27/18 BALTIMORE ROAD BRIDGE ROCKVILLE ROAD

MITRA KAMDJOU MC DOT 101 MONPOE ST. 9TH FLOOR DESIGN SECTION 217-2121

Capsule Summary

for

Baltimore Road Bridge

June 1991

Mont. Co. survey prefix :

Site number

Approx. building date : 1911

Town/town vicinity

:Rockville

Access

:√ Public

Private

Short Description of Site:

The bridge over Rock Creek on Baltimore Road is a single-span Luten barrel arch highway bridge. It carries a 21.7 foot (curb-to-curb) wide two-land roadway; the span is 62 feet and the bridge is 75 feet in length. The bridge consists of a concrete slab supported by a spandrel-filled concrete arch. The parapet is solid concrete with articulated panels. Stone plaques at the southeast and northwest corners of the bridge provide the date of its erection, and identify the builder and designer:

"Built by the State Roads Commission

1911

Luten Bridge Co., York, PA."

A more recent (c. 1980s) pedestrian bridge across Rock Creek parallels the bridge on its east side.

The Baltimore Road bridge is a graceful structure which contributes to the scenic quality of Baltimore Road and reinforces its rural character.

Analysis of Evaluation

for

Baltimore Road Bridge

June 1991

Value Descr.

Outstanding			
Considerable	1	/	1
Moderate			
Minor			
Evaluation Criteria	Arch. Signif.	Arch. Integrity	Historical Signif.

Procedure:

Rating = # of Boxes Selected x 100 12

0 - 25 % = Unqualified

25 - 50 % = Minimal

50 - 75 % = Mid-level

75 - 100% = Good

90 - 100% = Natl. Reg. (with

possible exceptions)

Rating for this site: Good

Criteria:

Arch. Significance - that quality which embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose component may lack individual distinction.

<u>Historical Significance</u> - that quality present in sites associated with events that have made a significant contribution to the broad patterns of our history; or that are associated with the lives of persons significant in our past; or that have yielded, or may be likely to yield, information important in history.

Arch. Integrity - determined by the number of architectural changes to the site...using the following list as a guide... (and) noting other unusual changes.

Detrimental Changes (depending on the quality of its original character):

new or relocated chimney	•
 rebuilt foundation	
 new porch	

original windows changed (at a later, but still historical, date)

modern windows in original frames original windows intact but extra ones added

change in shape or size of window openings

lack of outbuildings

aluminum siding (unless original architraves and trim are retained) asphalt or asbestos siding (over original siding)

recent change of location

Critical Changes:

aluminum siding added; architraves eliminated additions engulfing or removing portions of original building

Value Descriptions

Outstanding - distinguished; of particular import. to Md. historic & arch. past.

Considerable - deserving of recognition; contributes to the understanding of history or architectural heritage represented in Maryland

Moderate - commonality...lack of historic signif. or arch. style, except if scarce

Minor - unimportant or inferior; little arch. worth and absence of hist. importance

Site Information Summary

for

Baltimore Road Bridge

June 1991

Site number

Co. tax account number :

Street address

: Baltimore Road over Rock Creek

Name of property owner : Montgomery County Department of Transportation

Addr. of property owner: 101 Monroe Street

Rockville, Maryland 20850

Historic Preservation Master Plan Recommendation:

Historic Preservation Ordinance Criteria

 ✓ a. Has character, interest or value as part of the development or cultural characteristics of the county, state or not b. Is the site of a significant historic event; c. Is identified with a person or group of persons who in 	ation;
society; d. Exemplifies the cultural, economic, social, political heritage of the county and its communities.	or historic
(2) Architectural and design significance. The historic resource	e:
$\sqrt{}$ a. Embodies the distinctive characteristics of a type, per of construction;	eriod, or method
√ b. Represents the work of a master;	
c. Possesses high artistic values;	1
d. Represents a significant and distinguishable entity we may lack individual distinction; or	mose components
e. Represents an established and familiar visual feature	of the

Environmental Setting Recommendation:

characteristic or landscape.

The environmental setting recommended is a rectangular area 500° x 1000° with the bridge at its center. The east and west boundary lines (running in a north/south) should parallel the direction of the roadway and bridge, 250° from it and extend 500° north and 500° south of the bridge. The north and south boundary lines (running in east/west) should be perpendicular to the bridge 500° from it and extend 250° east and 250° west of the bridge.

neighborhood, community or county due to its singular physical

Survey No.

Maryland Historical Trust State Historic Sites Inventory Form

Magi No.

DOE __yes __no

1. Nam	e (indicate pr	eferred name)		
historic	Baltimore Road	Bridge (No. M.	0201)	
and/or common	same			
2. Loca	tion			·
street & number	Baltimore Road	l over Rock Creek		not for publication
city, town	Rockville	_X_ vicinity of	congressional district	8
state	Maryland	county	Montgomery	
3. Clas	sification			
Category district building(s) _X structure site object	Ownership X public private both Public Acquisition in process being considered not applicable	Statusoccupied unoccupied work in progress Accessible yes: restricted yes: unrestricted no	Present Use agriculture commercial educational entertainment government industrial military	museum park private residence religious scientific x transportation other:
4. Own	er of Prope	rty (give names a	nd mailing address	es of <u>all</u> owners)
name	Montgomery Cou	unty Department o	f Transportation	n
street & number	101 Monroe Str	reet	telephone r	no.: (301) 217-212
city, town	Rockville	state	and zip code Mary	land 20850
5. Loca	ition of Leg	al Description	on	
courthouse, regis	stry of deeds, etc.	-		liber
street & number				_folio
city, town			state	
6. Repi	esentation	in Existing	Historical Surv	veys
title	none			· :
date		·	federal sta	ite county local
depository for su	rvey records			
city, town			state	

7. Description			Survey No.		
Condition X excellent good fair	deteriorated ruins unexposed	Check one X unaltered Altered	Check one X original site moved date of move		
Prepare both	a summary para	graph and a s	general description of the resource and its		

various elements as it exists today.

The bridge over Rock Creek on Baltimore Road is a single-span Luten barrel arch highway bridge. It carries a 21.7 foot (curb-to-curb) wide two-land roadway; the span is 62 feet and the bridge is 75 feet in length. The bridge consists of a concrete slab supported by a spandrel-filled concrete arch. The parapet is solid concrete with articulated panels. Stone plaques at the southeast and northwest corners of the bridge provide the date of its erection, and identify the builder and designer:

"Built by the State Roads Commission 1911 Luten Bridge Co., York, PA."

A more recent (c. 1980s) pedestrian bridge across Rock Creek parallels the bridge on its east side.

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8. Sign	ificance		Survey No.	
Period prehistoric 1400–1499 1500–1599 1600–1699 1700–1799 1800–1899 1900–	agriculture architecture art		Iandscape architectur Iaw Iiterature Implicator Indicator Indicato	re religion science sculpture social/ humanitarian theater X transportation other (specify)
Specific dates	1911 B	uilder/Architect State	e Roads Commission/I	Luten Bridge Co
a Appl Leve	icable Criteria:A _ nd/or icable Exception:A l of Significance:na	BCDE	local	
The Balti of only f design de Daniel B. arch high	more Road bridge over ive such concrete arc eveloped by a prominer Luten. It is an exce way bridge of a type have not, as yet, bee	Rock Creek is so the bridges in the at early twentiet ellent example of built widely thr	significant becaus county and it uti th century bridge Luten's single-sp coughout Virginia.	e it is one ilizes a designer, pan, barrel Other
2. Geo 3. Dev	toric Period Theme(s) graphic Organization: elopment Period: ource Type(s):	Piedmont (Mont	n :gomery County) an Dominance 1870	-1930 A.D.

Concrete arch bridges, while not rare, are not found in large numbers in the county. The 1990 "Montgomery County Bridge Inventory" lists only four others in addition to the one on Baltimore Road. The earliest of these dates from before 1900, and the latest from 1930.

A Maryland Historical Trust statewide bridge survey in 1980 found that:

"While concrete bridges of the period of this survey (1935 and older) are not uncommon (in the state) their form is significant as a type . . . that in all probability will never again be built."

Concrete is the oldest synthetic material used in building, having been used by Mayan builders as early as the eleventh century. It was not until 1824, however, that Joseph Aspdin of Leeds, England obtained a patent for the prime cementing agent in modern structural concrete, Portland cement. (cont.)

Paula A.C. Spero, "A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia: (Charlottesville: Virginia Highway and Transportation Research Council, 1984). p. 30.

² Montgomery County Department of Transportation, <u>Bridge Inventory Summary</u> (Montgomery County Government: 1990) p. 1-11.

^a John Hnedak, "Inventory Form for State Historic Sites Survey", (Maryland Historical Trust: 1980) Maryland 195 over Sligo Creek Bridge.

Concrete was not used widely in this country until the latter half of the nineteenth century, when David O. Saylor patented an American equivalent of Portland Cement and built a mill at Coplay, Pennsylvania to manufacture the product.

"This marked the establishment of the artificial cement industry in the United States as well as the beginning of a scientific understanding of the physical properties and structural behavior of concrete."

The first use of concrete for an arch bridge was a highway span built in 1840 over the Garonne Canal at Grisoles, France. It was another thirty years before the concrete arch bridge was adopted in the United States, for a small footbridge constructed in Prospect Park, Brooklyn, New York, in 1871.⁵

German and French engineers were the first to reinforce concrete arch construction in the mid 1880s. Reinforcing of arches was still an unfamiliar technique in this country through the 1890s, and reinforcement techniques were primarily trial-and-error.

"Concrete, although scientifically understood in some degree of sophistication in the 1890s, began to be used generally in a more structurally efficient manner in the United States after the first decade of the twentieth century . . . Between 1894 and 1904 about 100 concrete bridges had been built in the United States in spans up to 125 feet."

The most prolific designer of concrete arch bridges was Daniel B. Luten, who designed hundreds of them throughout the east and midwest in the early decades of the twentieth century and was the holder of more than thirty bridge patents.

An 1894 civil engineering graduate of the University of Michigan, Luten was an instructor in the subject at Purdue University from 1895 to 1900, resigning in 1900 to design bridges.

In 1899, Luten applied for his first patent (for an arch bridge of concrete, stone, brick, iron, or steel in which ties were placed below the water, from abutment to abutment); it was granted in 1900. This concept developed into a patent for a concrete arch in which steel tie rods were embedded in a concrete pavement across the streambed. Other Luten patents included numerous variations on the design of the arch; reinforcement systems; methods of bridge construction; and reinforced concrete beams.⁷

The Luten system of reinforcement came into being before the end of the century, initially in concrete culverts. In the Luten system, bars were bent

Carl W. Condit, American Building (Chicago: University of Chicago Press, 2nd ed., 1982) p. 158.

⁵ Condit, p. 159.

⁶ Spero, p. 7.

⁷ Spero, p. 28.

into loops conforming to the cross-sectional shape of the culvert.

Luten's first bridge company was the National Bridge Company, formed in 1902. It contracted and constructed its bridges until 1905, but was involved only in engineering, design, and supervision after that.

Luten was concerned with the appropriateness of his designs, as well as their technical capabilities. A 1917 Luten publication called "Reinforced Concrete Bridges" illustrated a broad range of arch types, including a "Highway Bridge of Plain Design" and a "Park Bridge of Attractive Design". Both had the same arch form, but the parapet wall of the highway bridge was a solid recessed panel and that of the park bridge a balustrade type. The Baltimore Road Bridge is of the "Highway Bridge of Plain Design" type.

Luten was an enthusiastic salesman for his bridge designs and his company catalogs stress the advantages of concrete bridges. He also used professional meetings to describe their virtues. In the American Concrete Institute <u>Proceedings</u> of 1912, Luten is quoted as saying that:

"Concrete as a structural material is full of surprising possibilities and one of these is that the most beautiful and appropriate applications of concrete to bridges, that is in the arch form, is also the most satisfactory from almost every engineering standpoint." 10

The Baltimore Road bridge is modeled after Luten's 1907 patent #852970, which shows a barrel arch with recessed panel parapet walls and filled spandrels. (See Figure 23, attached.) It is a type of bridge which, according to a Montgomery County Department of Transportation staff person, is unlikely to be built again because it is no longer cost effective. 12

⁸ Condit, p. 174.

⁹ Spero, p. 29.

¹⁰ Spero, p. 28.

¹¹ Spero, p. 28, 29.

¹² Conversation with Mitra P. Kamdjou, P.E., Montgomery County Department of Transportation, June, 1991.

From:

Paula A.C. Spero, "A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia: (Charlottesville: Virginia Highway and Transportation Research Council, 1984).

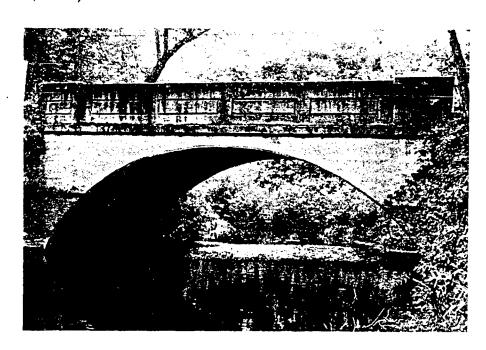


Figure 23. Typical single-span Luten barrel arch highway bridge.
This type, patented by Daniel B. Luten, was built throughout Virginia.

9. Major Bibliographical References

Survey No.

Attached

10. Geo	graphi	cal Data			
	Kensingtor		ences		Quadrangle scale 1:24000
A Zone Easting	No	rthing	B Zoi	ne Easting	Northing
C			D		
Verbal boundary n/a	description	and justification			
List all states ar state	nd counties fo	or properties overl	apping state o	r county bo	undaries code
state		code	county		code
11. Forn	n Prep	ared By			
name/title	Lois Snyde	erman, Historic	Preservation	n Consulta	nt
organization				date	June 1991
street & number	8804 Sprin	g Valley Road		telephone	(301) 654–6423
city or town	Chevy Chas	se		state	Maryland 20815

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to:

Maryland Historical Trust

Shaw House

21 State Circle

Annapolis, Maryland 21401

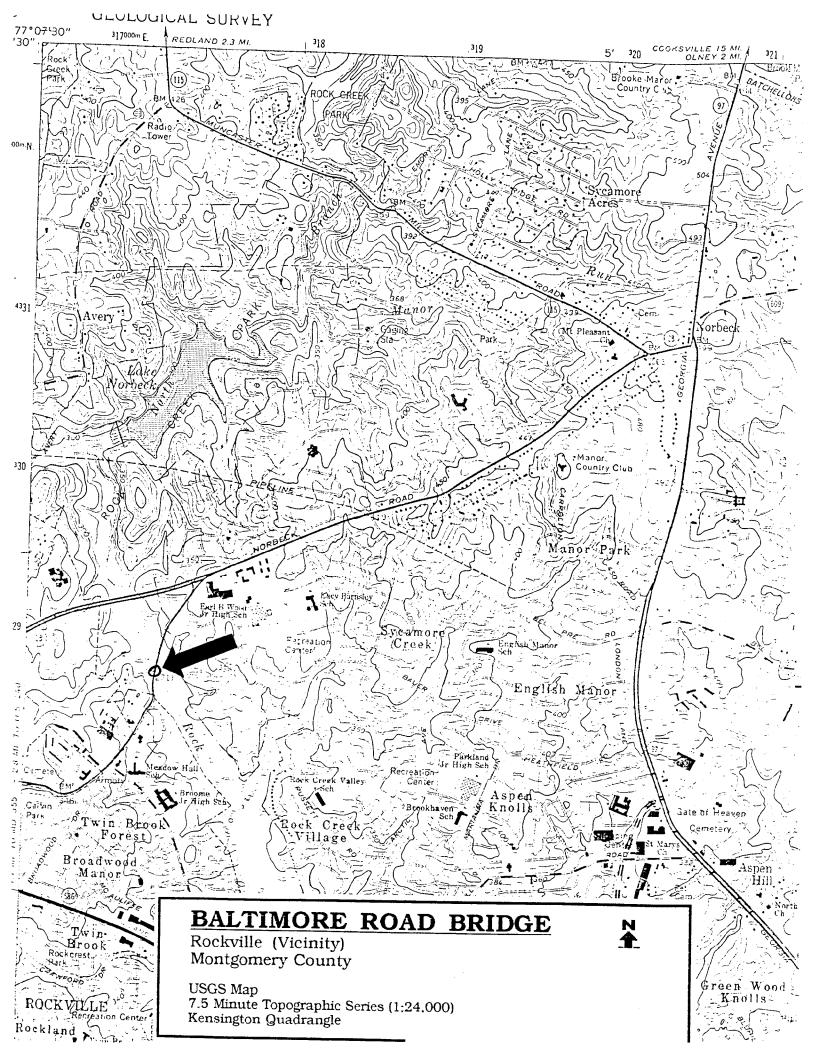
(301) 269-2438

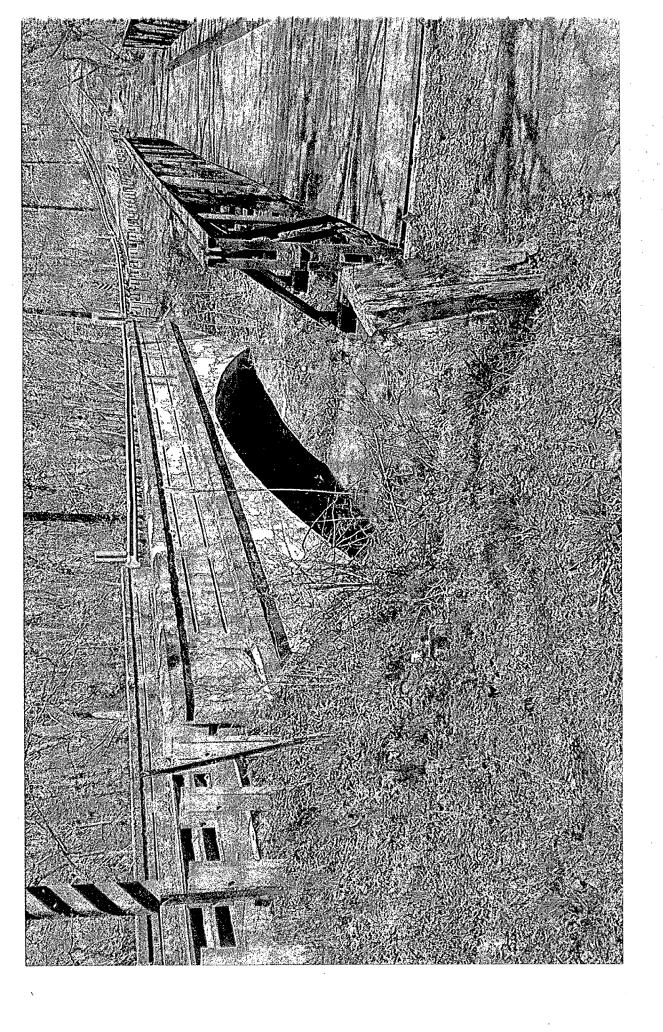
Spero, Paula A.C., "A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia (Charlottesville: Virginia Highway and Transportation Research Council, 1984).

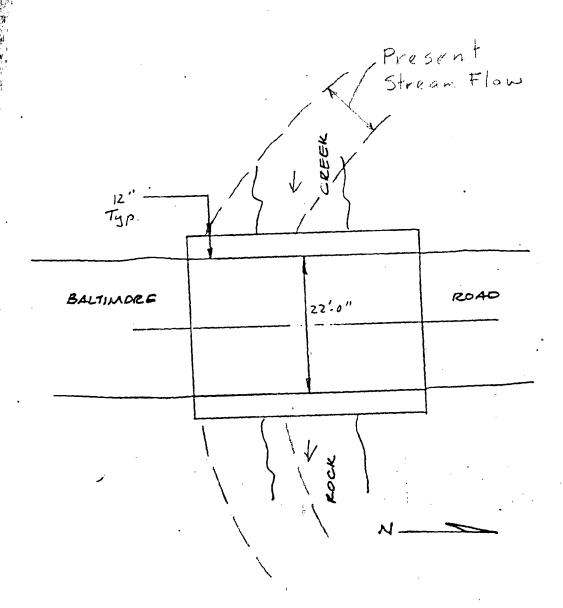
<u>Bridge Inventory Summary Montgomery County Department of</u> Transportation, (Montgomery County Government: 1990)

Hnedak, John, "Inventory Form for State Historic Sites Survey", (Maryland Historical Trust: 1980) Maryland 195 over Sligo Creek Bridge.

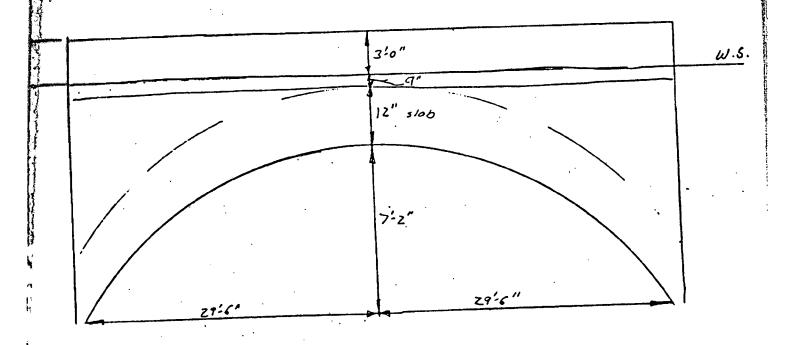
Condit, Carl W. <u>American Building</u> (Chicago: University of Chicago Press, 2nd ed.) 1982







PLAN



ELEVATION

August 27, 1991

Ms. Gwen L. Marcus
Historical Preservation Planner
Urban Design Division
Maryland-National Capital Park
and Planning Commission
8787 Georgia Avenue
Silver Spring, Maryland 20910-3760

Re: Baltimore Road Bridge #201 - Historical And Architectural Preservation Acts

Dear Ms. Marcus:

I am writing in answer to your letter to Graham Norton dated July 26, 1991.

I recognize and appreciate your efforts to preserve the historic value of the Baltimore Road bridge. I also thank you for the opportunity to provide input prior to any decision that may result in including this structure in the Master Plan for historic preservation.

The goal of our Department is to provide effective services to meet the transportation needs for Montgomery County. This includes maintaining the safety and adequacy of all the bridges in our highway system.

Concrete bridges are usually estimated to have a service life of approximately 100 years. The Baltimore Road bridge is 80 years old now. Its remaining life, based on its present condition, is expected to be about 15 years (inspection report dated 1989). As you have mentioned in your letter, if this bridge is included in the Master Plan, all maintenance, construction, and/or demolition of this structure will be reviewed and controlled by the Historic Preservation Commission.

With this in mind, I am convinced that we need to retain control over the maintenance and/or construction of our bridges to protect the traveling public including emergency situations that may occur. For this reason, I cannot support the inclusion of the Baltimore Road Bridge in the Master Plan Ms. Gwen L. Marcus August 27, 1991 Page 2

for historic preservation. However, I can assure you that this Department will strive to preserve the historic value of this structure.

Please call Mitra Kamdjou of my staff at 217-2121 if you have any questions.

Sincerely,

Robert C. Merryman, Chief

Division of Transportation Engineering

RCM:MPK:mtm 23160

Survey No.

Maryland Historical Trust State Historic Sites Inventory Form

Magi N	ю.	

DOE	ves	no

1. Nam	e (indicate pr	eferred name)		
historic	Baltimore Road	l Bridge (No. M.	0201)	
and/or common	same			
2. Loca	ation			
street & number	Baltimore Road	d over Rock Creek	_	not for publication
city, town	Rockville	_X_ vicinity of	congressional district	8
state	Maryland	county	Montgomery	
3. Clas	sification			
Category district building(s) _X structure site object	Ownership X public private both Public Acquisition in process being considered not applicable	Status occupied unoccupied work in progress Accessible yes: restricted X yes: unrestricted no	Present Use agriculture commercial educational entertainment government industrial military	museum park private residence religious scientific X transportation other:
4. Own	er of Prope	rty (give names a	nd mailing addresse	es of <u>all</u> owners)
name	Montgomery Cou	unty Department o	of Transportation	n
street & number	101 Monroe Sti	reet	telephone n	no.: (301) 217-212
city, town	Rockville	state	and zip code Mary	land 20850
5. Loca	ation of Leg	al Descripti	on	
courthouse, regi	stry of deeds, etc.	-		liber
street & number				folio
city, town			state	
6. Rep	resentation	in Existing	Historical Surv	7eys
title	none			
date			federal sta	te county local
depository for su	rvey records			
city, town			state	-

7. Description			Survey No.		
Condition X excellent good fair	deteriorated ruins unexposed	Check one X unaltered altered	Check one X original site moved date of move		

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

The bridge over Rock Creek on Baltimore Road is a single-span Luten barrel arch highway bridge. It carries a 21.7 foot (curb-to-curb) wide two-land roadway; the span is 62 feet and the bridge is 75 feet in length. The bridge consists of a concrete slab supported by a spandrel-filled concrete arch. The parapet is solid concrete with articulated panels. Stone plaques at the southeast and northwest corners of the bridge provide the date of its erection, and identify the builder and designer:

"Built by the State Roads Commission 1911 Luten Bridge Co., York, PA."

A more recent (c. 1980s) pedestrian bridge across Rock Creek parallels the bridge on its east side.

The Baltimore Road bridge is a graceful structure which contributes to the scenic quality of Baltimore Road and reinforces its rural character.

<u>8. 3igr</u>	illicance		Survey No.	
Period Areas of Significance—C — prehistoric — archeology-prehistoric — 1500–1599 — agriculture — 1600–1699 — architecture — 1700–1799 — art — 1800–1899 — commerce X 1900–		community planning	law literature military music	e religion science sculpture social/ humanitarian theater X transportation other (specify)
Specific dates	s 1911	Builder/Architect Sta	te Roads Commission/L	uten Bridge Co.
App	licable Criteria:A and/or licable Exception:/ el of Significance:	A _B _C _D		

Prepare both a summary paragraph of significance and a general statement of history and support.

The Baltimore Road bridge over Rock Creek is significant because it is one of only five such concrete arch bridges in the county and it utilizes a design developed by a prominent early twentieth century bridge designer, Daniel B. Luten. It is an excellent example of Luten's single-span, barrel arch highway bridge of a type built widely throughout Virginia. Other examples have not, as yet, been identified in Montgomery County.1

- 1. Historic Period Theme(s): Transportation
- 2. Geographic Organization: Piedmont (Montgomery County)

3. Development Period:

Industrial/Urban Dominance 1870-1930 A.D.

4. Resource Type(s):

Cinnificance

Bridge

Concrete arch bridges, while not rare, are not found in large numbers in the county. The 1990 "Montgomery County Bridge Inventory" lists only four others in addition to the one on Baltimore Road. The earliest of these dates from before 1900, and the latest from 1930.2

A Maryland Historical Trust statewide bridge survey in 1980 found that:

"While concrete bridges of the period of this survey (1935 and older) are not uncommon (in the state) their form is significant as a type . . . that in all probability will never again be built."3

Concrete is the oldest synthetic material used in building, having been used by Mayan builders as early as the eleventh century. It was not until 1824, however, that Joseph Aspdin of Leeds, England obtained a patent for the prime cementing agent in modern structural concrete, Portland cement.

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10. Geo	graphical	Data			•
Acreage of nomina Quadrangle name UTM References	ated property 1.2 a Kensington do NOT complete		ences	Q.	uadrangle scale 1:24000
Zone Easting		لبا	B Zor	e Easting	Northing
C			D		
Verbal boundary	y description and jus	tification			
List all states a	nd counties for prop	e rties overl code	apping state o	r county bour	n daries code
state		code	county		code
11. Fori	m Prepare	d By			
name/title	Lois Snyderman,	Historic	Preservation	n Consultan	t
organization				date	June 1991
street & number	8804 Spring Val	ley Road		telephone	(301) 654–6423
city or town	Chevy Chase			state	Maryland 20815

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Capsule Summary

for

Baltimore Road Bridge

June 1991

Mont. Co. survey prefix:

Site number

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Town/town vicinity

:Rockville

Access

: √ Public

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Baltimore Road Bridge

June 1991

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Criteria:

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 recent change of focation

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for

Baltimore Road Bridge

June 1991

Site number

Street address

: Baltimore Road over Rock Creek

Co. tax account number

Name of property owner : Montgomery County Department of Transportation

Addr. of property owner: 101 Monroe Street

Rockville, Maryland 20850

Historic Preservation Master Plan Recommendation:

Historic Preservation Ordinance Criteria

1)	Historical and cultural significance. The historic resource:
	 ✓ a. Has character, interest or value as part of the development, heritage or cultural characteristics of the county, state or nation; _ b. Is the site of a significant historic event; _ c. Is identified with a person or group of persons who influenced society; _ d. Exemplifies the cultural, economic, social, political or historic heritage of the county and its communities.
2)	Architectural and design significance. The historic resource:
	 ✓ a. Embodies the distinctive characteristics of a type, period, or method of construction; ✓ b. Represents the work of a master; c. Possesses high artistic values; d. Represents a significant and distinguishable entity whose components may lack individual distinction; or ✓ e. Represents an established and familiar visual feature of the neighborhood, community or county due to its singular physical characteristic or landscape.

Environmental Setting Recommendation:

The environmental setting recommended is a rectangular area 500' \times 1000' with the bridge at its center. The east and west boundary lines (running in a north/south) should parallel the direction of the roadway and bridge, 250' from it and extend 500' north and 500' south of the bridge. The north and south boundary lines (running in east/west) should be perpendicular to the bridge 500' from it and extend 250' east and 250' west of the bridge.

August 27, 1991

Ms. Gwen L. Marcus
Historical Preservation Planner
Urban Design Division
Maryland-National Capital Park
and Planning Commission
8787 Georgia Avenue
Silver Spring, Maryland 20910-3760

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Dear Ms. Marcus:

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With this in mind, I am convinced that we need to retain control over the maintenance and/or construction of our bridges to protect the traveling public including emergency situations that may occur. For this reason, I cannot support the inclusion of the Baltimore Road Bridge in the Master Plan Ms. Gwen L. Marcus August 27, 1991 Page 2

for historic preservation. However, I can assure you that this Department will strive to preserve the historic value of this structure.

Please call Mitra Kamdjou of my staff at 217-2121 if you have any questions.

Sincerely,

Robert C. Merryman, Chie

Division of Transportation Engineering

RCM:MPK:mtm 23160

Survey No.

Maryland Historical Trust State Historic Sites Inventory Form

Magi No.

DOE __yes __no

1. Nam	e (indicate pr	eferred name)		
historic	Baltimore Road	Bridge (No. M.	0201)	
and/or common	same		•	
2. Loca	ition			
street & number	Baltimore Road	d over Rock Creek	<u> </u>	not for publication
city, town	Rockville	_X_ vicinity of	congressional district	8
state	Maryland	county	Montgomery	
3. Clas	sification			
Category district building(s) _X structure site object	Ownership X public private both Public Acquisition in process being considered x not applicable	Status occupied unoccupied work in progress Accessible yes: restricted X yes: unrestricted no	Present Use agriculture commercial educational entertainment government industrial milltary	museum park private residence religious scientific X transportation other:
4. Own	er of Prope	rty (give names a	nd mailing addresses	s of <u>all</u> owners)
name	Montgomery Cou	anty Department of	of Transportation	
street & number	101 Monroe St	reet	telephone no	0.: (301) 217-212
city, town	Rockville	state	and zip code Maryl	and 20850
5. Loca	ation of Leg	al Descripti	on	
courthouse, regis	stry of deeds, etc.	_		liber
street & number				folio
city, town			state	
6. Rep	resentation	in Existing	Historical Surv	eys
title	none			
date			federal state	e county local
depository for su	irvey records			
city, town	·		state	

7. Description			Survey No.		
Condition X excellent good fair	deteriorated ruins unexposed	Check one X unaltered altered	Check one X original site moved date of move		

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

The bridge over Rock Creek on Baltimore Road is a single-span Luten barrel arch highway bridge. It carries a 21.7 foot (curb-to-curb) wide two-land roadway; the span is 62 feet and the bridge is 75 feet in length. The bridge consists of a concrete slab supported by a spandrel-filled concrete arch. The parapet is solid concrete with articulated panels. Stone plaques at the southeast and northwest corners of the bridge provide the date of its erection, and identify the builder and designer:

"Built by the State Roads Commission 1911 Luten Bridge Co., York, PA."

A more recent (c. 1980s) pedestrian bridge across Rock Creek parallels the bridge on its east side.

The Baltimore Road bridge is a graceful structure which contributes to the scenic quality of Baltimore Road and reinforces its rural character.

0. 0.3	11111041100			
Period prehistor 1400–149 1500–159 1600–169 1700–179 1800–189 X 1900–	99 agriculture 99 architecture 99 art	community planning conservation economics education engineering exploration/settlement	Iandscape architecture Iaw Ilterature Ilteratury Indicator Indicat	religion science sculpture social/ humanitarian theater x transportation other (specify)
Specific date	es 1911	Builder/Architect State	e Roads Commission/L	uten Bridge Co.
Ар	plicable Criteria:A and/or plicable Exception: vel of Significance:	A _B _C _D _E		

Prepare both a summary paragraph of significance and a general statement of history and support.

The Baltimore Road bridge over Rock Creek is significant because it is one of only five such concrete arch bridges in the county and it utilizes a design developed by a prominent early twentieth century bridge designer, Daniel B. Luten. It is an excellent example of Luten's single-span, barrel arch highway bridge of a type built widely throughout Virginia. Other examples have not, as yet, been identified in Montgomery County.

1. Historic Period Theme(s): Transportation

2. Geographic Organization: Piedmont (Montgomery County)

3. Development Period:

Significance

Industrial/Urban Dominance 1870-1930 A.D.

Survey No.

4. Resource Type(s):

Bridge

Concrete arch bridges, while not rare, are not found in large numbers in the county. The 1990 "Montgomery County Bridge Inventory" lists only four others in addition to the one on Baltimore Road. The earliest of these dates from before 1900, and the latest from 1930.²

A Maryland Historical Trust statewide bridge survey in 1980 found that:

"While concrete bridges of the period of this survey (1935 and older) are not uncommon (in the state) their form is significant as a type . . . that in all probability will never again be built."

Concrete is the oldest synthetic material used in building, having been used by Mayan builders as early as the eleventh century. It was not until 1824, however, that Joseph Aspdin of Leeds, England obtained a patent for the prime cementing agent in modern structural concrete, Portland cement. (cont.)

¹ Paula A.C. Spero, "A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia: (Charlottesville: Virginia Highway and Transportation Research Council, 1984). p. 30.

² Montgomery County Department of Transportation, <u>Bridge Inventory Summary</u> (Montgomery County Government: 1990) p. 1-11.

³ John Hnedak, "Inventory Form for State Historic Sites Survey", (Maryland Historical Trust: 1980) Maryland 195 over Sligo Creek Bridge.

Concrete was not used widely in this country until the latter half of the nineteenth century, when David O. Saylor patented an American equivalent of Portland Cement and built a mill at Coplay, Pennsylvania to manufacture the product.

"This marked the establishment of the artificial cement industry in the United States as well as the beginning of a scientific understanding of the physical properties and structural behavior of concrete."

The first use of concrete for an arch bridge was a highway span built in 1840 over the Garonne Canal at Grisoles, France. It was another thirty years before the concrete arch bridge was adopted in the United States, for a small footbridge constructed in Prospect Park, Brooklyn, New York, in 1871.

German and French engineers were the first to reinforce concrete arch construction in the mid 1880s. Reinforcing of arches was still an unfamiliar technique in this country through the 1890s, and reinforcement techniques were primarily trial-and-error.

"Concrete, although scientifically understood in some degree of sophistication in the 1890s, began to be used generally in a more structurally efficient manner in the United States after the first decade of the twentieth century . . . Between 1894 and 1904 about 100 concrete bridges had been built in the United States in spans up to 125 feet."

The most prolific designer of concrete arch bridges was Daniel B. Luten, who designed hundreds of them throughout the east and midwest in the early decades of the twentieth century and was the holder of more than thirty bridge patents.

An 1894 civil engineering graduate of the University of Michigan, Luten was an instructor in the subject at Purdue University from 1895 to 1900, resigning in 1900 to design bridges.

In 1899, Luten applied for his first patent (for an arch bridge of concrete, stone, brick, iron, or steel in which ties were placed below the water, from abutment to abutment); it was granted in 1900. This concept developed into a patent for a concrete arch in which steel tie rods were embedded in a concrete pavement across the streambed. Other Luten patents included numerous variations on the design of the arch; reinforcement systems; methods of bridge construction; and reinforced concrete beams.

The Luten system of reinforcement came into being before the end of the century, initially in concrete culverts. In the Luten system, bars were bent

Carl W. Condit, American Building (Chicago: University of Chicago Press, 2nd ed., 1982) p. 158.

⁵ Condit, p. 159.

⁶ Spero, p. 7.

⁷ Spero, p. 28.

into loops conforming to the cross-sectional shape of the culvert.°

Luten's first bridge company was the National Bridge Company, formed in 1902. It contracted and constructed its bridges until 1905, but was involved only in engineering, design, and supervision after that.

Luten was concerned with the appropriateness of his designs, as well as their technical capabilities. A 1917 Luten publication called "Reinforced Concrete Bridges" illustrated a broad range of arch types, including a "Highway Bridge of Plain Design" and a "Park Bridge of Attractive Design". Both had the same arch form, but the parapet wall of the highway bridge was a solid recessed panel and that of the park bridge a balustrade type. The Baltimore Road Bridge is of the "Highway Bridge of Plain Design" type.

Luten was an enthusiastic salesman for his bridge designs and his company catalogs stress the advantages of concrete bridges. He also used professional meetings to describe their virtues. In the American Concrete Institute <u>Proceedings</u> of 1912, Luten is quoted as saying that:

"Concrete as a structural material is full of surprising possibilities and one of these is that the most beautiful and appropriate applications of concrete to bridges, that is in the arch form, is also the most satisfactory from almost every engineering standpoint." 10

The Baltimore Road bridge is modeled after Luten's 1907 patent #852970, which shows a barrel arch with recessed panel parapet walls and filled spandrels. (See Figure 23, attached.) It is a type of bridge which, according to a Montgomery County Department of Transportation staff person, is unlikely to be built again because it is no longer cost effective. 12

⁸ Condit, p. 174.

⁹ Spero, p. 29.

¹⁰ Spero, p. 28.

¹¹ Spero, p. 28, 29.

¹² Conversation with Mitra P. Kamdjou, P.E., Montgomery County Department of Transportation, June, 1991.

From:

Paula A.C. Spero, "A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia: (Charlottesville: Virginia Highway and Transportation Research Council, 1984).



Figure 23. Typical single-span Luten barrel arch highway bridge.
This type, patented by Daniel B. Luten, was built throughout Virginia.

Spero, Paula A.C., "A Survey and Photographic Inventory of Concrete and Masonry Arch Bridges in Virginia (Charlottesville: Virginia Highway and Transportation Research Council, 1984).

<u>Bridge Inventory Summary Montgomery County Department of</u> Transportation, (Montgomery County Government: 1990)

Hnedak, John, "Inventory Form for State Historic Sites Survey", (Maryland Historical Trust: 1980) Maryland 195 over Sligo Creek Bridge.

Condit, Carl W. <u>American Building</u> (Chicago: University of Chicago Press, 2nd ed.) 1982

Attached

10. Geo	graphical	Data			
Acreage of nomina Quadrangle name UTM References	ted property 1.2 a Kensington do NOT complete	•	ences	Qua	adrangle scale 1:24000
A Zone Easting	Northing	لبنا	B Zone	Easting	Northing
C			D F H		
Verbal boundary n/a	description and jus	stification			
List all states ar	nd counties for prop	erties overla	apping state or county	county bound	daries code
state		code	county		code
11. Form	n Prepare	d By			
name/title	Lois Snyderman,	Historic	Preservation	Consultant	
organization				date	June 1991
street & number	8804 Spring Val	ley Road		telephone	(301) 654–6423
city or town	Chevy Chase		·	state	Maryland 20815

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

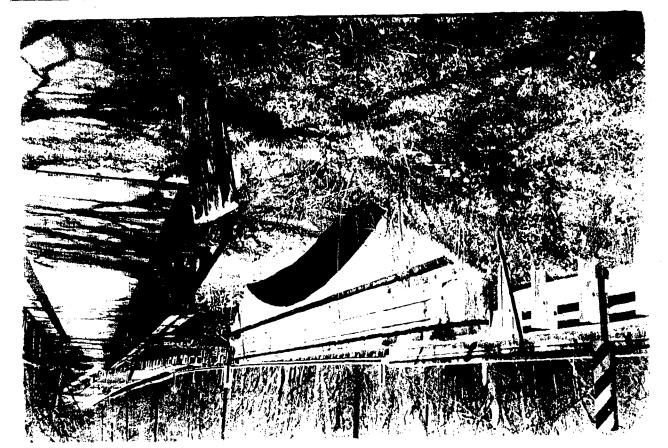
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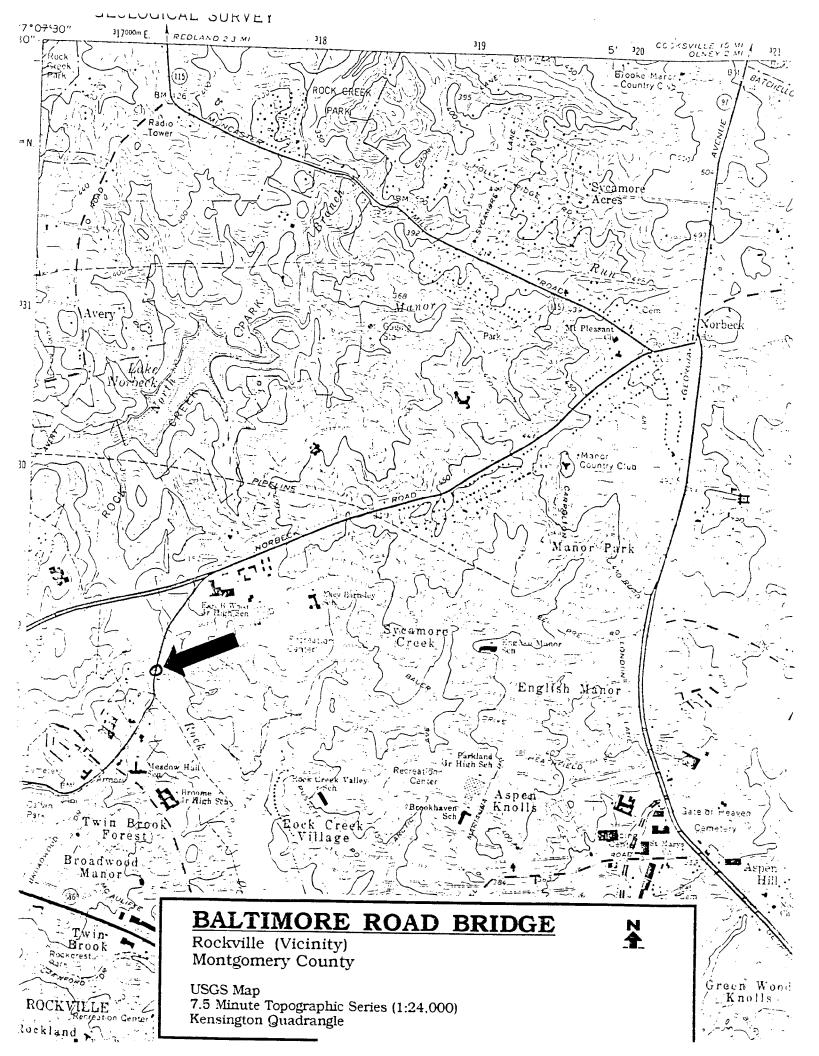
Maryland Historical Trust

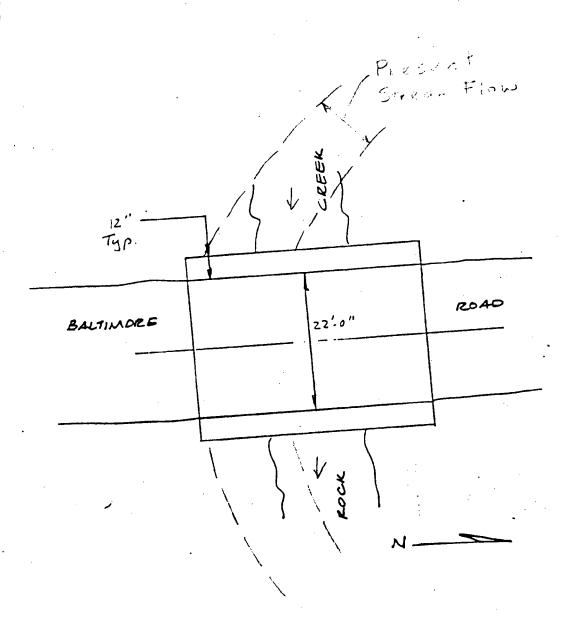
Shaw House 21 State Circle

Annapolis, Maryland 21401

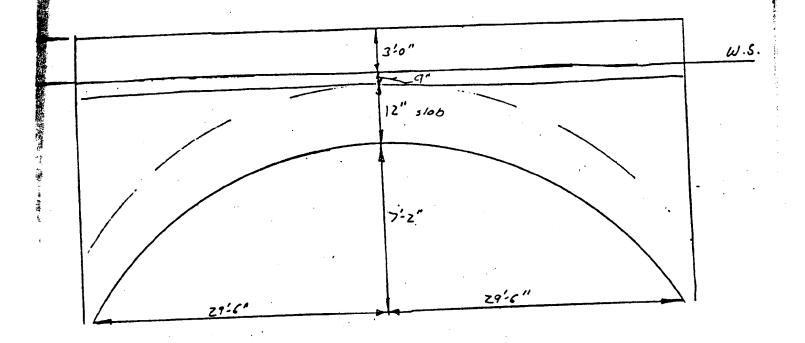
(301) 269-2438







PLAN



ELEVATION





June 26, 1991

Graham Norton, Director Montgomery County Department of Transportation 101 Monroe Street Rockville, MD 20850

Dear Mr. Norton:

Please be notified that the Montgomery County Historic Preservation Commission will be holding a public meeting, on Wednesday, July 10, 1991, in order to evaluate the historical and architectural significance of the Baltimore Road Bridge.

The purpose of the meeting is to hear comments from interested parties and the public, and to determine whether sufficient research exists to make a recommendation to the Montgomery County Planning Board as to whether the site should be included in the Historic Preservation Master Plan.

If the Commission determines that sufficient research is available, it will make a recommendation to the Planning Board to either remove the site from the Atlas or place the site on the Master Plan for Historic Preservation, based on the criteria set forth in Chapter 24A-3 of the Montgomery County Code (enclosed). If the property is ultimately included in the Master Plan, all construction, exterior alteration, and demolition plans would be reviewed by the Historic Preservation Commission before issuance of any permits.

As the property owner or other interested party, you are encouraged to either attend the meeting, submit written comments to the address below, or call the Historic Preservation Commission office at 495-4570.

Historic Preservation Commission

Page Two June 26, 1991

The meeting will be held at 7:30 p.m., in the MRO Auditorium at the Planning Board Offices, 8787 Georgia Avenue, in downtown Silver Spring, Maryland. This item may not be first on the agenda, so please be prepared for a short delay. Enclosed please find a copy of the meeting agenda (subject to change), the Montgomery County Historic Preservation Ordinance, and an informational piece which describes financial incentives for owners of historic properties. If you have any questions, please feel free to contact me at 495-4570.

Sincerely,

Gwen L. Marcus /a

Historic Preservation Coordinator

1282E

September 4, 1991

Dear Property Owner:

The Montgomery County Historic Preservation Commission (HPC) will be holding a public worksession on Wednesday, September 11, 1991, in order to evaluate the significance and to make recommendations on the historic designation of your property in the Aspen Hill planning area, which has been nominated for potential historic designation.

This meeting will begin at 7:30 p.m. (although the worksession on the Aspen Hill resources is not the first item on the agenda - see attached agenda) and will be held in the Maryland-National Capital Park and Planning Commission auditorium at 8787 Georgia Avenue in Silver Spring.

A public hearing on this issue was held on July 10th to hear comments from property owners and the public. At the upcoming worksession, the HPC will review available research, recommendations from their staff, and any public testimony received.

At the conclusion of this worksession, the HPC will formulate recommendations on the potential historic designation of each resource and these recommendations will be transmitted to the Montgomery County Planning Board. The HPC may recommend that the resource warrants historic designation on the <u>Master Plan for Historic Preservation</u>, based on the criteria set forth in the Historic Preservation Ordinance, or that the resource should not be designated.

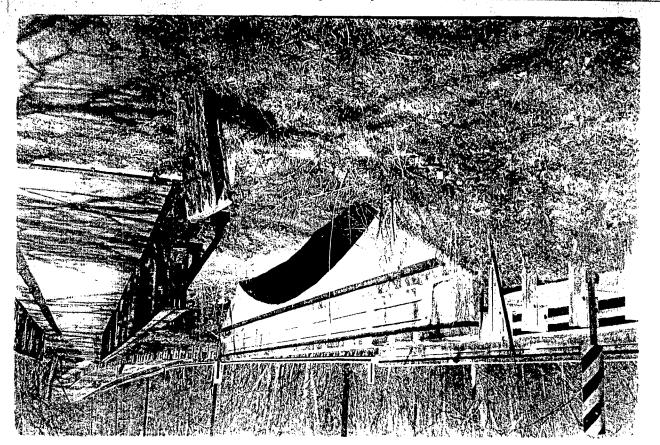
If, after review by the Planning Board, County Executive and County Council, the resource is ultimately included in the <u>Master Plan</u>, all new construction, exterior alteration, and demolition plans must be reviewed by the HPC before issuance of any permits.

As the property owner, you are welcome to attend the September 11th worksession or submit written comments to the HPC at 8787 Georgia Avenue, Silver Spring, MD 20910. For additional information on this issue, please call me at 495-4570.

Sincerely,

Gwen Marcus
Historic Preservation
Coordinator

Resource	Name:	
Resource	Address:	



Staff recommends that action on the following resource be deferred, pending additional research on its potential archeological significance:

o Original Veirs Mill, Rock Creek Park, Aspen Hill

POSITIVELY RECOMMENDED RESOURCES:

#27/17 Aspin Hill Pet Cemetery, 13630 Georgia Avenue, Silver Spring

The Aspin Hill Pet Cemetery was founded in 1921 by Richard and Bertha Birney. In addition to the cemetery use, the Birneys utilized the property as a breeding and boarding kennel, and gained high regard in the field. The site had national recognition, as reflected by a contemporary article that noted it as being one of the oldest boarding kennels in the Washington area and the only authorized animal hospital south of New York.

The cemetery site has a number of interesting funereal monuments, including elaborate animal sculptures, and mature landscaping. In addition, the structures on the property - a house, a kennel, and a chapel - have some architectural interest as early 20th century structures.

Notable pets buried in the cemetery include seven dogs that belonged to J. Edgar Hoover, Jiggs from the Our Gang movie series, and Rags - the mascot of the First Division in World War I. Lyndon Johnson's dogs were cremated at the center before being sent to Texas for burial.

Staff agrees that the Aspin Hill Pet Cemetery is a unique facility in the region and that it has cultural interest. Therefore, staff is recommending it for historic designation for the following reasons:

1. It does reflect the development, heritage or cultural characteristics of the County and even of the nation (Historic Preservation Ordinance criteria 24A-3(b)1A). Pet cemeteries are not a broad cultural trend, but they do have a long and unique history both in the United States and abroad. From ancient times to the present, humans have found a need to relate to animals and these cemeteries are a reflection of the depth of some human/ animal relationships. It is estimated that there are more than 500 pet cemeteries in the United States, and the Aspin Hill Cemetery is a relatively early example. It is staff's feeling that pet cemeteries do speak to certain aspects of 20th century culture and, in this light, the Aspin Hill Cemetery is worthy of recognition as a reflection of this cultural trend.

- 2. The resource exemplifies the cultural, economic, social political or historic heritage of the county and its communities (Historic Preservation Ordinance criteria 24A-3(b)1D). The Aspin Hill Pet Cemetery moved from its original use as a farm to a breeding/boarding kennel to a pet cemetery. This progression of changes all related to the care of animals also reflects the changing character of Montgomery County from a rural, agricultural area to a more suburban community with different needs and concerns.
- 3. The cemetery is an established and familiar visual feature of the Aspen Hill community (Historic Preservation Ordinance criteria 24A-3(b)2E). The significance of this property to the community is reflected in the efforts made to save the cemetery from development during the 1980s.

Staff would also note that the Aspin Hill Pet Cemetery is protected by a set of stringent covenants that specify that the property will be used as a pet cemetery and as an educational and animal care facility in perpetuity. Therefore, there are — in all likelihood — going to be few threats to the resource in the future. Historic designation would only serve to highlight this unique County resource and educate the public in terms of its history/purpose.

The environmental setting for the resource would be the entire property which consists of approximately eight acres.

#27/18 Baltimore Road Bridge, Rockville

This bridge is a single-span Luten barrel arch highway bridge. It was built in 1911 and carries Baltimore Road over Rock Creek.

The Baltimore Road Bridge is one of only five such concrete arch bridges in the County and it utilizes a design developed by a prominent early 20th century bridge designer, Daniel B. Luten.

Staff is recommending it for historic designation for the following reasons:

1. It embodies the distinctive characteristics of a type and method of construction - concrete arched bridge construction (Historic Preservation Ordinance criteria 24A-3(b)2A). The first use of concrete for an arched bridge was in 1840; however, it was not until the turn-of-the-century that concrete arched bridges began to be built with regularity in the United States. At this time, concrete was a new and innovative building material. Bridges which were both functional and beautiful were created. A Maryland Historical Trust statewide bridge survey in 1980 noted that the form of concrete arched bridges is significant and represents a bridge type that in all probability will never again be built.

- 2. This bridge represents the work of a master (Historic Preservation Ordinance criteria 24A-3(b)2B). The Baltimore Road Bridge was designed by Daniel B. Luten, a prolific designer of concrete arch bridges and the holder of more than 30 bridge patents. This bridge is modeled after Luten's 1907 patent #852970. Luten was a major force in the construction of concrete arch bridges at the turn-of-thecentury and his work is found throughout the East.
- 3. The Baltimore Road Bridge represents an established and familiar visual feature (Historic Preservation Ordinance criteria 24A-3(b)2E). As noted above, there are very few concrete arch bridges in the County. This bridge contributes to the scenic quality of Baltimore Road and reinforces its semi-rural character.

It should be noted that the Montgomery County Department of Transportation (DOT) does not support designation of this bridge. DOT brings up concerns about the structural longevity of the bridge and the potential need for replacement in the future (see attached letter from Robert Merryman).

Staff recommended environmental setting would be the bridge structure only.

NEGATIVELY RECOMMENDED RESOURCES:

Norbeck Black School, 4101 Muncaster Mill Road, Norbeck

This structure was built in 1927 as a school for black children. It was built as part of a County-wide effort to provide adequate school facilities for black citizens. Between 1926 and 1928, fifteen black school were constructed - some of which replaced earlier buildings. Approximately seven of these original fifteen schools are still standing - most have been very altered. According to Nina Clarke, a County historian and teacher, the most intact of the black schools from this early 20th century building effort is located at Quince Orchard and Route 28.

Funds for the construction of these schools were provided by a charitable fund - called the Rosenwald Fund - and by black citizens in Montgomery County, who contributed money, materials and labor.

The school closed in 1951 and the building was transferred to the County in 1954 for use as a community center. It is currently owned and operated by the Maryland-National Capital Park and Planning Commission as a recreation center.

Although staff acknowledges that this building has significant historical associations as an example of a early 20th century black school, staff is not recommending it for designation on the <u>Master Plan</u> because it has been extensively altered. The major exterior alterations that have taken place include changes

Ms. Barbara Shepherd Inventory Registrar Maryland Historical Trust 100 Community Place Crownsville, MD 21032-2023

Dear Ms. Shepherd:

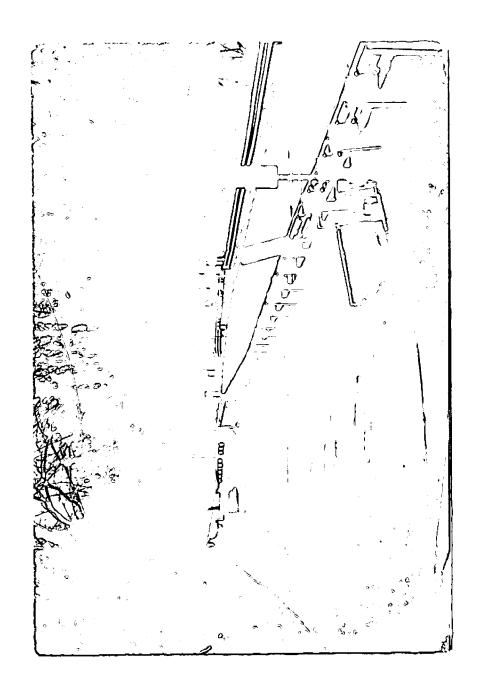
Enclosed are the background reports and staff recommendations regarding two new 20th century Locational Atlas sites in the Aspen Hill area of Montgomery County. They are:

These sites have been recommended for placement on our <u>Master Plan for Historic Preservation</u> by the Historic Preservation Commission, and will be reviewed by the Montgomery County Planning Board as part of the Aspen Hill Master Plan.

We appreciate your sending a copy of the research in your files for #27/16, the Layhill Free Methodist Church in Layhill. We plan no action on this resource at this time.

Sincerely,

Mary Ann Rolland Historic Preservation Planner Urban Design



Boltmore Road Bridge (#201)
Most to MD

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Nag. Most to Heat Pres Comm.
Setting-looking S

2072

Ms. Barbara Shepherd Inventory Registrar Maryland Historical Trust 100 Community Place Crownsville, MD 21032-2023

Dear Ms. Shepherd:

μ,

Enclosed are the background reports and staff recommendations regarding two new 20th century Locational Atlas sites in the Aspen Hill area of Montgomery County. They are:

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