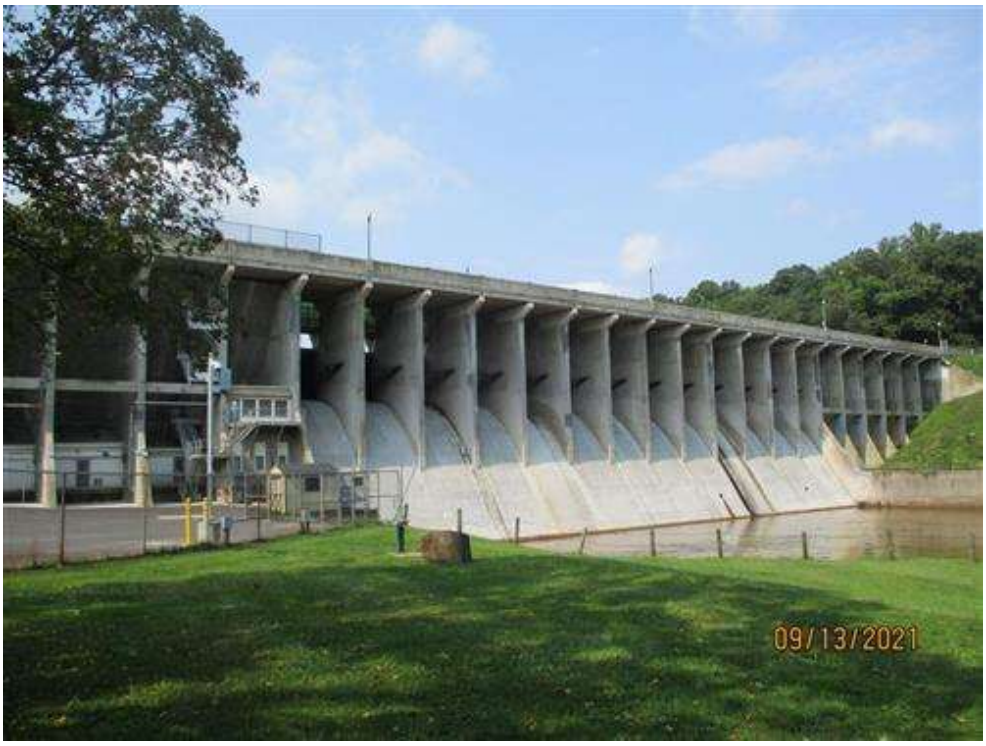
Montgomery County

Department of Transportation

Division of Transportation Engineering

2021 BIENNIAL BRIDGE INSPECTION REPORT

September 13, 2021



BRIDGE NO. M-0229001

BRIGHTON DAM ROAD

OVER

BRIGHTON DAM & TRIADELPHIA RESERVOIR

Prepared by

Montgomery County

Department of Transportation

Division of Transportation Engineering

2021 BIENNIAL BRIDGE INSPECTION REPORT

BRIDGE NO. M-0229001

BRIGHTON DAM ROAD

OVER

BRIGHTON DAM & TRIADELPHIA RESERVOIR

Prepared by

1/10/2022

Inspection Team Leader: Sherry L. Hockenberry, P.E. — Date

STATE OF MARYLAND · WILLIAM A. GESCHREI · No. 18142 · PROFESSIONAL ENGINEER

1/10/2022

Professional Engineer: William A. Geschrei, P.E. — Date

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18142, Expiration Date: February 4, 2022.

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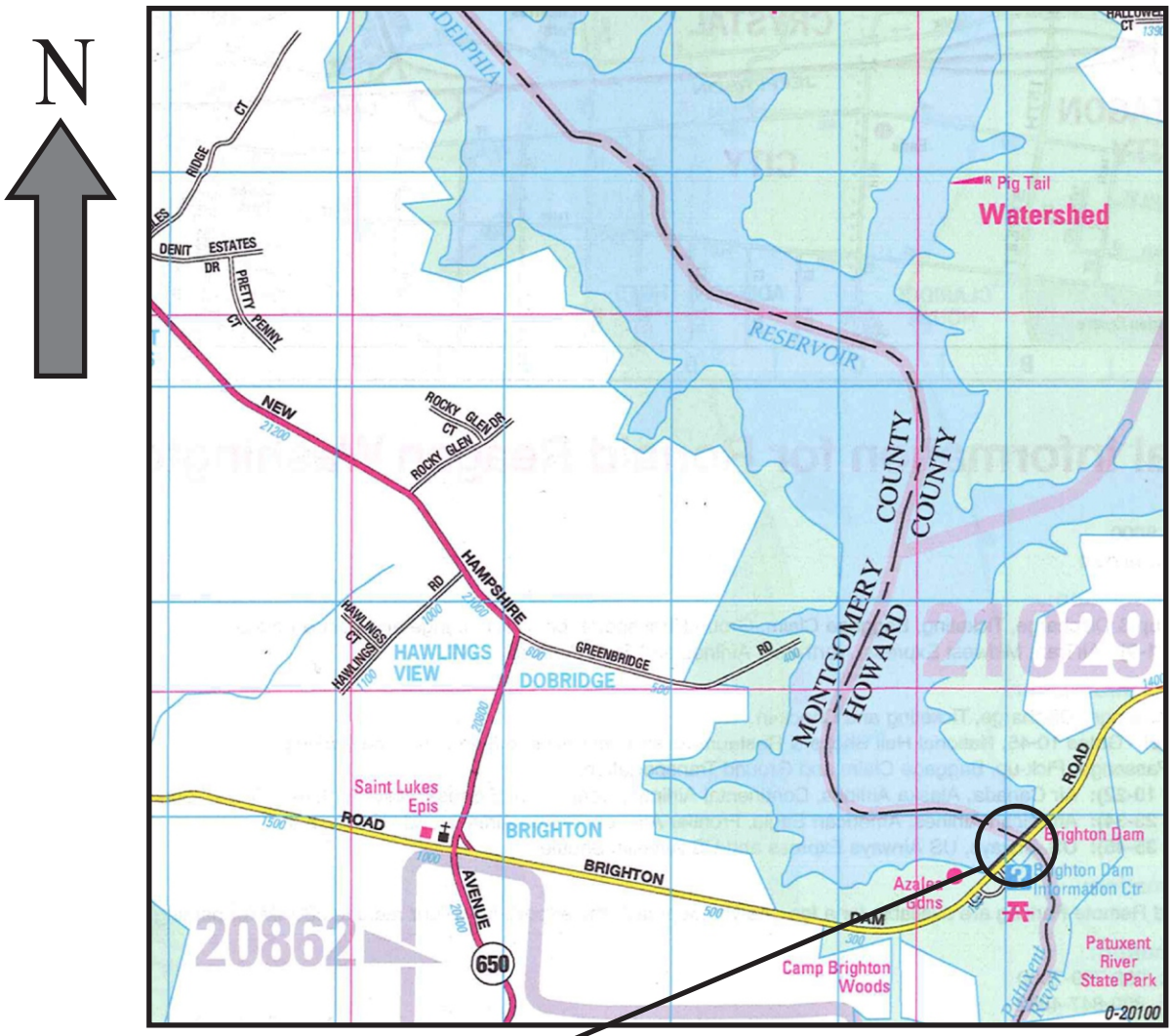
2021 BRIDGE INSPECTION REPORT

BRIDGE DESCRIPTION SUMMARY

Roadway	BRIGHTON DAM ROAD
Bridge Orientation	East-West
Crossing	BRIGHTON DAM & TRIADELPHIA RESERVOIR
Crossing Orientation	North-South
Inspection Date	9/13/2021
Inspected By	Whitman, Requardt, and Associates, LLP
Spans	15
Type	Prestressed concrete solid slab beams
Structure Organization	The numbering convention for reporting purposes is from the south and the west.
Deck	N/A
Railing	Rectangular concrete parapet
Abutments	Concrete buttresses
Wing Walls	Concrete cantilever
Piers	Concrete buttresses (Odd Buttresses 3-29)
Overall Length	601'-6"
Clear Roadway	28'-0"
No. of Lanes	2
Out-to-Out Width	36'-4"
Year Built	1944
Year Reconstructed	1999 - superstructure and top 4' of buttresses were reconstructed
Approach Section	28'-0"
Shoulders	No
Alignment	Moderate curve from the north on both approaches.
Profile	Moderate downgrade to the bridge on the west approach. Steep downgrade to the bridge on the east approach.
Guardrail	W-Beam
Current Postings	None
Overall Condition	Fair
Remarks	The scope of the inspection was limited to the superstructure, abutments, and portion of the buttresses that support the bridge.

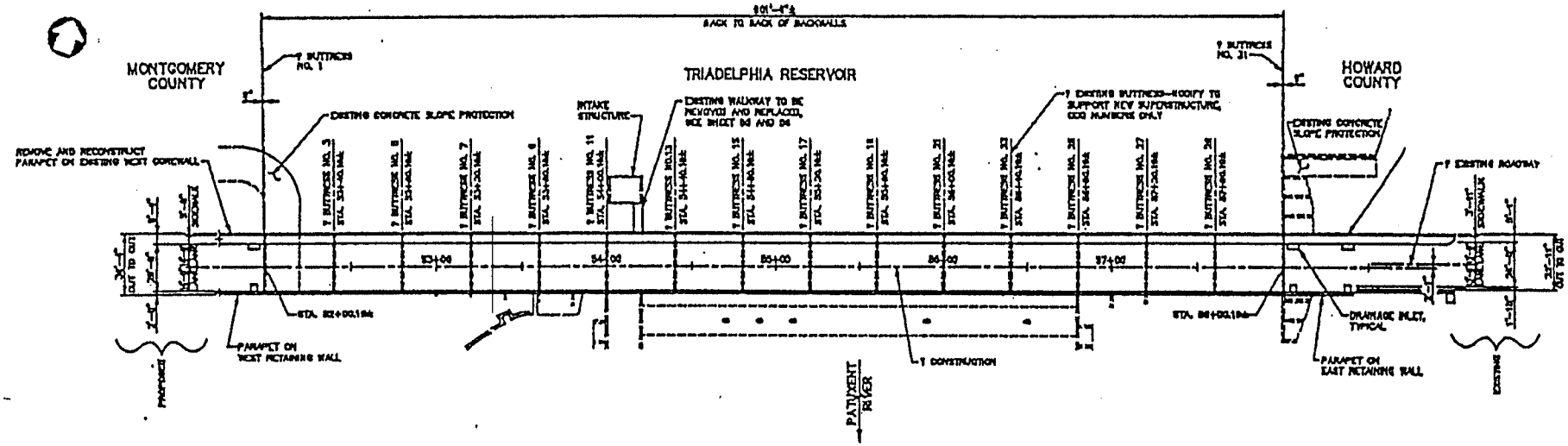


Bridge No. M-0229
Brighton Dam Road over
Brighton Dam and
Triadelphia Reservoir

ADC Street Grid Location: 4932-K-10

LOCATION MAP

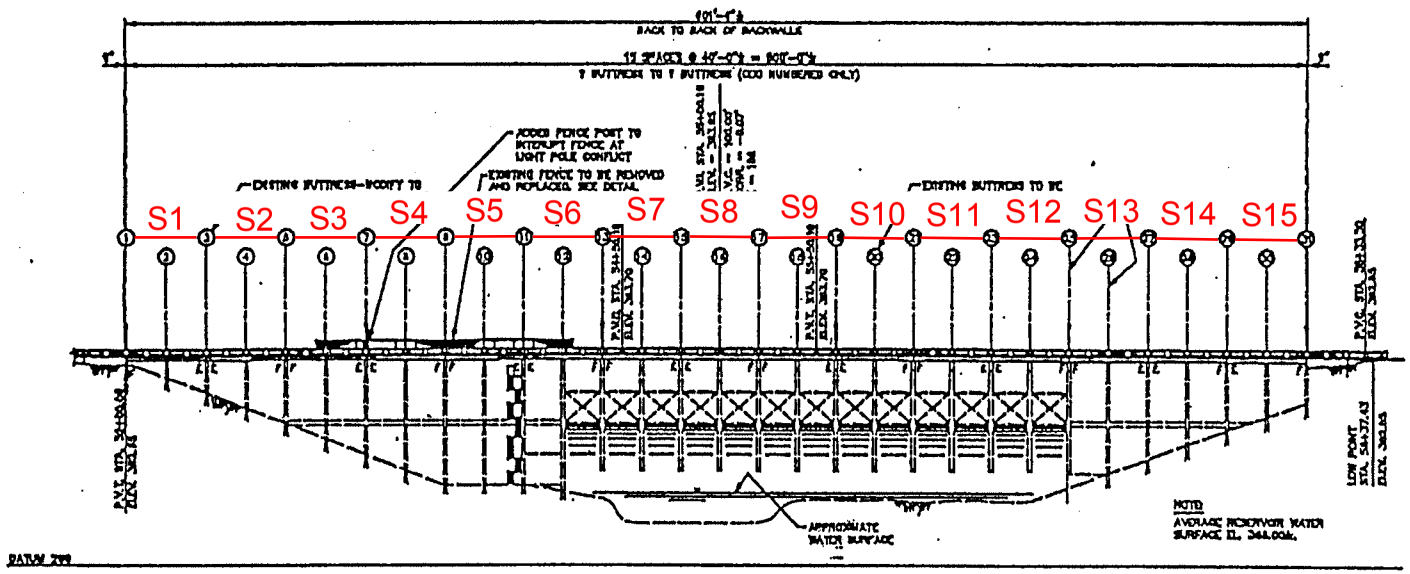
SCALE: 1" = 2,000'



P L A N

NOT TO SCALE

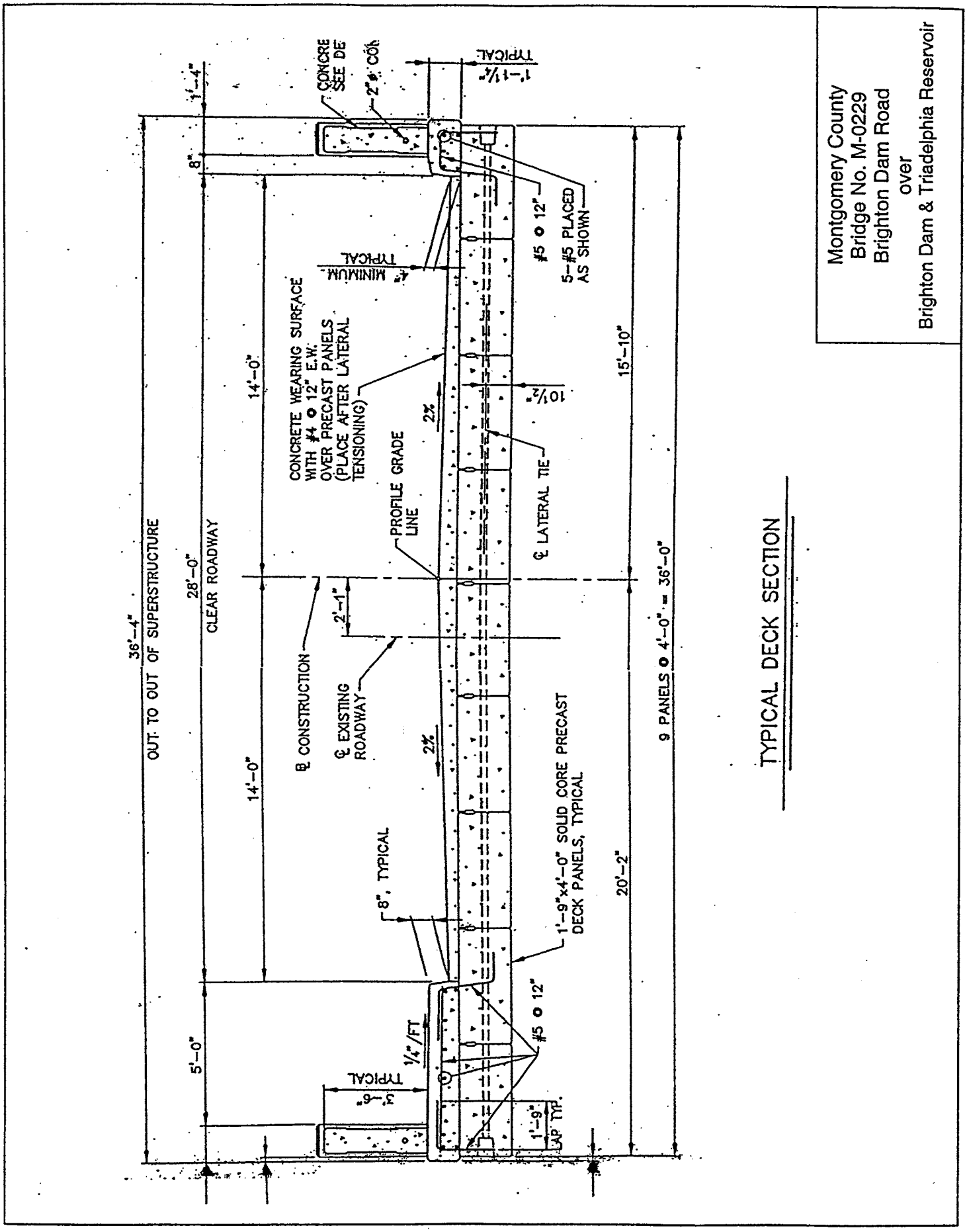
Montgomery County
Bridge No. M-0229
Brighton Dam Road
over
Brighton Dam & Triadelphia Reservoir

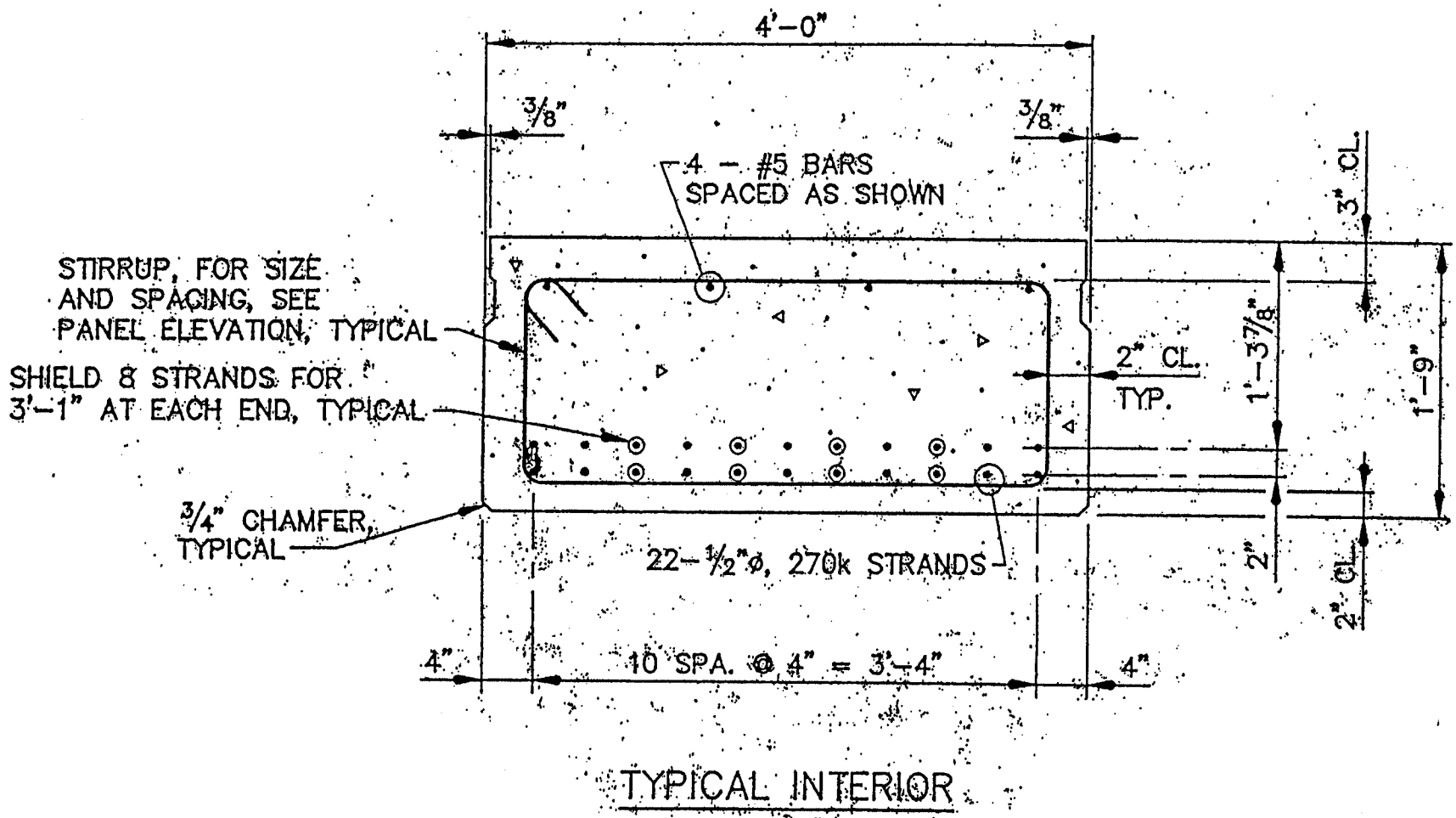


ELEVATION

NOT TO SCALE

Montgomery County
Bridge No. M-0229
Brighton Dam Road
over
Brighton Dam & Triadelphia Reservoir


Montgomery County
Bridge No. M-0229
Brighton Dam Road
over
Brighton Dam & Triadelphia Reservoir
TYPICAL DECK SECTION
OUT TO OUT OF SUPERSTRUCTURE
36'-4"
CLEAR ROADWAY
28'-0"
14'-0"
14'-0"
1'-4"
8"
5'-0"
CONCRETE WEARING SURFACE WITH #4 @ 12" E.W. OVER PRECAST PANELS (PLACE AFTER LATERAL TENSIONING)
PROFILE GRADE LINE
2%
2%
2%
℄ CONSTRUCTION
℄ EXISTING ROADWAY
2'-1"
8", TYPICAL
1'-9"x4'-0" SOLID CORE PRECAST DECK PANELS, TYPICAL
9 PANELS @ 4'-0" = 36'-0"
20'-2"
15'-10"
℄ LATERAL TIE
#5 @ 12"
5-#5 PLACED AS SHOWN
#5 @ 12"
1'-9" LAP TYP.
1/4"/FT
TYPICAL
MINIMUM
TYPICAL
TYPICAL



TYPICAL INTERIOR

Montgomery County
Bridge No. M-0229
Brighton Dam Road
over
Brighton Dam & Triadelphia Reservoir

2021 BRIDGE INSPECTION REPORT

COMPARATIVE EVALUATION SUMMARY TABLE

PONTIS ELEMENT	STATUS	CONDITION	REMARKS
Roadway Approach (8322)	⟷	Satisfactory	
Prestressed Concrete Deck (013)	⟷	Good	
Curbs & Sidewalks (8062)	⟷	Good	
Parapets (331)	⟷	Satisfactory	
Fencing (8342)	⟷	Good	
Roadway Joints (302)	⟷	Satisfactory	
Lighting (8340)	↑	Satisfactory	The light fixtures on the south parapet at the west abutment and east abutment have been repaired.
Bearings (310)	⟷	Satisfactory	
Soffit (8359)	⟷	Fair	
Retaining Walls and Wing Walls (8350 & 8251)	⟷	Satisfactory	
Abutments and Backwalls (215 & 8257)	⟷	Satisfactory	

↑ = Condition Improved ⟷ = Condition Unchanged ↓ = Condition Worse

COMPARATIVE EVALUATION SUMMARY TABLE

PONTIS ELEMENT	STATUS	CONDITION	REMARKS
Pier (210 & 234)	⟷	Good	
Stream Channel (8345)	⟷	Good	
Overall	⟷	Fair	

↑ = Condition Improved ⟷ = Condition Unchanged ↓ = Condition Worse

CONDITION SUMMARY

Roadway Approach (8322) — **28'-0" wide asphalt roadway, no shoulders**

The approach roadways are in satisfactory condition with areas of settlement at the transitions. There is moderate settlement of the northwest and northeast approach sidewalks and minor impact damage to the southwest approach traffic barrier.

Prestressed Concrete Deck (013) — **Prestressed concrete solid slab beams**

The prestressed concrete deck is covered with a concrete overlay and is not visible for inspection. The concrete overlay is in good condition. The wearing surface of the overlay has faded lane striping, isolated hairline longitudinal cracks, and minor to moderate scaling throughout.

Curbs & Sidewalks (8062) — **Concrete**

The curbs and sidewalk are in good condition. There are areas of hairline cracking and minor shallow corner spalls throughout.

Parapets (331) — **Rectangular concrete**

The parapets are in satisfactory condition. There are moderate spalls and delaminations, typically above the buttresses at the expansion joints.

Fencing (8342) — **Chain-link fence mounted on the south parapet of Spans 3-6**

The chain link fencing is in good condition with minor paint peeling.

Roadway Joints (302) — **Compression joint seals**

The compression joints are in satisfactory condition with isolated areas of depressed joint seals.

Lighting (8340) — **Light poles mounted on the parapets**

The light poles are in satisfactory condition. The previously noted missing light fixtures on the south parapet at the east and west abutments have been replaced. Two (2) light fixtures are damaged and leaning to the east at Buttresses 13 and 19.

Bearings (310) — **Elastomeric Pads**

The bearings are in satisfactory condition. There are minor gaps along the edges of several beams and typically the bearing plates have moderate corrosion.

CONDITION SUMMARY

Soffit (8359) **Prestressed solid concrete slab beams**

The underside of the prestressed solid concrete slab beams are in fair condition. There are typically spalls and delaminations near the beam ends. There is typically active leakage at the joints between the beams at the buttresses.

Retaining Walls and Wing Walls (8350 & 8251) **Concrete**

Retaining Walls: The retaining walls are in satisfactory condition with moderate spalling and cracking, typically in the top face.

Wing walls: The wing walls are in satisfactory condition with isolated minor spalling and cracking.

Abutments and Backwalls (215 & 8257) **Concrete Buttresses (1 and 31)**

Buttresses 1 and 31 act as abutments for the structure. The buttresses are in satisfactory condition. There is minor to moderate cracking with efflorescence and isolated minor spalling/delaminations.

Pier (210 & 234) **Concrete Buttresses (Odd buttresses 3-29)**

The odd buttresses (Buttresses 3 through 29) support the beams. The buttress caps are in good condition with hairline cracks and isolated areas of corrosion staining and efflorescence.

The buttress columns are in good condition. Most of the spalls in the north and south faces have been repaired since the previous inspection. The west and east faces of the buttresses in the dam gate bays have isolated sealed cracks that are equipped with strain gauges.

Stream Channel (8345) **Triadelphia Reservoir and Patuxent River**

The structure is over Brighton Dam. The Triadelphia Reservoir is to the north (upstream) and the Patuxent River is to the south (downstream). There is concrete slope protection that protects the upstream side of Buttresses 1 through 5 and Buttress 31. The concrete slope protection above the northeast retaining wall has settled at the west end with heavy vegetation growing in the joints. There is riprap along the downstream channel.

BRIDGE DESCRIPTION SUMMARY

LOAD RATING SUMMARY

The recommended bridge posting listed below is based on previous load rating calculations performed by others. Our review of the validity of the ratings consisted of determining if any changes to the condition of the structure since the previous inspection warranted updating the load rating calculations. Note that the 2017 Live Load Rating Analysis provided by the Montgomery County Department of Transportation was utilized as the basis of the rating summary below. Whitman, Requardt and Associates, LLP (WRA) assumes no responsibility for the correctness or accuracy of the previous load ratings.

The load ratings for the Maryland Legal Load Vehicles are as follows:

Vehicle	Gross Vehicle Weight (Tons)	Inventory Rating (Tons)	Operating Rating (Tons)
H-15	15	41.0	68.0
HS-20	36	58.5	97.0
MD Type 3	33	-	-
MD Type 3S2	40	80.0	99.9

Note: MD Type 3 no longer considered for posting

Vehicle	Gross Vehicle Weight (Tons)	Inventory Rating (Tons)	Operating Rating (Tons)
MD Type 4	35	47.5	79.0

Based on the above chart and in accordance with Montgomery County's current posting policy, no posting is required.

REVIEW OF ITEM 113 - SCOUR POTENTIAL RATING

Item 113 was previously rated 8L, indicating the bridge foundations have been determined to be stable based on a scour evaluation performed in 2008. Based on the observed conditions this rating is still valid and does not require reevaluation.

GUARDRAIL REQUIREMENT FORM

Corners	Bridge Railings Meet SHA Standard		Transition					Approach Guardrail									Approach Rail Ends				
			Approach Guardrail at Corners of Struct.		Attached to Bridge		Average Post Spacing Near Struct.	Type of Posts			Type of Rail			Spacing of Approach Guardrail			Flared	Buried	Shielded	Hazard	Breakaway
	Yes	No	Yes	No	Yes	No		Timber	Steel	Jersey	Cable	Steel	Timber	12'-6"	6'-3"	Other					
1	✓		✓		✓		3'-1 1/2"		✓			✓			✓		✓	✓			
2	✓			✓																	
3	✓		✓		✓		3'-1 1/2"		✓			✓			✓		✓		✓		
4	✓		✓		✓		3'-1 1/2"		✓			✓			✓		✓	✓			

Bridge No.: M-0229001

County: Montgomery

Road Carried: BRIGHTON DAM ROAD

Crossing: BRIGHTON DAM & TRIADELPHIA RESERVOIR

Date Inspected: 9/13/2021

Inspector: SLH / RSM

DOES THE APPROACH GUARDRAIL EXTEND A LONG ENOUGH DISTANCE TO PROTECT TRAFFIC AT BRIDGE AREA FROM EMBANKMENT?

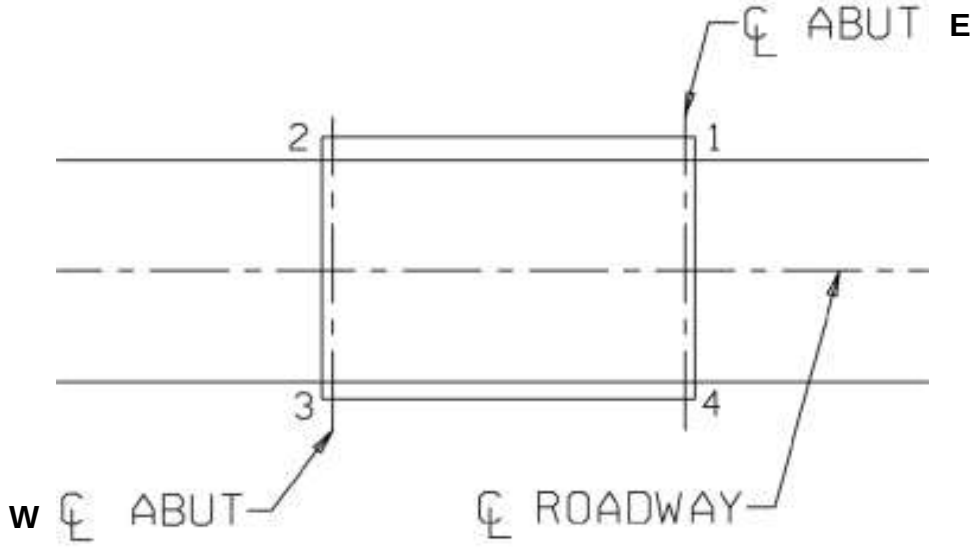
☑ YES ☐ NO

IS THE FACE OF THE GUARDRAIL MORE THAN 6" BACK FROM THE GUTTER LINE AT THE BRIDGE?

☑ YES ☐ NO

IF YES, SUCH AS WHERE A SIDEWALK IS ON THE BRIDGE, HAS A RAMP OF CONCRETE BEEN PROVIDED TOWARD TRAFFIC?

☑ YES ☐ NO ☐ N/A



Comments: There is no traffic barrier on the northwest approach due to the access road gate for Brighton Azalea Garden park. The southwest approach traffic barrier terminates with a MDOT SHA Type-K end treatment at an entrance to a parking lot. The southeast and northeast approach traffic barriers terminate with MDOT SHA Type-A end treatments.

Montgomery County, MD Dept. of Transportation Bridge Coating Rating Form

Bridge No. M-0229001 **Name** BRIGHTON DAM ROAD **Date** 9/13/2021

Weathering Steel No **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Inspectors SLH / RSM

COMPONENTS

	% Rating 1	% Rating 2	% Rating 3	% Rating 4	Total
Girders					
Fascias					
Bearings	25	45	25	5	2.1
Edges					
End Dam					
Deck Pans (☐Galv ☐Paint)					
Railings					
Other					
1) Fencing	100				1
2)					
3)					
4)					
5)					
				Overall Rating	**1.55**

Comments:

The bearings sit on metal plates. There is a chain link fence over Spans 2 though 6 on the south side of the bridge.

Recommendations:

None.

BRIDGE INSPECTION NOTES

VISUAL INSPECTION NOTE

The condition report and recommendations presented herein are based upon a visual inspection of accessible portions of the existing structure. No responsibility is assumed by Whitman, Requardt and Associates, LLP for the presence of any latent structural defects which cannot be detected by such visual inspection.

BRIDGE SKETCHES NOTE

The bridge sketches included in this report were previously prepared by others and are reproduced herein from materials furnished by Montgomery County. Whitman, Requardt and Associates, LLP assumes no responsibility for the accuracy of the sketches and the correctness of any detail dimensions.

INSPECTION ACCESS NOTE

The following equipment was used to access Bridge No. M-0229001:

60' Snooper

Note: Obstructions include power lines at the southwest corner of the structure.

The dam wall prevents accessing the full width of the bridge from a single side in Spans 1 thru 5 and Spans 13 thru 15. The underside of Spans 6 thru 12 are only accessible from the south side of the bridge.

Coordination with the Dam Operator is required for access, contact info below:

Samir Khalil
Principal Structural Engineer
Engineering and Environmental Services Division
Washington Suburban Sanitary Commission
301-206-8564 (Office)
samir.khalil@wsscwater.com

2021 BRIDGE INSPECTION REPORT

Bridge No. M-0229001 **Inspection Crew** SLH / RSM **Date** 9/13/2021

Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

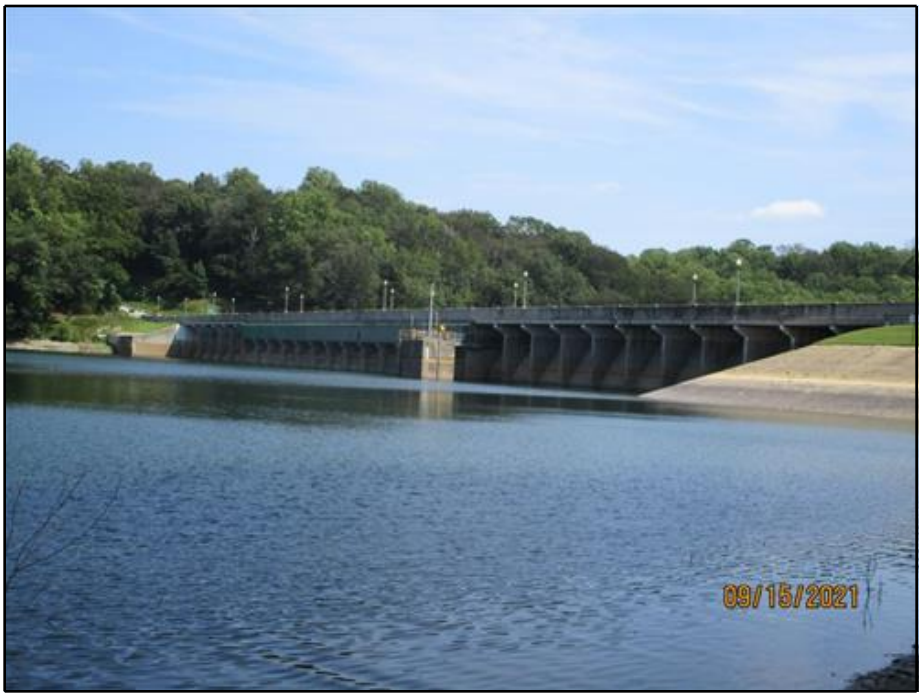
DESCRIPTION	PRIORITY	QUANTITY	UNIT COST	TOTAL COST
1. Repave the transition on the west and east roadway approaches.	3	45 S.Y.	$50/S.Y.	$2250
2. Repair the settled sidewalk on the northwest and northeast approach.	3	1 L.S.	$1500/L.S.	$1500
3. Repair the damage to the traffic barrier end treatment on the southwest approach.	2	1 L.S.	$2800/Ea.	$2800
4. Repair the spalled and delaminated areas on the parapets.	3	1 L.S.	$20000/L.S.	$20000
5. Seal the 1/16" wide cracks in the parapets.	3	30 L.F.	$50/L.F.	$1500
6. Patch the spalls and delaminated areas in the prestressed concrete beams.	3	1 L.S.	$10000/L.S.	$10000
7. Repair the spalls in the wing walls and abutment backwalls.	3	1 L.S.	$1000/L.S.	$1000
8. Replace the missing anchor bolt nut on the light pole in the northwest approach.	3	1 L.S.	$500/L.S.	$500
9. Seal cracks in the bottom and exterior faces of the prestressed beams	2	60 L.F.	$50/L.F.	$3000
10. Repair the light fixtures on the light poles above Buttresses 13 and 19.	2	1 L.S.	$1500/L.S.	$1500
11. Add missing bottom bolt on the northwest and southeast object markers.	3	1 L.S.	$150/L.S.	$150
12. Replace the missing access panel cover at the pole above Buttress 19.	3	1	$500/L.S.	$500
13. Repair the spalls, delaminations, and cracks in the walkway support beams in Spans 6 through 12.	3	1 L.S.	$15000/L.S.	$15000

14. Repair the delaminated and spalled areas in the east and west faces of the buttresses.	3	1 L.S.	$7500/L.S.	$7500
15. Repair the delaminated tie rod pocket on the south face of Beam 1 in Span 7	3	1 C.F.	$500/C.F.	$500
16. Repair the delaminated and spalled areas on the approach parapets.	3	1 L.S.	$4000/L.S.	$4000
			Total:	$ 71700

BRIDGE NO. M-0229001 - BRIGHTON DAM ROAD OVER BRIGHTON DAM & TRIADELPHIA RESERVOIR

1. West Approach (Looking East)

2. East Approach (Looking West)



3. North Elevation (Upstream)

4. South Elevation (Downstream)

5. Looking North (Upstream)

6. Looking South (Downstream)

7. Typical wearing surface (Span 1, looking northeast shown)

8. Spall with exposed steel reinforcing on the south face of the north parapet at the west abutment

9. Spall on the south face of the north parapet above Buttress 23

10. Spall in the south face of the north parapet above the east abutment

11. Full depth spall with exposed epoxy coated steel reinforcing in the exterior face of the north parapet above Buttress 3

12. Delaminated area on the north face of the base of the exterior face of the north parapet above Buttress 11

13. Spalling in the north face at the base of the north parapet over Buttress 27

14. Imminent spall in the north face of the south parapet at the west abutment joint

15. Cracking and imminent spall in the north face of the south parapet over Buttress 11

16. Imminent spall in the north face at the base of the south parapet above Buttress 19

17. Spall in the north face at the base of the south parapet above Buttress 29

18. Typical compression joint seal condition (Joint 17, looking south shown)

19. Typical crack in the lamp post base (lamp post on the south parapet above Buttress 7 shown)

20. Light fixture leaning east relative to the post (lamp post on south parapet above Buttress 7 shown)

21. Typical exposed and corroded bearing plates (Beams 1 and 2 in Span 13 at Buttress 27 shown)

22. Typical underside of the superstructure (Span 7 between Buttresses 13 and 14 shown)

23. Typical delamination at beam corners near bearings (Beam 9 in Span 14 at Buttress 27 shown)

24. Spall with exposed bearing plate at the west end of Beam 2 in Span 6 at Buttress 13

25. Full width spall on Beam 1 at the east end of Span 5 and west end of Span 6 at Buttress 11

26. Typical active water leakage between beams (Beams 2 and 3 at west face of Buttress 3)

27. Typical active water leakage between beams (Beams 1 and 2 at west face of Buttress 13 shown)

28. Vertical crack in the south face of Beam 1 at the west abutment

29. Horizontal crack in the north face of Beam 9 above Buttress 3 in Span 1

30. Two (2) longitudinal cracks in the bottom end of Beam 8 in Span 2

31. Full width spall on the west face of Beam 1 at the west end of Span 4 at Buttress 7

32. Map cracking with efflorescence in the north face of Beam 9 in Span 4 at Buttress 7

33. Spall on the bottom face of Beam 8 adjacent to Beam 9 in Span 5 near Buttress 9

34. Delaminated patch on the north face of Beam 9 at Buttress 11 in Span 5

35. Corner spall on the west end of Beam 9 in Span 6 at Buttress 11

36. Delaminated tie rod grout pocket on the south face of Beam 1 at Tie Rod 3 in Span 7

37. Corner spall on the west end of Beam 1 in Span 14 at Buttress 27

38. Spall in Beam 1 at Joint 1 in Span 14, four feet (4 ft.) east of Buttress 28

39. Corner spall on the southwest corner of Beam 1 in Span 15 at Buttress 29

40. Typical spalling, cracks, and delamination at mid-span on the south stem of the flood gate walkway (walkway between Buttresses 19 and 20 shown)

41. Spall with exposed , corroded steel stirrups and abandoned conduit in the south corner of the north stem of the walkway support between Buttresses 24 and 25

42. Loose soil and rocks in front of the north end of the west abutment

43. Delaminated area and spalls in the south face of the west abutment backwall

44. Full height crack with efflorescence in the east abutment

45. Map cracking and efflorescence on the northeast retaining wall. Note the vegetation growing between concrete slope protection panels above the wing wall

46. Typical moderate corrosion at buttress angles (Buttress 5 between Beams 2 and 3 in Span 3 shown)

47. Typical diagonal crack in the buttress column along the dam wall (west face of Buttress 27 shown)

48. Delamination below the flood gate guide (east face of Buttress 15 shown)

49. Typical spall around corroded electrical junction box and conduit in the buttress column (east face of Buttress 17 located 20' from the top shown)

50. Typical sealed crack with strain gauge (east face of Buttress 25 shown)

51. Full width spall in the north face of Buttress 3, five feet (5 ft.) below the cap

52. Spall, delaminated area, and cracks with efflorescence on the east face near the north end of Buttress 25 at the walkway support

53. Typical spall and delaminated area under the north flange of the walkway (west face of Buttress 25 shown)

54. Cracks in the south face of the southeast approach traffic barrier at the east abutment

55. Impact damage at the southwest approach traffic barrier end treatment

56. Post 17 is detached from the northeast approach traffic barrier

57. Full width patch at the west approach transition with settlement at the transition joint

58. Typical settlement of the sidewalk at the approach transitions (northwest approach sidewalk transition shown)

2021 BRIDGE INSPECTION REPORT

Bridge No. M-0229001 **Inspection Crew** SLH / RSM **Date** 9/13/2021

Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

58 DECK

	CONDITION RATING	
1. Wearing Surface (302)	7	Concrete with intergral wearing surface
2. Deck - Topside (301)	NV	Nine (9) prestressed concrete solid slab beams
3. Deck - Underside (301)	-	
4. Curbs (304)	7	Concrete
5. Median (304)	-	
6. Sidewalks (304)	7	5'-0" concrete (north side only)
7. Parapets (303)	6	Concrete
8. Railing (303)	-	
9. Roadway Joints	6	Compression Joint Seal
10. Drainage System (314)	-	
11. Lighting Standards	6	Light Poles (mounted on parapets)
12. Utilities	-	
13. Other Fencing	7	Chain Link

Inspector's Condition Rating (58) 7

58.1 – The concrete integral wearing surface is in good condition (see Photo 7). The top face of the beams are not visible for inspection due to the presence of the concrete overlay. The wearing surface of the overlay exhibits deteriorated lane striping throughout, minor scaling throughout, and moderate scaling near the ends of the structure
• There are longitudinal hairline cracks in the eastbound lane throughout the full bridge length, approximately four feet (4 ft.) from the centerline.
• The previously noted 1” diameter x 1/2” deep spall in the eastbound lane of Span 14 along the roadway joint at Buttress 29 was not observed.
• There is a longitudinal hairline crack in the westbound lane along the full length of the bridge three feet (3 ft.) from the centerline.

58.2 - Refer to Element 58.1.

58.4 - The concrete curbs are in good condition. The curbs have hairline cracks and minor scaling throughout. There is minor accumulation of sand and debris along the curb lines.

58.6 – The concrete sidewalk is in good condition. There is a 5’-0” wide concrete sidewalk on the north side of the structure. The sidewalk exhibits full-width transverse hairline cracks at 2'-0" intervals throughout the structure. There is an accumulation of debris on the sidewalk at the west end of the structure and above Buttress 23.

58.7 - The concrete parapets are in satisfactory condition.
Typical Conditions
There are isolated full-height (3'-6") x hairline to 1/16” wide cracks with minor efflorescence in both parapets; some of these cracks appear in both faces of the parapets and wrap around the top face.

2021 BRIDGE INSPECTION REPORT

Bridge No. M-0229001 **Inspection Crew** SLH / RSM **Date** 9/13/2021

Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

There is hairline map cracking throughout the parapets, particularly in the south parapet. There are missing screws in the utility covers throughout.

The parapet expansion joints typically measured 1/2" at 90 degrees Fahrenheit.

North Parapet, South Face
• There are vertical hairline cracks up to full-height throughout the south face.
• Above the west abutment, there is a full-height x 1’-2” wide x 4” deep spall with exposed corroded reinforcement (see Photo 8).
• Above Buttress 3, there is a 10” high x 2’-0” wide x full depth spall.
• Above Buttress 7, there is a 10” high x 1’-10” wide x 5” deep spall with exposed corroded reinforcement.
• Above Buttress 11, there is 1’-4” high x 1’-8” wide x 9” deep spall with exposed corroded reinforcement.
• Above Buttress 12 to 16, there are isolated 2'-0" long x 2" high impact scrapes.
• The previously noted crack ten feet (10 ft.) east of Buttress 13 was not observed.
• The previously noted 1'-2" high x 3" wide x 5" deep spall and the 9" high x 10" wide delamination at the top of the parapet above Buttress 15 was not observed.
• Above Buttress 20, there is a 3” high x 8” wide x 1/2” deep corner spall in the top of the post.
• Above Buttress 23, there is a full-height x 5 1/2” wide x 7” deep spall (see Photo 9).
• Above Buttress 27, there is an up to 1'-4" high x 9" wide x 2" deep spall at the bottom of the parapet.
• Above the east abutment, there is an up to 2'-4" high x 1'-8" wide x 2" deep spall with efflorescence (see Photo 10).

North Parapet, North Face
• Above Buttress 3, there is a 1’-6” high x 2’-0” wide x full depth spall with exposed epoxy coated steel reinforcing and efflorescence at the base (see Photo 11).
• Above Buttress 7, there is a 1’-5” high x 1’-9” wide x 5” deep spall.
• Above Buttress 11, there is a 1'-3" high x 1'-0" wide delaminated area with a 7” high x 1’-0” wide adjacent spall at the base (see Photo 12).
• Above Buttress 15, there is a 9" high x 1’-0" wide x 6" deep spall at the base and a 1'-2" high x 3" wide x 6" deep spall two feet (2 ft.) above the base of the parapet.
• Above Buttress 19, there is a 11" high x 1'-8" wide x 4" deep spall at the base with exposed corroded reinforcement.
• Above Buttress 23, there is an 8” high x 1’-4” wide x 4” deep spall.
• Above Buttress 27, there is a 3’-0” high x 2’-0” wide x 2” deep area of spalling (see Photo 13).
• At the east abutment, there is a 2'-4" high x 3" wide delamination.

South Parapet, North Face
• Above the west abutment, there is a 3'-0" high x 1’-0” wide x 4" deep imminent spall adjacent to the utility box (see Photo 14)
• Above Buttress 3, there is a 3” high x 1’-6” wide x 1 1/2" high spall.
• Above Buttress 11, there is a full-height x 5” wide delaminated area with a 4” high x 4” wide x 1” deep imminent spall (see Photo 15).
• At Buttress 13, there is a 8” high x 8” wide delamination and a 1’-2” high x 1” wide x 3” deep corner spall.
• Above Buttress 19, there is a 10” high x 9” wide delamination at the base and a 10” high x 2” wide x 3” deep imminent corner spall (see Photo 16).
• Above Buttress 23, there are two (2) spalls measuring 2’-0” high x 3” wide x up to 5” deep and 3” high x 1'-0” wide x 1” deep.
• Above Buttress 29, there is a 1'-0" wide x 8" high x 2" deep spall at the base of the parapet (see Photo 17).

South Parapet, South Face
• Above Buttress 3, there is a 1’-2” high x 2’-0” wide x 9” deep spall.
• Above Buttress 11, there is an 11” high x 3” wide x 5” deep spall.
• Above Buttress 23, there is a 1’-0” high x 5” wide x 3” deep spall.

58.9 – The compression joint seals are in satisfactory condition (see Photo 18).
• The roadway joints are in satisfactory condition and are typically open approximately 2" at 90 degrees Fahrenheit.
• There is a minor accumulation of sand and debris along the roadway joints with heavier portions along the curb.
• The roadway joint seals are typically depressed up to 1/2" deep throughout.
• Joint 1 (west abutment joint) has a 2" deep area of depressed joint seal along the full width of the westbound lane and half of the eastbound lane.
• Joint 6 has a 6'-0" long x 2 1/4" deep area of depressed joint seal at the centerline of roadway.
• The roadway joint seal at Buttress 27 is depressed up to 1 3/4" deep throughout.

58.11 – The light poles are in satisfactory condition.
• There are up to 1/16” wide cracks in the composite aggregate bases of a few of the poles (see Photo 19).
• The previously noted missing light fixtures on the south parapet at the west and east abutments have been replaced.
• The light fixture at the top of the pole on the south parapet above Buttresses 7 is leaning to the east relative to the post (see Photo 20).
• The missing access cover for the pole on the south parapet above Buttress 19 is covered over with tape.

58.13 - The chain link fence is in good condition. It is mounted to the top of the south parapet in Spans 2 through 6 with minor peeling paint on a few base plates and clamps.

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Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

59 SUPERSTRUCTURE

Number of Spans 15

Type of Construction Simple Spans Non-composite

	CONDITION RATING	
1. Bearing Devices (311)	6	Elastomeric Pads
2. Girders or Beams (312)	5	Nine (9) prestressed concrete solid slab beams
3. Stringers (312)	-	
4. Floor Beams (312)	-	
5. Diaphragms/Crossframes	-	
6. Paint (313)	-	
7. Other Flood Gate Walkway	5	Cast in place reinforced concrete double T beam
8. Rivets or Bolts	-	
9. Welds - Cracks	-	
10. Rust	-	
11. Timber Decay	-	
12. Concrete Cracking	-	
13. Collision Damage	-	
14. Deflection Under Load	-	
15. Alignment of Members	-	
16. Vibrations Under Load	-	
17. Fracture Critical Members (325)	-	

Inspector's Condition Rating (59) 5

59.1 – The bearing devices are in satisfactory condition.
• The fixed bearings are located at Buttress 1; Buttress 5; Buttress 9; Buttress 13; Buttress 17; Buttress 21; Buttress 25; Buttress 29 (Span 14), and Buttress 31.
• The expansion bearings are located at Buttress 3; Buttress 7; Buttress 11; Buttress 15; Buttress 19; Buttress 23; Buttress 27; and Buttress 29 (Span 15).
• The bearing plates have moderate to heavy corrosion along the edges (see Photo 21). There are gaps along the edges of the plates at several beams up to 1/16” wide.
• Bearing 8 for Span 13 at is set at the front face of Buttress 25.

59.2 – The prestressed concrete solid slab beams are in fair condition (see Photo 22). Beams are numbered 1 - 9 from the South.

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Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

Typical Conditions:
There is moderate corrosion on several embedded bearing plates in the beams, with delamination and spalls up to 1" deep x 3" long x full width along these plates (see Photos 23 and 24). There is up to a 3/4” vertical offset of adjacent beams at several locations. There are typically up to 1" high x 1" wide x up to full width spalls and delamination on the bottom corners of the beams along the top edges of the buttresses, concentrated in Beams 1 thru 3 and 7 thru 9 (see Photo 25). There are areas of active water leakage and water staining below the joints along the top edges of the buttresses (see Photos 26 and 27).

Span 1
• Beam 1 at the west abutment has a 1’-0” long x 1/16” wide vertical crack in the south face (see Photo 28).
• Beam 1 has a 6” high x 7” long x 10” wide spall on the south face over Buttress 3.
• Joint 2 filler has portions that have fallen out throughout the joint.
• Joints 5, 6 and 7 have active water leakage at the west face of Buttress 3.
• Beam 8 has two (2) patches on the bottom face, approximately five feet (5 ft.) east of Buttress 2 measuring 1’-3” long x 8” wide and 2’-0” long x 8” wide.
• Beam 9 has a 4’-6” long x 1/16” horizontal crack in the north face at Buttress 3 (see Photo 29).

Span 2
• Beam 1 has a 4” high x 3” long x 4” wide spall on the south face over Buttress 3.
• Joints 6 and 7 have efflorescence throughout.
• Joints 6 and 7 have evidence of active water leakage at the east face of Buttress 3.
• Joints 8 has heavy efflorescence throughout.
• Beam 8 has two (2) 1/16” wide x full length longitudinal cracks in the bottom face (see Photo 30)
• Beam 15 has 1/16” wide x full length longitudinal cracks in the bottom face.

Span 3
• Beam 1 has three (3) longitudinal cracks up to 6’-0” long x 1/32” wide approximately six feet (6 ft.) from Buttress 7.
• Joint 2 has heavy efflorescence at Buttress 5.
• Joint 5 has protruding joint filler, halfway between Buttresses 5 and 6.
• Joints 6 and 7 have efflorescence, halfway between Buttresses 5 and 6.
• Beam 7 has a 3’-2” long x hairline crack emanating from Bearing 7.
• Beam 8 has full-length longitudinal corrosion stains on the bottom face.

Span 4
• Beam 1 at Buttress 7 has a full width x 3” high x 3” deep spall along the bottom corner and an "L" shaped spall 10” high x 8” wide x 3” deep in the south face (see Photo 31).
• Beam 2 has minor honeycombing along the full length up to 1” diameter x 1/2” deep.
• Joint 3 has protruding joint filler, east of Buttress 7.
• Beams 5, 6, and 7 have full-length longitudinal corrosion stains on the bottom face.
• Beam 9 has 1/16” wide map cracking with efflorescence on the north face that wraps around to the west face above Buttress 7, emanating from a grouted hole (see Photo 32).
• Joint 8 at Buttress 7, heavy efflorescence with corrosion and water staining on the buttress.
• Joints 6, 7, and 8 have efflorescence up to 3’-0” feet from Buttress 9.

Span 5
• Beam 1 has a full width x 2” high x 2” deep spall along the bottom corner above Buttress 11.
• Beam 6 has full-length longitudinal corrosion stains on the bottom face.
• Beam 8 has a 1’-3” long x 7” wide x 1” deep spall on the bottom face adjacent to Beam 9, three feet (3 ft.) east of Buttress 9 (see Photo 33).

• Beam 8 has a 1’-6” long x 1’-6” wide patch on the bottom face adjacent to Beam 1, just east of Buttress 10.
• Both corners of Beam 8 at Buttress 11 have 3” wide x 6” long areas of delamination at the bearing.
• Beam 9 has a 1’-3” long x 7” high delaminated patch on the north face above Buttress 11 (see Photo 34).
• Beam 9 has a 2" long x 4” wide x 1/2" deep corner spall at Buttress 11.

Span 6
• Beam 1 has a 3” long x 1'-9" wide x 4” deep corner spall on the bottom face above Buttress 11.
• Beam 2 has a 3” diameter x 1/2” deep spall at Joint 1 above Buttress 11.
• Beam 9 has hairline map cracks in the north face at Buttress 11 within an 8” high x 1’-2” wide delaminated area.
• Beam 9 has a 2" long x full-width x 3" deep corner spall on the bottom face above Buttress 11 (see Photo 35).
• Joint 1 has water staining at Buttress 13.

Span 7
• Beam 1 has a 2" long x 3" wide x 1" deep spall on the bottom face along the south edge at Buttress 13 and an 8” long x 3” wide x 2” deep spall in the bottom corner of the south face at Buttress 15.
• The grout pocket covering Tie Rod 2 in Beam 1 has delaminated over a 11” long x 5” high area in the south face of Beam 1 (see Photo 36).
• Beams 3 and 4 each have a 2’-0” long x 7” wide patch, three feet (3 ft) east of Buttress 14.
• Beam 9 has a 2’-0” long x 1’-0” wide patch on the bottom face along the north edge adjacent to Buttress 15.

Span 8
• Above Buttress 15, Beam 1 has a 3” high x 6” long x 3” deep spall in the north corner at the bearing.
• Above Buttress 15, Beam 2 has 3” high x 6” long x 3” deep spalls at both the north and south corners at the bearing.
• Beam 2 has five (5) edge patches in the bottom face measuring up to 1’-0” in diameter at the following locations: one (1) in the west half, one (1) at Buttress 16, and three (3) in the east half.
• Beam 3 has a 2” long x 2” high x 1/2” deep edge spall on the south side, one foot (1 ft.) west of Buttress 17.
•Beams 6 and 7 have 6" long x 2" high x 1" deep spalls above Buttress 15 at Joint 6.
• Joint 7 has heavy efflorescence throughout.

Span 9
• Beams 2, 3, 6, 7, and 8 have several minor patches in the eastern half; the patches range in size from 1’-0” long x 6” wide to 2’-0” long x 1’-0” wide.
• Joint 6 has joint filler hanging down.
• Joints 7 and 8 have efflorescence throughout.

Span 10
• Beam 1 has a 1’-8” wide x 3” long x 1/2” deep spall on the bottom corner above Buttress 19 with vegetation growing through it.
• Beam 1 has a 1’-0” wide x 1’-0” long x 3” deep spall on the bottom corner above Buttress 23.
• Beam 1 has a 1’-6” long x 4” wide area of delamination above Buttress 19.
• Beam 4 has a 1’-3” long x 9” wide patch between Buttresses 20 and 21.
• Beam 8 has a small patch, approximately five feet (5 ft.) west of Buttress 21.

Span 11
• Beam 1 has an 8" high hairline vertical crack on the south face that extends 7" onto the bottom face at Buttress 21.

• Beam 1 has a 1’-0” long x 8” wide patch located three feet (3 ft.) west of Buttress 22 and a 10” long x 7” wide x 1’-0” deep spall at Buttress 23 in the north corner.
• Beam 6 has a 1’-0” long x 4” wide patch along the north side, east of Buttress 21.
• Beam 8 has a 3” high x 3” long x 3” deep spall in the south corner of the beam at Buttress 23.
• Beam 9 has a 2'-0" long x 11'-0" wide patch on the bottom face, four feet (4 ft.) west of Buttress 22.

Span 12
• Beam 1 has full-height x 1/16” wide crack 7” from the west end.
• Beam 2 has a 7” long x 4” wide x 1 1/2” deep spall adjacent to Beam 1, approximately three feet (3 ft.) east of Buttress 23.
• The corners of Beams 7 and 8 adjacent to Joint 7 above Buttress 23 have 3” long x 3” wide areas of delamination.

Span 13
• The corners of Beams 1 and 2 adjacent to Joint 1 above Buttress 27 have 5” long x 3” wide x 3/4" deep spalls.
• Beam 7 has a 1” high x 6” long x 3” wide spall at Buttress 27.
• There are delaminated areas up to 1” long x 2’-6” wide in front of Bearings 7 through 9 on the bottom faces of the beams above Buttress 27 with 2” diameter x shallow deep spalls.
• Joint 2 has heavy rusting staining at Buttress 27.
• Joint 7 has water staining at Buttress 25.

Span 14
• Beam 1 has a 1'-0” long x full-width x 4” deep spall on the bottom corner above Buttress 27 (see Photo 37).
• Beam 1 has a 1’-6” long x 9” wide x 1 1/2” deep spall, four feet (4 ft.) east of Buttress 28 (see Photo 38).
• Beam 1 has a 9" high x up to 1/16" wide vertical crack on the east face at Buttress 29.
• Beam 3 has a 2” long x 6” wide edge patch on the south face at Buttress 29.
• Beam 5 has a 1’-0” long x 6” wide x 2” deep spall on the bottom face along the south edge, approximately two feet (2 ft.) east of Buttress 27.
• Beams 4, 5, 7, and 8 have a total of five (5) up to 2'-0" long x up to 1'-0" wide patches on the bottom faces in the eastern half of the span.
• Joints 1 and 7 have water leakage and efflorescence, approximately one foot (1 ft.) from Buttress 29.
• Beam 9 has a 1’-0” high x 3” wide x 1/2” deep corner spall on the top of the west face at Buttress 27.
• Beam 9 has a 4" high x full-width delamination at the bottom south edge with an adjacent 3" high x 10" wide x 2" deep spall at the bottom north edge, both on the west face at Buttress 27.
• Beam 9 has a full-width x 4” wide surface spall along the bottom of the beam at Buttress 27.
• Joint 1 and 2 has heavy rust staining at Buttress 29.

Span 15
• Beams 1 and 2 have a 3” long x 3” wide x 1” deep spall on the bottom corner at Joint 1 above Buttress 29.
• Beam 1 has a 1'-0" long x full-width x up to 1’-0" high spall at the bottom of the south face with an adjacent 9" high x up to 1/16" wide vertical crack in the west face at Buttress 29 (see Photo 39).
• Joint 1 has efflorescence throughout the length of the span.
• Joint 5 has joint filler hanging down east of Buttress 29.
• Beam 8 has a 3” wide x 3” long x surface deep spall at Buttress 29
• Beam 9 has a 3” long x full width area of surface spalling at the bearing above Buttress 29.

59.7 - There is a concrete double T-beam in Spans 6 through 12 that supports the lifting device for the dam flood gates that is in fair condition. Typically, there are up to 10'-0" long x 8" high x 4" deep spalls and 10'-0" long x 1/8" wide longitudinal cracks in the south T-beam stem at mid-span between each

buttress (see Photo 40). In the north T-beam stem between Buttresses 24 and 25, there is a 5'-0" long x 4" high x 4" deep spall with exposed steel reinforcing and abandoned steel electrical conduit (see Photo 41).

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Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

60 SUBSTRUCTURE

		CONDITION RATING		
1. Abutments	-Wingwalls	6		
	-Backwalls	6		
	-Stems	7		
	-Footings	-		
	-Piles	-		
	-Scour/Erosion	-		
	-Settlement	-		
Overall Abutment Rating (322)		7	Abutment Type	Concrete Buttress Wall
2. Piers or Bents	-Caps	7		
	-Columns	7		
	-Footings	-		
	-Piles	-		
	-Scour/Erosion	-		
	-Settlement	-		
Overall Pier Rating		7	Pier Type	Concrete Buttress Wall w/ Hammerhead Cap
3. Pile Bents	-Caps	-		
	-Piles (324)	-		
4. Concrete Cracking or Spalling		7		
5. Steel Corrosion		-		
6. Timber Decay		-		
7. Other		-		
8. Debris on Seats		7		
9. Paint		-		
10. Collision Damage		-		
11. Overall Undermining/Scour		-		

Inspector's Condition Rating (60) 7

60.1 - Buttresses 1 and 31 act as abutments for the structure.
Abutments
The abutments are in satisfactory condition.

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Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

• The top 4’-0” of the abutments were reconstructed in 1999.
• There are hairline cracks throughout the abutment stems, several of which have minor to moderate efflorescence.
• There are localized areas of honeycombing in the abutment stems.
• The epoxy coating is in good condition.

West Abutment (Buttress 1)
• There is a loose soil and debris under the north side of Span 1 (see Photo 42).
• There is a full-height x 1/4” wide vertical crack in the south face of the backwall, with an adjacent 1'-6" high x 5" wide delamination and a 4" high x 7" wide x 3" deep spall at the top (see Photo 43).
• There are two (2) up to 3’-3” high x hairline cracks on the face of the stem.

East Abutment (Buttress 31)
• There are two (2) up to full-height hairline cracks with efflorescence at the north end (see Photo 44).
• The construction joint between the northeast wing wall and Buttress 31 has a 6" high x 1" wide x 1/4" deep spall at the top with missing joint filler.
• The construction joint between the southeast wing wall and Buttress 31 is open up to 1/16” wide.
• There is a 3’-6” high x 3’-0” wide area of hair line map cracking with efflorescence at the top corner of the dam wall at the east abutment.

Retaining Walls
• There are retaining walls at the southwest and northeast embankments attached to the abutment wing walls.
• The southwest retaining wall has minor honeycombing, several vertical hairline cracks with minor efflorescence, random 1’-0” to 2’-0" long edge spalls up to 1/2" deep at joints, and a horizontal hairline crack with minor efflorescence at the west abutment.
• The northeast retaining wall has a 10'-0" long x full-width area of up to 1/16" wide map cracks on the top face at the west end.
• The northeast retaining wall has an 8” long reinforcing bar protruding from the north face.
• The northeast retaining wall has a 20'-0" long x up to 4'-0" high area of map cracks with heavy efflorescence on the north face (see Photo 45). The previously noted 17’-0” long x full-width x up to 2” deep deteriorated area on the top face, approximately 25' from the east end has been repaired.
• The northeast retaining wall has a 2'-0" long x up to 4" wide x 1" deep spall on the top face, ten feet (10 ft.) from the east end.
• The northeast retaining wall has a 10" long x 1'-0" wide x 1" deep spall on the top face at the east end.

Wing Walls
• There is a 1’-0” high x 3” wide delamination in the southwest wing wall, approximately 40’ from the bridge.
• The construction joints between the east abutment and southeast and northeast wing walls have several minor edge spalls and hairline cracks.
• The joint filler is missing between the southeast wing wall and the east abutment.
• There is a 6'-0" long diagonal hairline crack near the top of the southeast wing wall.
• The southeast wing wall has a 15'-0" high vertical hairline crack with efflorescence at the north end and a minor spall on the top face. There is a 7’-0” long x hairline crack along the center of the wing wall.
• The northeast wing wall has a 6" long x 4" wide x 1/2" deep spall along the west edge of the top face, 15' from the abutments.

60.2 - The odd buttresses (Buttresses 3 through 29) support the beams.
Buttress Caps

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Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

• Odd Buttress Caps 3 through 29 are in good condition with hairline cracks and isolated areas of corrosion staining and efflorescence.
• The epoxy coating on the caps is in good condition.
• The buttress caps have steel angles embedded in the top face at the beam seat. These typically have moderate corrosion from water leakage between the solid slabs (see Photo 46).
• There is moderate water leakage and corrosion staining on most of the buttress caps from the deck joints above.
• There is honeycombing on the west face of Buttress Cap 29.

Buttress Columns
• Odd Buttress Columns 3 through 29 are in good condition.
• The east and west faces of the buttress columns have random minor delaminated areas, some shallow spalls with exposed corroded reinforcement, and hairline to 1/8” wide cracks near the dam gate (see Photos 47 through 49).
• Several of the buttress cracks in the dam gate bays have been sealed and are equipped with strain gauges (see Photo 50).
• Buttress 3 has a 3’-0” high x 9” wide area of delaminated concrete with random 4” high hairline cracking and minor efflorescence.
• There is a full width x 2'-0" high x 3" deep spall in the north face of Buttress 3, five feet (5 ft.) below the cap (see Photo 51).
• Buttress 13 has a 10” high x 8” wide x 1” deep spall north of the T-beam on the west face of the buttress.
• Buttress 19 has a 4” high x 3" wide x 2” deep spall in the southwest corner.
• Buttress 23 has 2’-0” high x 2’-8” wide x 4” deep spall within a 5’-0” high x 5’-0” wide area of delamination in the east face. This is within a 8’-0” high x 8’-0” wide map cracking area.
• There is a 6'-0" wide x 10'-0" high area of delamination, map cracking, and efflorescence surrounding a 2'-6" wide x 2'-0" high x 2" deep spall on the east face of Buttress 25 at the north end near the walkway (see Photo 52). There is heavy scaling on the west face under Joint 2 and 6.
• There are typically areas of delamination or spalls up to 1'-6" wide x 1'-6" high x 1" deep under the north flange of the walkway at the buttress columns (see Photo 53)

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Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

61 CHANNEL AND CHANNEL PROTECTION

	CONDITION RATING	
1. Channel Scour	-	
2. Embankment Erosion	-	
3. Drift/Debris	6	
4. Vegetation	-	
5. Channel Alignment	-	
6. Fender System	-	
7. Spur Dikes and Jetties	-	
8. Riprap/Slope Protection	6	Concrete (Upstream) Riprap (Downstream)

Inspector's Condition Rating (61) 7

61.3 - There is concrete debris accumulation on the slope under Span 1 along the west face of Buttress 2. The previously noted minor timber debris accumulation at the northeast end of the structure under Span 15 is no longer present.

61.5 - The structure is over Brighton Dam. The Triadelphia Reservoir is to the north (upstream) and the Patuxent River is to the south (downstream).

61.8 - There is concrete slope protection that protects the upstream side of Buttresses 1 through 5 and Buttress 31. The concrete slope protection above the northeast retaining wall has settled at the west end with heavy vegetation growing in the joints (see Photo 45). There is riprap along the downstream channel.

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Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

71 WATERWAY ADEQUACY

Opening	Good	Fair	Poor	
Alignment	Good	Fair	Poor	
Frequency of Overtopping	Remote	Slight	Occasional	Frequent

Inspector's Condition Rating (71) 9

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Bridge No. M-0229001 **Inspection Crew** SLH / RSM **Date** 9/13/2021

Name BRIGHTON DAM ROAD **Crossing** BRIGHTON DAM & TRIADELPHIA RESERVOIR

Bridge Type Prestressed concrete solid slab beams **Year Built** 1944

72 APPROACH ROADWAY ALIGNMENT APPRAISAL RATING

1. Vertical Alignment	E	Good	[Fair]	Poor	Moderate downgrade to the structure
	W	Good	[Fair]	Poor	Steep downgrade to the structure
2. Horizontal Alignment	E	Good	[Fair]	Poor	Curve from the north 300' from the structure
	W	Good	[Fair]	Poor	Curve from the north 200' from the bridge

3. Speed Limit Reduction [None] Minor Substantial

4. Sight Distance [Adequate] Not Adequate Slight distance limited slightly due to vertical alignment

Inspector's Condition Rating (72) [8]

APPROACH ROADWAY

	CONDITION RATING	
5. Approach Guardrail	[6]	W-Beam
6. Approach Pavement	[6]	Asphalt
7. Approach Embankments	[8]	
8. Approach Slabs	[-]	
9. Relief Joints	[-]	

10. Signing - Legibility and Visibility Good [Fair] Poor Object Markers

11. Posted Load Limits None Posted Bridge Speed Limit [-] MPH

Normal Roadway Speed Limit 30 MPH

12. Traffic Safety Features (36)

a. Bridge Railing	0	[1]	N	Concrete Parapets
b. Transitions	0	[1]	N	Thrie Beam
c. Approach Traffic Barrier	0	[1]	N	W-Beam
d. Approach Traffic Barrier Ends	0	[1]	N	Flared

72.5 - Parapets

- The approach parapets have isolated up to 1/16” vertical cracks some with efflorescence and up to 2'-0" high x 3" wide spalls on the exterior faces.
- The exterior face of the southwest approach parapet has a 1'-0" high x 3" wide delamination.
- The interior face of the northeast and northwest approach parapet have up to full-height vertical wrap

around cracks up to 1/16” wide with edge spalling and efflorescence throughout the parapet.
• The exterior face of the southwest approach parapet at the first expansion joint has a 2’-6” high x 3” wide x 3” deep spall.
• The exterior face of the southeast approach parapet has a 1'-2" high x 1/4” wide vertical crack and a 1'-0" long x 1/4" wide diagonal crack with edge spalling at the east end (see Photo 54).

Traffic Barrier
• There is no traffic barrier on the northwest approach due to a fence and gate at the northwest corner of the structure. The embankment is shallow and it is the trailing end of the bridge.
• There is W-beam traffic barrier on the northeast, southwest, and southeast approaches; the traffic barrier is stiffened in the transition zone with reduced post spacing and is attached to the bridge parapets with a thrie beam.
• The southeast and northeast approach traffic barrier has overgrown vegetation covering it.
• The southwest approach traffic barrier terminates with a MDOT SHA Type-K end treatment at an entrance to a parking lot.
• The southeast and northeast approach traffic barriers terminate with MDOT SHA Type-A end treatments.
• On the southwest approach traffic barrier, the tenth traffic barrier post from the bridge is missing.
• On the southwest approach traffic barrier at the end treatment, there is a 10'-0" long section of impact damage with four (4) leaning posts (see Photo 55).
• On the southwest approach traffic barrier, there is minor impact damage between Posts 21 to 24.
• On the southeast approach traffic barrier, there are twisted posts approximately 50’ and 100’ from the bridge.
• On the northeast approach traffic barrier, the seventeenth post from the bridge is detached from the W-beam (see Photo 56). The eighth and ninth post has minor impact damage.

72.6 - Pavement
• There are longitudinal and transverse cracks up to 1/2” wide in the pavement on the west approach.
• The 4’-6” long x full-width patch at the west transition has up to 1" deep settlement along the edges (see Photo 57).
• There is rutting in the eastbound lane of the west approach.
• There is 3/4" deep settlement in the pavement of the east approach along the transition.
• There is 1" deep settlement in the pavement of the west approach along the transition.

Sidewalks
There is minor vegetation growth in the joints of the approach sidewalks and debris accumulation throughout. The northwest and northeast approach sidewalk have settled up to 2” below the sidewalk on the bridge (see Photo 58).

72.10 - Signs
There are object markers in place at the four (4) corners of the structure. The northwest and southeast object markers are missing the bottom bolt.

Lighting

On the northwest approach, there is a missing anchor bolt nut at the second light pole from the west mounted on the north parapet.

Bridge Inspection Report
Element Form

Bridge No: M-0229001 **Inspection Date:** 09/13/2021

BRIGHTON DAM ROAD OVER BRIGHTON DAM & TRIADELPHIA RESERVOIR **Milepoint:** 0000000

(58) Deck	7	**(59) Superstructure**	5	**(60) Substructure**	7
(61) Channel	7	**(62) Culvert**	N		

Element	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
13 - Prestressed Concrete Deck	1 - Ben.	21852	sq. ft.	20902	850	100	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
510 - Wearing Surfaces		16842	sq. ft.	14602	2240	0	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
210 - Reinforced Concrete Pier Wall	1 - Ben.	396	ft.	385	11	0	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
215 - Reinforced Concrete Abutment	1 - Ben.	73	ft.	71	0	2	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
234 - Reinforced Concrete Pier Cap	1 - Ben.	508	ft.	508	0	0	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
302 - Compression Joint Seal	1 - Ben.	581	ft.	327	254	0	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
310 - Elastomeric Bearing	1 - Ben.	270	each	255	15	0	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							
331 - Reinforced Concrete Bridge Railing	1 - Ben.	1204	ft.	1156	30	18	0
☐Eng Req ☐FYI ☐District ☐Inaccessible? ☐Eng Comments							

Bridge Inspection Report
Element Form

Bridge No: M-0229001 **Inspection Date:** 09/13/2021

BRIGHTON DAM ROAD OVER BRIGHTON DAM & TRIADELPHIA RESERVOIR **Milepoint:** 0000000

(58) Deck	7	**(59) Superstructure**	5	**(60) Substructure**	7
(61) Channel	7	**(62) Culvert**	N		

8062 - Sidewalk, Reinforced Concrete	1 - Ben.	602	Ft.	602	0	0	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8251 - Wingwalls, Reinforced Concrete	1 - Ben.	313	Ft.	311	2	0	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8257 - Reinforced Concrete Abutment Backwall	1 - Ben.	73	Ft.	71	0	2	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8322 - Roadway Approach Transition	1 - Ben.	2	Each	0	2	0	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8340 - Utilities and OverHead Signs	1 - Ben.	1	Entire Bridge	1	0	0	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8342 - Fencing	1 - Ben.	130	Ft.	130	0	0	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8345 - Stream Channel	1 - Ben.	1	Entire Bridge	1	0	0	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8350 - Retaining Wall	1 - Ben.	217	Ft.	187	20	10	0
☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments								
8359 - Soffit (underside) of concrete decks and slabs	1 - Ben.	1	Entire Bridge	1	0	0	0

Bridge Inspection Report
Element Form

Bridge No: M-0229001 **Inspection Date:** 09/13/2021

BRIGHTON DAM ROAD OVER BRIGHTON DAM & TRIADELPHIA RESERVOIR **Milepoint:** 0000000

(58) Deck	7	**(59) Superstructure**	5	**(60) Substructure**	7
(61) Channel	7	**(62) Culvert**	N		

☐ Eng Req ☐ FYI ☐ District ☐ Inaccessible? ☐ Eng Comments

STRUCTURE INVENTORY AND APPRAISAL REPORT

BRIDGE NUMBER: M-0229001

IDENTIFICATION — FORM 1 OF 13

(8) STRUCTURE NUMBER: 2 | 00000 Major Structure | M- | 0229 | 01 Major Structure > 20' 0" | 0 Single Structure
(8) FHWA NUMBER: 200000M-0229010
(7) FACILITY CARRIED: BRIGHTON DAM ROAD
(6) FEATURE INTERSECTED: BRIGHTON DAM & TRIADELPHIA RESERVOIR
(255) FEDERAL SUBMITTAL INDICATOR: Y Yes
(262) NAME OF STRUCTURE:
(27) YEAR BUILT: 1944 **(106) YEAR RECONSTRUCTED:** 2001
(263) ADDITIONAL RECONSTRUCTION YEARS: N N
(1) STATE CODE: 243 Maryland **(2) DISTRICT CODE:** 03 03
(3) COUNTY CODE: 031 Y **(4) PLACE CODE:** 00000
(5) INVENTORY ROUTE: 1 Route carried "on" the structure | 4 County Route (Route Prefix) | 1 Mainline (Level of Service) | 00057 (Number) | 0 Always (Direction)
(9) LOCATION: 1 MILE EAST OF MD 650
(11) MILEPOINT: 0000000
(12) BASE HIGHWAY NETWORK: 0 Inv. Route is NOT on the Base Network
(266) GIS ROUTE ID: 15000OP00057 01EE**********
(267) GIS MILEPOINT: 3.51
(268) SCENIC ROUTE: N
(13) LRS INVENTORY ROUTE, SUBROUTE NUMBER: 400570000000
(16) LATITUDE: **(A)** 39113207 **(B)** 39113629 **(C)** 39113655 **(D)** 39113233
(17) LONGITUDE: **(A)** 077022217 **(B)** 077001675 **(C)** 077001705 **(D)** 077002243
(28) LANES ON: 02 **LANES UNDER:** 00
(42) TYPE OF SERVICE ON: 5 Highway-Pedestrian
TYPE OF SERVICE UNDER: 5 Waterway
(98) BORDER STATE: **BORDER STATE'S SHARE %:**
(99) BORDER STATE'S NUMBER:

CLASSIFICATION — FORM 2 OF 13

(104) HWY SYSTEM: N No, Inventory Route is not on the NHS
(105) FEDERAL LANDS HWYS: 0 Not applicable
(26) FUNCTIONAL CLASS: 19 Urban Local
(100) DEFENSE HWY: 0 The inventory route is not a STRAHNET route
(101) PARALLEL STRUCTURE: N No parallel structure
(102) DIRECTION: 2 2-way traffic
(103) TEMPORARY STRUCTURE:
(110) NATIONAL NETWORK: N No, the inventory route is not part of the national network for trucks.
(20) TOLL: 3 On free road
(21) MAINTENANCE: 02 County Highway Agency
(22) OWNER: 02 County Highway Agency
(37) HISTORICAL SIGNIFICANCE: 5 Not eligible

BRIDGE NUMBER: M-0229001

TRAFFIC

FORM 3 OF 13

(19) DETOUR:	10	**(109) TRUCK ADT %:**	04
(29) ADT:	006546	**(30) ADT YEAR:**	2021
(114) FUTURE ADT:	008840	**(115) FUTURE ADT YEAR:**	2041

STRUCTURE TYPE AND MATERIAL

FORM 4 OF 13

(43) STRUCT TYPE:	E	Prestressed concrete	01	Slab			
(44) STRUCT TYPE - APPR:	0	Not Applicable	00	Other			
(232) BOX CULVERT ON PILES:	0	None					
(208) STRUCT TYPE - WIDENED/EXTENDED:	N		N		N		
(219) SLOPE PROTECTION:	1	Concrete					
(228) FOOTING - ABUTMENT:	1	Concrete	0	None	0	Entire Structure	
(229) SUBSTRUCT ABUTMENT:	1	Concrete	3	Cantilever	0	Entire Structure	
(230) FOOTING - PIER:	1	Concrete	0	None	0	Entire Structure	
(231) PIER TYPE:	1	Concrete	6	Hammerhead	0	Entire Structure	
(242) BEARING TYPE:	H	Elastomeric-Plain	N	None or N/A	N	None or N/A	
(108) WEARING SURFACE:	1	Concrete	0	None	1	Epoxy Coated Reinforcing	
(243) JOINT TYPE:	E	Compression Seal	N	None	N	None	

(206) STRUCT SUBTYPE - MAIN:	09	Solid Slab Panel	**(207) STRUCT SUBTYPE - APPR:**	N Not Applicable
(257) SCOUR PROTECTION:	4		**(270) CONC. DECK SPECIAL TYPE:**	N Not Applicable
(221) STRUCTURAL STEEL:	N	Not Applicable	**(233) DECK - COMP/NON-COMP:**	0 Non-Composite
(107) DECK STRUCTURE TYPE:	2	Concrete Precast Panels	**(259) STAY-IN-PLACE FORMS:**	N

(235) PARAPET:	02	Concrete-Rectangular					
(236) RAILING:	0	None	0	- None	0	None	0 - None
(237) FENCING:	1	Steel	1	- Straight Fence			
(278) PAINT SYSTEM:	N	Not Applicable					
(344) PAINT COLOR/NUMBER:	N	Not Applicable					
(345) YEARS PAINTED:	N						

BRIDGE NUMBER: M-0229001

GEOMETRICS

FORM 5 OF 13

(112) NBIS BRIDGE LENGTH:	Y	**(49) STRUCTURE LENGTH:**	0006020
(210) NUMBER OF SPANS:	015	**(45) # SPANS IN MAIN UNIT:**	015
(46) # APPROACH SPANS:	0000	**(209) CONTINUOUS SPANS:**	N
(48) LENGTH MAX SPAN:	0040	**(238) # STRINGERS - ORIGINAL:**	09
(240) SPACING - ORIGINAL:	N	**(239) # STRINGERS - WIDENED:**	00
(241) SPACING - WIDENED:	N	**(33) BRIDGE MEDIAN:**	0
(50) CURB/SIDEWALK WIDTHS:	050 007	**(205) MEDIAN WIDTH:**	000
(51) DECK CURB-CURB WIDTH:	0280	**(32) APPROACH ROAD WIDTH:**	02 024 02
(52) DECK OUT-OUT WIDTH:	0363	**(10) INVENT ROUTE, MIN VERT CLEAR:**	9999
(53) BRIDGE ROADWAY, MIN VERTCLEAR:	9999	**(47) INVENT ROUTE, TOTAL HORIZ CLEAR:**	280
(54) MIN. VERT. UNDERCLEARANCE:	N Feature not a highway or a railroad	E	> 40'
(55) MIN. LAT. CLEARANCE (RIGHT):	N Feature not a highway or a railroad	999	
(56) MIN. LAT. CLEARANCE (LEFT):	000	**(342) HORIZ CLEARANCE (ON):**	02800
(34) SKEW, IN DEGREES:	00	**(280) HORIZ CLEARANCE (UNDER):**	N
(35) STRUCTURE FLARED:	N	**(253) NUMBER OF CELLS:**	N
(256) SPAN OF CELLS:	N	**(254) RISE:**	N
		(258) EARTH FILL:	N
		(343) CENTERLINE LENGTH (Culverts/Pipes):	N

(223) SHOULDER WIDTHS: 0200 N N 0200

(264) TYPE AND SPAN: PSCS 15-40'

BRIDGE NUMBER: M-0229001

LOAD RATINGS AND POSTINGS

FORM 6 OF 13

(41) STATUS: A — Open, no restriction

(31) DESIGN LOAD: 5 — HS 20

(398) PEDESTRIAN LOADING: N

(399) RAILROAD LOADING: N

(70) POSTING: 5 — Equal to or above legal loads

(224) WEIGHT POSTED: N N (New Split)

(66) INVENTORY RATING: 585

(64) OPERATING RATING: 970

(400) DATE OF RATING: 10 2017

(65) METHOD USED TO DETERMINE INVENTORY RATING: 1 — 1 Load Factor (LF)

(63) METHOD USED TO DETERMINE OPERATING RATING: 1 — 1 Load Factor (LF)

	INVENTORY RATING		OPERATING RATING	
HL-93 Vehicle	**(402)**		**(401)**	
H-15 Vehicle	**(404)**	410	**(403)**	680
T3 (Dump Truck) Vehicle	**(406)**		**(405)**	
T4 Reduced Lift Axle Vehicle	**(408)**	475	**(407)**	790
HS Vehicle	**(410)**	585	**(409)**	970
3S2 Vehicle	**(412)**	800	**(411)**	999
150K Vehicle	**(414)**	775	**(413)**	999
90K Permit Combination Vehicle	**(416)**	650	**(415)**	999
90K Mobile Crane Vehicle	**(418)**	485	**(417)**	810
90K Cargo Vehicle	**(420)**	800	**(419)**	999
80K Cargo Vehicle	**(422)**	715	**(421)**	999
120K Vehicle	**(424)**	790	**(423)**	999
108K Mobile Crane Vehicle	**(426)**	510	**(425)**	850
120K Mobile Crane Vehicle	**(428)**	570	**(427)**	955

(225) SPEED LIMIT ON STRUCTURE: N

(226) MIN VERT CLEARANCE OVER ROADWAY POSTED: X — Posting signs not required

(227) MIN VERT UNDERCLEARANCE POSTED: X — Posting signs not required

BRIDGE NUMBER: M-0229001

CONDITION INSPECTION

FORM 7 OF 13

	Inspection Month	(91) Frequency	Due Date	(90) Inspection Date	(290) Inspection Report Completion Date
Routine Inspection	09	24	09/13/2023	09/13/2021	01/30/2020

Critical Feature Inspections	(291) Inspection Month	(92) Frequency	Due Date	(93) Critical Feature Inspection Date
(A) Fracture Critical Members		N		
(B) Underwater Inspection		N		
(C) Special Inspection		N		
(D) Hands-on Railroad		N		
(E) Confined Space		N		
(F) Ultrasonic Testing (UT) Pin		N		
(G) Ultrasonic Testing (UT) Anchor		N		
(H) Post Tensioning Bar		N		
(I) Cathodic Protection		N		
(J) Consultant		N		
(K) Movable Bridge		N		
(L) Suspension Bridge		N		
(M) Cable		N		
(N) Monitor		N		
(P) Flood				
(Q) Damages				
(R) Inquires				

(58) DECK: 7 Good Condition

(59) SUPERSTRUCTURE: 5 Fair Condition

(60) SUBSTRUCTURE: 7 Good Condition

(61) CHANNEL/PROTECTION: 7 Bank protection needs minor repairs

(62) CULVERTS: N Not Applicable

(310) INSPECTION DATA UPDATE DATE: 06/14/2016

(312) LEAD INSPECTOR: Sherry L. Hockenberry, P.E.

(311) INSPECTION TEAM: YWRA

(313) BRIDGE INSPECTOR: Rawaz Mutabchi, P.E.

(314) HOURS TO INSPECT: 030

(316) DECK PLANKING %: N

(315) DECK PUNCTURES %: 00

(317) DECK PATCHING %: 00

(318) BLOCKING: 00

(319) POWER WASHING: N

(320) IDENTIFICATION NO.: N

(321) INVENTORY DIRECTION: EAST

(323) PERMIT: N

(324) NIGHT WORK: N

(325) WEEKEND WORK: N

(322) LOOKING TOWARD: CLARKSVILLE

(326) MAINTENANCE OF TRAFFIC STANDARDS: MD 104.02-09

(327) MOT COMMENTS: Flagging operation for snooper

(328) LOCATION OF MIN. VERT. UNDERCLEARANCE: N

BRIDGE NUMBER: M-0229001

(329A) CRITICAL FINDINGS: N **(329B) CRITICAL FINDINGS DATE:**

(330) CRITICAL FINDINGS COMMENTS:

(331) CAUTION COMMENTS:

(332) UNDERCLEARANCE POSTING SIGNS: X Posting signs not required

(340) INSPECTION EQUIPMENT:

S Snooper		

(333) MHOI: N **(334) MHOI LOCATIONS:**

(335) ADVANCED NOTIFICATION: Y

(336) ADVANCED NOTIFICATION COMMENTS:

Contact:
Samir Khalil

Principal Structural Engineer

Engineering and Environmental Services Division

Washington Suburban Sanitary Commission

301-206-8564 (Office)
samir.khalil@wsscwater.com

BRIDGE NUMBER: M-0229001

APPRAISAL — FORM 8 OF 13

(67) STRUCTURAL EVALUATION:	5	BSR 64.7	**(68) DECK GEOMETRY:**	4
(69) UNDERCLEARANCE:	N		**(72) APPROACH ALIGNMENT:**	8
(71) WATERWAY ADEQUACY:	9			

(36) TRAFFIC SAFETY FEATURES

RAILINGS:	1	Meets Standards
TRANSITIONS:	1	Meets Standards
APPROACH BARRIER:	0	Does NOT meet Standards
APPROACH BARRIER ENDS:	1	Meets Standards

(113) SCOUR EVALUATION: 8L — Bridge foundations determined to be stable for the assessed or calculated scour condition. Scour is determined to be above the top of the footing (Example A) by assessment, or by calculations.

(DT) DEDUCT CODE: Z

(STAT) STATUS: 0 Not Deficient

NAVIGATION — FORM 9 OF 13

(38) NAVIGATION CONTROL:	0	**(39) NAV VERT CLEARANCE:**	000
(40) NAV HORIZONTAL CLEARANCE:	0000		
(111) PIER/ABUTMENT PROTECTION:			
(116) MIN NAV VERT CLEARANCE, VERT LIFT BRIDGE:			
(247) DESIGN YEAR STORM:	000	**(248) RUN-OFF Q:**	000000
(249) DRAINAGE AREA:	000000	**(250) STRUCTURE IN TIDAL AREA:**	N No
(251) HIGH WATER ELEVATION:	0000		
(252) YEAR HIGH WATER ELEVATION - LATEST:	0000		

HISTORY AND PROPOSED IMPROVEMENTS — FORM 10 OF 13

(201) CONTRACT NUMBERS:	HO777BM2			BHF-1108(2)E	
(203) SHA SPEC- YEAR:	1939	1993	1996	N	
(204) AASHTO SPEC-YEAR:	1935	N	N	N	

(75) TYPE OF PROPOSED WORK:		**(76) LENGTH OF IMPROVEMENT:**	
(94) BRIDGE IMPROVE COST:		**(95) ROADWAY IMPROVE COST:**	
(96) TOTAL PROJECT COST:		**(97) YEAR OF IMPROVEMENT:**	

BRIDGE NUMBER: M-0229001

MISCELLANEOUS

FORM 11 OF 13

(244) SIGNS ON STRUCTURE: N No

(245) BRIDGE ROADWY LIGHTING: Y Yes

(246) PROVISION FOR ROADWAY LIGHTING: N No

(260) UTILITIES - ON:

0 Not Applicable
0 Not Applicable
0 Not Applicable
0 Not Applicable
0 Not Applicable

(261) UTILITIES - UNDER:

0 Not Applicable
0 Not Applicable
0 Not Applicable
0 Not Applicable
0 Not Applicable

REMARKS:

2011 ADT=5634; 2021 estimated ADT and Future ADT values were revised based on an MNCPPC annual growth rate of 1.513%

NOISE BARRIER

FORM 12 OF 13

(501) TYPE:
(502) ALIGNMENT:
(503) LENGTH:
(504) MAXIMUM HEIGHT:
(505) FOUNDATION TYPES:
(506) FOUNDATION LENGTH:
(507) PANEL WIDTH:
(508) NUMBER OF SPECIAL PANEL(S):
(509) PANEL MATERIAL:
(510) FACING (Acoustic Treatment):
(511) PANEL FINISH:
(512) PANEL COLOR:
(513) FEDERAL COLOR:
(514) STACKED PANELS:
(515) NOISE BARRIER POST MATERIAL:
(516) ACCESS DOORS:
(517) FIRE HYDRANTS:
(518) RETROFITS:

RETAINING WALL

FORM 13 OF 13

(550) TYPE:
(551) ALIGNMENT:
(552) SEGMENT LENGTH(S):
(553) MAX. EXPOSED HEIGHT:
(554) FOUNDATION TYPES:
(555) TIEBACK:
(556) FACING:
(557) WITH FENCE OR RAIL:
(558) WITH NOISE BARRIER:
(559) PURPOSE:

Montgomery County, Maryland
Department of Transportation
Division of Transportation Engineering
100 Edison Park Drive, 4th Floor
Gaithersburg, Maryland 20878