Historic Bridge PA Review Form

November 05, 2015

Ms. Elizabeth Hughes
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032-2023

Documentation of No Effect / No Adverse Effect Determination
(under the Programmatic Agreement for SHA's Historic Highway Bridges in Maryland)

Project: MD 007: Repairs to Structure 0301200 over Little Gunpowder Falls

Funding Source: State Master Number: 11501 Project Number: 2380203-B01200

Description of work proposed:
The Maryland State Highway Administration is proposing emergency repairs at Bridge No. 0301200 on MD 7 over Little Gunpowder in Baltimore County. The bridge exhibits deterioration, including cracking and shifting. Work was initiated in late September 2015 to ensure the safety of the traveling public.

The proposed work will be completed in three stages:

Stage 1. Install support brackets on arch barrel
Stage 2. Install tie rods connecting the spandrel walls (12 tie rods)
Stage 3. Repair concrete arch ring/barrel and spandrel wall

Temporary sand bags may be required below the bridge during construction, and equipment will be staged at a location outside the existing pavement. All work will be within existing SHA right-of-way or the waterway. A project location map is enclosed.

County: Baltimore 7.5" Topographic Map Name: White Marsh

Effect Determination: No Adverse Effect

Actions Taken:

SHA Architectural Historian: Rebecca Crew

SHA Consultant Architectural Historian Rebecca Crew reviewed the SHA-GIS Cultural Resources Database, the Maryland Inventory of Historic Places (MIHP), SHA's Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report, SHA's Historic Bridge Management Plan, the Programmatic Agreement regarding SHA's Historic Highway Bridges, project plans, and bridge photographs to identify and consider impacts to historic standing structures. In-house resources were sufficient to complete the assessment.

The Area of Potential Effects (APE) is defined as the limits of direct construction impacts and confined to Bridge No. 0301200 itself and the immediately surrounding area, confined to the existing SHA right-of-way. Bridge No. 0301200 (MIHP # BA-2857), carrying Maryland 7 (Philadelphia Road) over Little Gunpowder Falls, was determined eligible for listing in the National Register of Historic Places on April 3, 2001. The Historic Bridge Programmatic Agreement classifies the bridge as neither a preservation priority bridge nor a non-priority bridge. It is a concrete arch bridge built in 1927, with replacement parapets. It has been formerly repaired with gunite. Bridge No. 0301200 is adjacent Gunpowder Falls State Park (BA-3004) which remains unevaluated for the eligibility for the National Register of Historic Places.

The emergency repairs involve: 1) installing three support brackets on the east face of the southeast spandrel wall. This involves drilling anchor rods vertically through the concrete arch.

2)installing C-Channel Whalers along the east and west spandrel walls and installing twelve tie rods, running horizontally through the arch (perpendicular to the roadway)

3) eventually removing the brackets and repairing the severely spalled southeast spandrel wall and deteriorated concrete substructure.

This work is necessary to provide a safe structure for the traveling public and to keep the bridge from further deterioration. The installing of tie-rods may cause minor damage to the concrete material of the bridge's concrete arch, but this is necessary to keep the bridge in use, in a stabilized condition, while long-term solutions for the bridge are developed. The tie-rods and the placement of the whalers are not visible from the roadway and do not alter the visual experience of the traveling public. The repair of the southeast spandrel wall and deteriorated concrete substructure will positively impact the aesthetic and physical condition of the bridge. The placement of brackets is a temporary and reversible stabilization. Overall, the repairs present minor changes to the character-defining features of the bridge, and the repairs are necessary to prolong the working life of the bridge. SHA considers the repairs to cause no adverse effects to historic standing structures.

SHA Archaeologist: Lisa Kraus

SHA Consultant Archaeologist Lisa Kraus assessed the archaeological potential of the archaeological survey area, which consists of the worst-case limits of disturbance (LOD) for the proposed project, through consultation of the SHA-GIS Cultural Resources Database, historic maps, site file data, construction plans, soil survey data, land records, various archival sources, streetview imagery, and aerial photographs. A site visit was made on October 7, 2015.

One archaeological investigation included the survey area (Israel 1993), but since the focus of the study was the identification of prehistoric rockshelters, little subsurface testing was conducted, and no sites were recorded in the vicinity of Structure 0301200. One prehistoric site, 18BA1 (The Bradshaw Site), is located southeast of the bridge. 18BA1 is a Late Archaic and Woodland-period site originally identified in the 1940s. Since it has never been systematically tested, its boundaries are unknown, and could extend into the survey area.

Another site, 18BA562, is mapped in an area centered on the bridge and including both banks of the Little Gunpowder and both sides of the bridge. The site, which includes remains of Onion's Ironworks, Onion's Upper and Lower Mills, Dieter's Mill, and Pitcock's Mill, consists of the remains of a mid-18th-century ironworks, and multiple mills dating from the mid-18th Century through the late 19th Century. Historic maps (Griffith 1795; Jennings & Herrick 1858; Sidney 1850) show multiple structures in the approximate location of the bridge, and a survey plat for an adjoining property (1911) shows Dieter's mill approximately 300 feet east of the bridge on the north bank of the river. The same plat shows mill races running along both sides of the river, within the survey area.

Given the presence of known resources within the survey area, any work involving ground disturbance at this location would have the potential to impact archaeological resources; however, the proposed work will occur on the bridge itself, and the areas that will be used for staging and storage are paved pull-offs that will not be modified in any way. Given that the proposed work does not include any ground-disturbing activities, the project will not impact archaeological resources, and no further work is recommended.

Very truly yours,

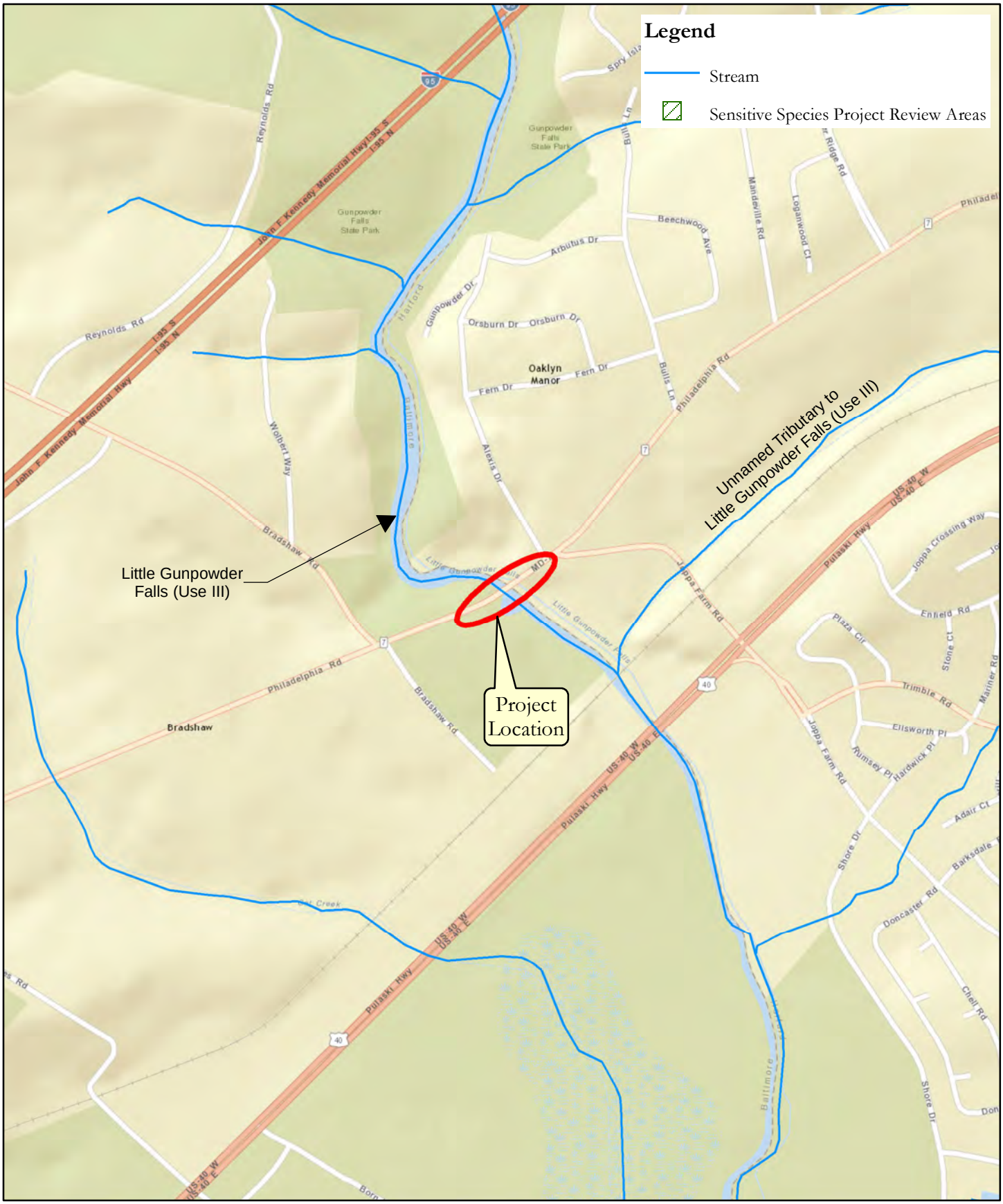
Julie M. Schablitsky
Assistant Division Chief
Environmental Planning Division

by: April Fehr

Digitally signed by April Fehr
DN: cn=April Fehr, o=MD SHA, ou=Cultural Resources Section, email=afehr@sha.state.md.us, c=US

Attachments

cc: Ms. Deborah Sward
Ms. Lisa Kraus
Ms. Rebecca Crew
Ms. Anne Bruder, SHA-OPPE (w/ Attachments)
Ms. Teri Rising, Baltimore County Landmarks Preservation Commission (w/ Attachments)
Ms. Patricia Bentz, Preservation Alliance of Baltimore County, Inc. (w/ Attachments)



Location Map

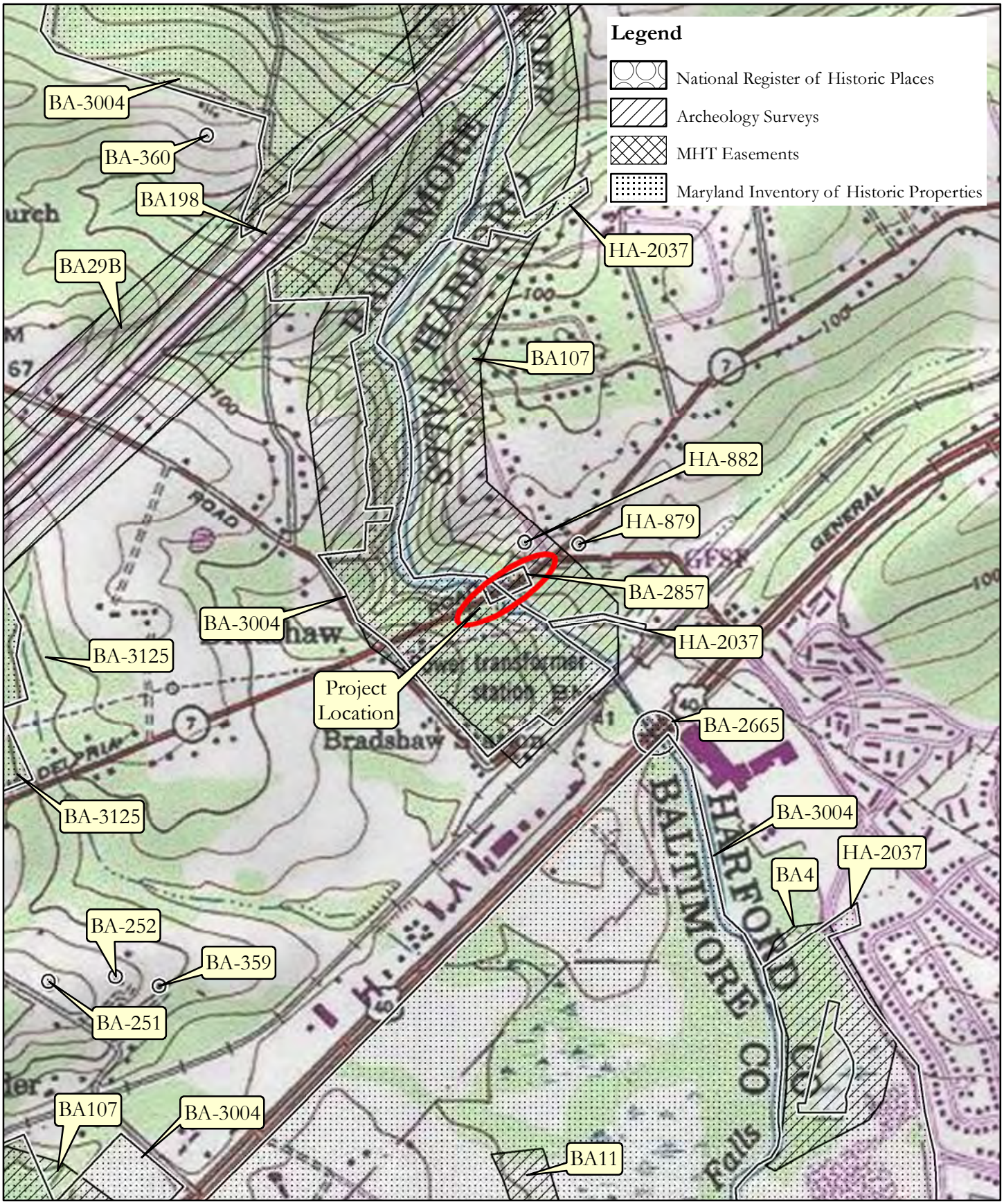
Repairs to Bridge No. 0301200
MD 7 over Little Gunpowder Falls
Baltimore County
FMIS No. 2380203-B01200

White Marsh Topo Quad
Scale: 1:12,000
October 1, 2015

0 250 500 1,000 Feet

N

Latitude: 39.4243
Longitude: -76.3778



Cultural Map

Repairs to Bridge No. 0301200
MD 7 over Little Gunpowder Falls
Baltimore County
FMIS No. 2380203-B01200

White Marsh Topo Quad
Scale: 1:12,000
October 1, 2015

0 250 500 1,000 Feet

N

Latitude: 39.4243
Longitude: -76.3778

Note! Truss bridge to remain in place until completion of new arch bridge.

for details of balustrade and its expansion and reinforcement see below.

PROPOSED STAGE I, SPAN 2, EAST SPANDREL WALL SUPPORT BRACKETS

¼" felt expansion joint down to arch ring. No tar paper permitted.

Steel bars in inside face of wall anchored 5'0" in ring or abutment.

¼" felt expansion joint down to arch ring. No tar paper permitted.

Bridge to be built on 3.5% Grade

Open handrail, See other span.

For dimensions see details of rail.

23'0"

8'6" | 15 Spaces @ 10'-12'6" | 15 Spaces @ 10'-12'6" | 15 Spaces @ 10'-12'6" | 3'6" | 11'2"

Elev. 280.8
644108

1½"ø bars @ 3'0"

12" MIN. CLEAR

2'-6"± 2'-6"± 5'-0"±

4'-0"± 6'-0"± 10'-0"± 8'-0"±

APPROXIMATE SPAN 2 CENTERLINE

Slope concrete to each drain

Construction joint.

6"ϕ drains.

Excavation above this line to be Dry.
Excavation below this line to be Wet

Average Water Surface - Elev. 10.8'±

Existing abut.

Construction joint

6"ϕ Drain

1½"ø bars @ 12'0" ctrs. front face

¾"ø @ 9"

¾"ø @ 12"

1½"ø bars @ 2'0" ctrs.

¾"ø @ 12"

1½"ø bars @ 2'0" ctrs. in inside face of wall

¾"ϕ bars @ 12" ctrs.

6"ϕ drains

Elev. 276 645'35

1½"ø @ 5'0"

1½"ø bar

SECTION A-A
Scale, 3/16"-1'0"

Place stone on this facing as directed.

SECTION B-B
Scale, 3/16"-1'0"

HALF ELEVATION
Scale, 3/16"-1'0"

HALF SECTION
Scale, 3/16"-1'0"

7/8"ϕ bars @ 5" Rear face.

¾"ϕ bars @ 5" Rear face.

¾"ϕ @ 18" ctrs.

2'6" | 3'8" | 5'4" | 7'6" | 7'6"

Existing abutment.
Quantities include 35 yds of underpinning.

3/4"ϕ bars @ 3 ctrs. both ways.

Class "A" Concrete.

¾"ϕ bars.

DETAIL OF ENCASEMENT

Encase this abutment with 12" of Class "A" concrete and ¾"ϕ bars as dowels 3'0" ctrs. both ways, and vertical and horizontal bars at each point where dowels occur, as directed by Engineer.

NOTE!! Note! Foundations for pier and abutments must extend 6' into rock. Depth of foundations shown indicates depth where rock is expected only, and is subject to change as conditions warrant, resulting in either a decrease or increase in this item.

Note!! Contractors & Steel Companies.

The wall dimensions and reinforcement details shown are for the height of wall as shown. Should this height vary new details will be furnished.

℄ OF UTILITY GAS LINE

UNKNOWN

EXISTING HMA ROADWAY

EXISTING CONCRETE SLAB

UNKNOWN

EXISTING EARTH FILL

EXISTING BARREL SLAB

1'-2"±

6 - 1" DIA. A449 ANCHOR BOLTS EPOXY GROUTED TO 7" MIN. EMBEMENT, PLACED AS SHOWN WITH ONE BOLT ON EACH SIDE OF WEB OF W8X28

8" | 2'-0" | 2'-0" | 2'-0"

13'-0"

EXISTING SPAN 2 EAST SPANDREL WALL

W8x28 BRACKET BEAM, COLUMN, AND KICKER

12" MIN.

APPROXIMATE SPACE REQUIRED FOR STAGE II REPAIRS

5/16

2'-3"

#2 BRACKETS 2'-6" LONG
#1 BRACKET 5'-0" LONG

EXISTING SPALLED AREA

TWO ANCHORS CLOSEST TO THE SPANDRAL WALL TO BE THRU BOLTED TO TOP OF CONCRETE SLAB OR ARCH BARREL.

STAGE I SUPPORT BRACKET DETAIL
SCALE: 1"=1'-0"

BRIDGE NO. 0301200
MD 7 over Little Gunpowder Falls
JOB NO. 17502

TENATIVE PLANS FOR STAGE I REPAIRS
USE MOT MD 104.02-09

WORK REQUIRED:
STAGE I (Installation of Brackets)
1. Install three support brackets on the east face of the Span 2 Spandrel Wall.

STAGE II (Installation of Whalers)
2. Install C-Channel Whalers along the east and west of the Span 1 and Span 2 Spandrel Walls. Concerning Span 2, ports for the center through rods shall only be drilled in the east face of the Span 2 Spandrel Wall after the through rods have been secured at the north and south ends of Span 2.

STAGE III (Repairs to Spandrel Wall)
3. Once all Whalers have been installed to the satisfaction of the Engineer, remove the three support brackets from the east face of the Span 2 Spandrel Wall and repair the spandrel wall to arch barrel union with Mix 5 concrete.
4. Sound the remaining spandrel wall to arch barrel union and repair with Mix 5 concrete as approved by the Engineer.

STAGE I - INSTALLATION OF BRACKETS

STATE OF MARYLAND
STATE ROADS COMMISSION
BALTIMORE, MD.

PROPOSED ARCH BRIDGE

ON THE PHILADELPHIA ROAD OVER LITTLE GUNPOWDER FALLS

DETAIL DESIGN

Scales, Various | Apr. 16, 1927 | Contract B-82.

J. N. Mackall, Chairman & Chief Engineer.

Made By: ____ Traced By: ____ Approved: ____

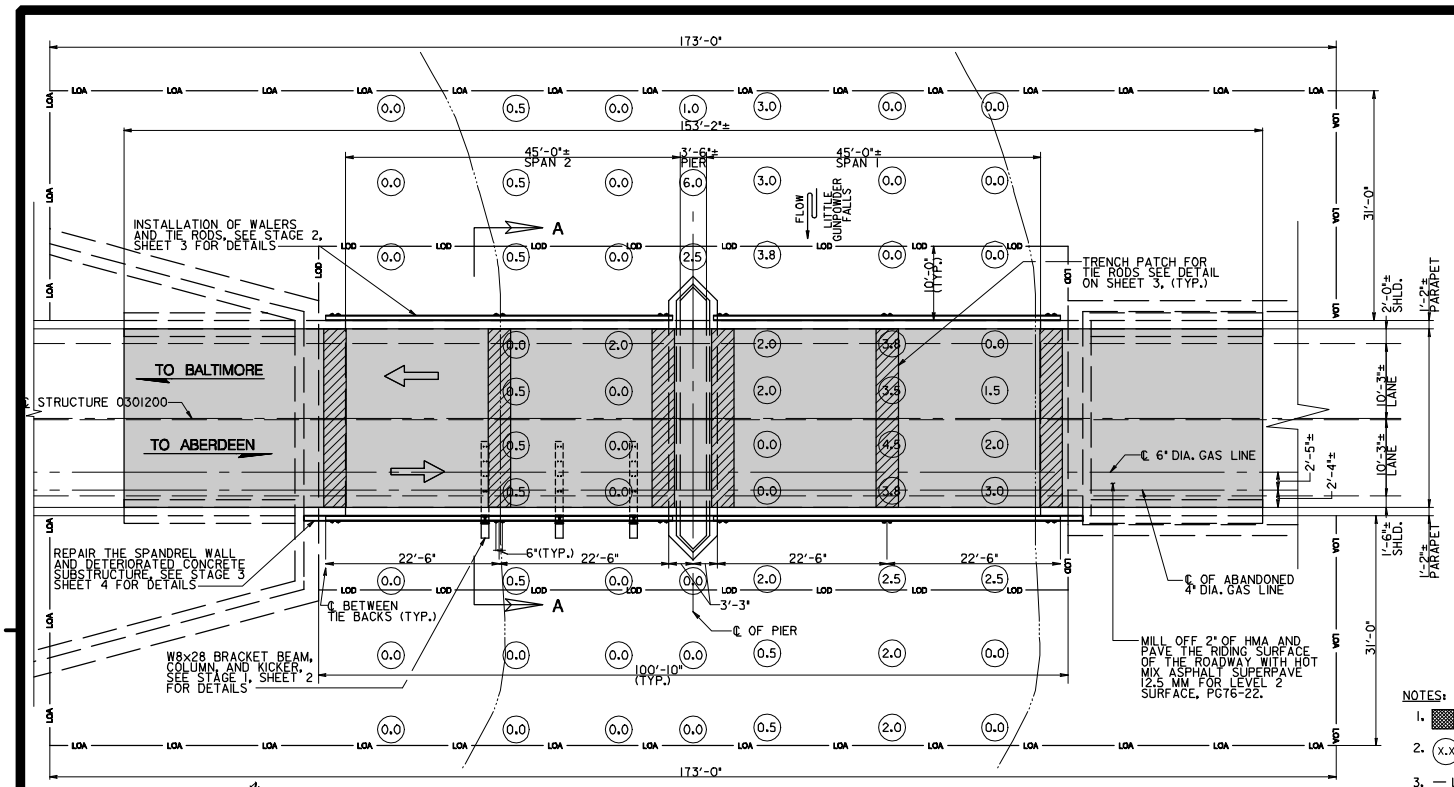
Correct: ____ Bridge Engr. ____ Chief Engr.

Bridge No. 4031 BRIDGE NO. 8010 | File No. 1 Pocket No. 2 Folder No. 316

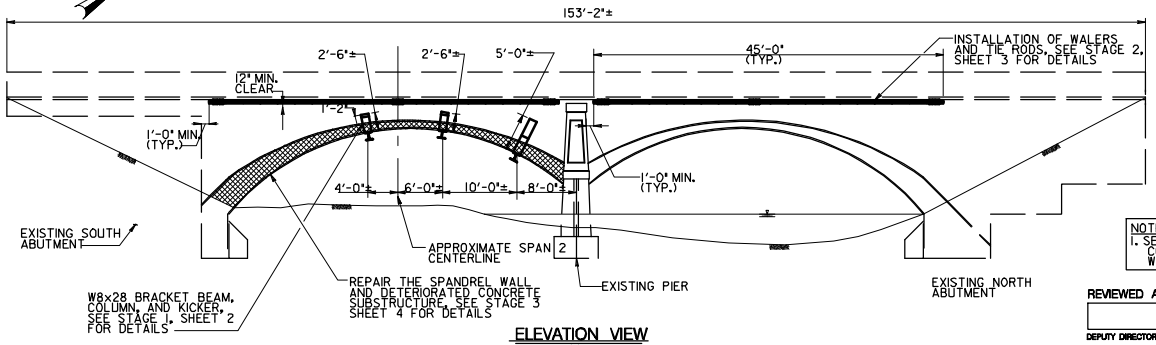
Sheet No. 1

SHEET 1 OF 1

3012



PLAN VIEW
SCALE: 1/8" = 1'-0"



ELEVATION VIEW
SCALE: 1/8" = 1'-0"

GENERAL NOTES

SPECIFICATIONS:	SHA SPECIFICATIONS DATED JULY, 2008. REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.
STRUCTURAL STEEL:	STRUCTURAL STEEL SHALL BE BLACK STEEL AND CONFORM TO A709, GRADE 50.
CONCRETE:	ALL CONCRETE SHALL BE MIX NO. 5 (4,500 PSI). USE RAPID HARDENING CONCRETE TO PATCH THE ROAD TRENCHES AND GAS LINE TRENCH.
TIEBACKS:	TIEBACKS SHALL BE 1¾" DYWIDAG GRADE 150 BLACK STEEL THREADED BAR TIGHTEN TO 130 LB-FT.
EXISTING STRUCTURES:	ALL DIMENSIONS AFFECTED BY THE GEOMETRICS, AND/OR LOCATION OF THE EXISTING STRUCTURE SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR, BEFORE ANY WORK IS DONE, AND BEFORE ANY MATERIALS ARE ORDERED OR FABRICATED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY THE ENGINEER WITH ALL FIELD DIMENSIONS REQUIRED TO CHECK DETAIL DRAWINGS. THE ± MARKS SHOWN WITH DIMENSIONS DO NOT INDICATE ANY DEGREE OF PRECISION. THESE MARKS (±) INDICATE EXISTING DIMENSIONS THAT MAY VARY AND DO REQUIRE FIELD VERIFICATION BY THE CONTRACTOR. EXISTING STRUCTURE SHOWN IN LONG DASHED LINES.
MAINTENANCE OF TRAFFIC:	USE MARYLAND STD. NO. 104.02-09. INSTALLATION OF TIE ROD AND PVC PIPE SLEEVE.
WORK REQUIRED:	STAGE I (INSTALLATION OF BRACKETS) 1. INSTALL THREE SUPPORT BRACKETS ON THE EAST FACE OF THE SPAN 2 SPANDREL WALL. STAGE II (INSTALLATION OF WALERS) 2. INSTALL C-CHANNEL WALERS ALONG THE EAST AND WEST SPANDREL WALLS OF SPAN 1 AND SPAN 2. THE HOLES FOR THE CENTER RODS IN THE EAST SPANDREL WALL IN SPAN 2 SHALL BE DRILLED AFTER THE THROUGH RODS HAVE BEEN SECURED AT THE NORTH AND SOUTH ENDS OF SPAN 2. STAGE III (REPAIRS TO SPANDREL WALL) 3. ONCE ALL WALERS HAVE BEEN INSTALLED TO THE SATISFACTION OF THE ENGINEER, REMOVE THE THREE SUPPORT BRACKETS FROM THE EAST FACE OF THE SPAN 2 SPANDREL WALL AND REPAIR THE SPANDREL WALL TO ARCH BARREL UNION WITH MIX 5 CONCRETE. 4. MILL OFF 2" OF HMA AND PAVE THE RIDING SURFACE OF THE ROADWAY WITH HOT MIX ASPHALT SUPPER PAVE 12.5 MM FOR \SURFACE, PG76-22.

NOTES:

1. HATCHING INDICATES APPROXIMATE AREAS OF CONCRETE ARCH RING TO BE REPAIRED WITH CAST-IN-PLACE CONCRETE.
2. (X.X) NUMBERS SHOWN CIRCLED ARE FIELD MEASUREMENTS IN FEET OF APPROXIMATE WATER DEPTHS AS TAKEN ON JUNE, 04 2013.
3. — LOA— DENOTES LIMIT OF ACCESS. LOA IS THE DESIGNATED AREA WHERE ONLY FOOT TRAFFIC AND WORK REQUIRING HAND HELD EQUIPMENT IS ALLOWED. NO HEAVY MACHINERY IS PERMITTED TO BE DRIVEN OR STORED WITHIN THIS AREA. ALL ACCESS DISTURBANCE SHALL BE MINIMAL AND ANY DISTURBANCE SHALL BE STABILIZED AT THE END OF EACH WORK DAY. NO WORK IS TO BE CONDUCTED OUTSIDE OF THE LIMIT OF ACCESS OR DISTURBANCE, UNLESS EXPRESSED IN WRITING BY THE MDE COMPLIANCE INSPECTOR PRIOR TO THE CHANGE. IN ADDITION THE ENGINEER SHALL CONTACT EPD AND MDE AT THE INITIATION AND COMPLETION OF THIS PROJECT FOR COMPLIANCE.
4. — LOD— DENOTES LIMIT OF DISTURBANCE.
5. SCAFFOLDING PLACED IN THE STREAM SHALL BE REMOVED DAILY.
6. FOR SECTION A-A, TIE ROD DETAILS, SEE SHEET NO. 3. TYPICAL AT ALL WALERS, SPANS 1 AND 2.
7. HATCHING INDICATES APPROXIMATE AREAS OF DECK TO BE TRENCHED SEE STAGE 2 FOR DETAILS.

NOTES:
1. SEE SHEET NO. 3 FOR SEQUENCE OF CONSTRUCTION FOR INSTALLATION OF WALERS AND TIE RODS - STAGE 2.

REVIEWED AND APPROVED BY:

DEPUTY DIRECTOR, STRUCTURES INSPECTION AND REMEDIAL ENGINEERING DIVISIONS

REVISIONS

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

EMERGENCY REPAIRS OF CONCRETE ARCH BRIDGE. 0301200 ON MD 7 OVER LITTLE GUNPOWDER FALLS
GENERAL PLAN AND ELEVATION

SCALE	AS SHOWN	DATE OCT., 2015	CONTRACT
DESIGNED BY	C. M. AGHAZARIN		
DRAWN BY	C. M. AGHAZARIAN		
CHECKED BY	R. G. BOFINGER		

SHEET NO. 1 OF 4

OTHER CONTRACTS FOR THIS STRUCTURE B-982

STRUCTURE INVENTORY NO. 0301200

SURVEY BOOK NO.

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PRINT DATE: Wednesday, October 28, 2015 AT 02:13 PM

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