWNER <input type="checkbox"/> PRIVATE <input type="checkbox"/> STATE <input checked="" type="checkbox"/> MUNICIPAL <input type="checkbox"/> COUNTY <input type="checkbox"/> MULTIPLE <input type="checkbox"/> FEDERAL (agency name)							<b>8</b> ADMINISTRATOR:												
<b>9</b> EXISTING SURVEYS <input type="checkbox"/> HABS <input type="checkbox"/> HAER <input type="checkbox"/> NHL				<b>10</b> FUNDED? <input type="checkbox"/> YES <input type="checkbox"/> NO		<b>11</b> CONGRESS. DISTRICT 7th		<b>12</b> SOURCE of NOMINATION <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEDERAL											
<b>13</b> WITHIN NATIONAL REGISTER HISTORIC DISTRICT? <input type="checkbox"/> YES, NAME <input type="checkbox"/> NO				<b>14</b> WITHIN NATIONAL HISTORIC LANDMARK? <input type="checkbox"/> YES, NAME <input type="checkbox"/> NO				<b>15</b> ACREAGE		if state who prepared form? Ohio Hist. Pres. Office <input type="checkbox"/> LOCAL <input type="checkbox"/> PRIVATE ORGANIZATION									
<b>16</b> CONDITION			<input type="checkbox"/> deteriorated			<input type="checkbox"/> altered			<input type="checkbox"/> original site			<b>17</b> features:							
<input type="checkbox"/> excellent			<input type="checkbox"/> ruins			<input type="checkbox"/> unaltered			<input type="checkbox"/> moved			INTERIOR <input type="checkbox"/> SUBSTANTIALLY INTACT-1							
<input type="checkbox"/> good			<input type="checkbox"/> unexposed			<input type="checkbox"/> reconstructed			<input type="checkbox"/> unknown			EXTERIOR <input type="checkbox"/> SUBSTANTIALLY INTACT-2							
<input type="checkbox"/> fair			<input type="checkbox"/> unexcavated			<input type="checkbox"/> excavated						ENVIRONS <input type="checkbox"/> SUBSTANTIALLY INTACT-3							
												ENVIRONS <input type="checkbox"/> NOT INTACT-0							
												ENVIRONS <input type="checkbox"/> NOT INTACT-0							
												ENVIRONS <input type="checkbox"/> UNKNOWN-6							
												ENVIRONS <input type="checkbox"/> UNKNOWN-6							
												ENVIRONS <input type="checkbox"/> NOT APPLICABLE-9							
												ENVIRONS <input type="checkbox"/> NOT APPLICABLE-9							
<b>18</b> ACCESS <input type="checkbox"/> YES-Restricted <input type="checkbox"/> YES-Unrestricted <input type="checkbox"/> No Access <input type="checkbox"/> Unknown				<b>19</b> ADAPTIVE USE <input type="checkbox"/> YES <input type="checkbox"/> NO		<b>20</b> SAVED? <input type="checkbox"/> YES		IS PROPERTY A HISTORIC DISTRICT? <input type="checkbox"/> yes <input type="checkbox"/> no											
<b>21</b> AREAS OF SIGNIFICANCE :							<b>22</b> CLAIMS: explain												
<input type="checkbox"/> ARCHEOLOGY-prehistoric-2							<input type="checkbox"/> ENGINEERING-11			<input type="checkbox"/> LANDSCAPE ARCH.-15		<input type="checkbox"/> POLITICS / GOVT.-21		<input type="checkbox"/> RECREATION-28					
<input type="checkbox"/> ARCHEOLOGY-historic-1							<input type="checkbox"/> COMMERCE-6			<input type="checkbox"/> ENTERTAINMENT-26			<input type="checkbox"/> LAW-16		<input type="checkbox"/> RELIGION-22		<input type="checkbox"/> SETTLEMENT-29		
<input type="checkbox"/> AGRICULTURE-3							<input type="checkbox"/> COMMUNICATIONS-7			<input type="checkbox"/> EXPLORATION-12			<input type="checkbox"/> LITERATURE-17		<input type="checkbox"/> SCIENCE-23		<input type="checkbox"/> URBAN PLANNING-31		
<input type="checkbox"/> ARCHITECTURE-4							<input type="checkbox"/> CONSERVATION-8			<input type="checkbox"/> HEALTH-27			<input type="checkbox"/> MILITARY-18		<input type="checkbox"/> SOCIAL / HUMANITARIAN-24		<input type="checkbox"/> OTHER (SPECIFY)		
<input type="checkbox"/> ART-5							<input type="checkbox"/> ECONOMICS-9			<input type="checkbox"/> INDUSTRY-13			<input type="checkbox"/> MUSIC-19		<input type="checkbox"/> SOCIAL / CULTURAL-30				
							<input type="checkbox"/> EDUCATION-10			<input type="checkbox"/> INVENTION-14			<input type="checkbox"/> PHILOSOPHY-20		<input type="checkbox"/> TRANSPORTATION-25				
<b>23</b> functions				<b>24</b> dates of initial construction:				<b>25</b> ETHNIC GROUP ASSOCIATION											
WHEN HISTORICALLY SIGNIFICANT:				major alterations:															
CURRENTLY:				historic events:															
<b>26</b> architectural style(s):				<b>27</b> architect:				<b>28</b> master builder:				<b>29</b> engineer:							
<b>30</b> landscape architect / garden designer:				<b>31</b> interior decorator:				<b>32</b> artist:				<b>33</b> artisan:				<b>34</b> builder/contractor:			
<b>35</b> NAMES give role & date																			
PERSONAL:																			
EVENTS:																			
INSTITUTIONAL:																			

## 36 NATIONAL REGISTER WRITE-UP