TOWN OF BLADENSBURG

REQUEST FOR BID Bridge Repairs



Issued by:

TOWN OF BLADENSBURG 4229 Edmonston Road Bladensburg, Maryland 20710

Tel: 301-927-7048

RFB -04 - 2024

Issue Date: April 15, 2024

Proposal Due Date: May 15, 2024 at 3:00 p.m.

Advertisement

TOWN OF BLADENSBURG REQUEST FOR BIDS—Bridge Repairs RFB 004-2024

The Town of Bladensburg requests sealed bid proposals from qualified firms to provide Bridge Repairs, as more fully described in these Request for Proposal ("RFB") documents.

Two (2) Electronic copies of the bid proposal must be submitted on the specified forms, in full compliance with the requirements specified in the Bid Documents, sent by email no later than May 15, 2024, at 3:00 p.m. EST.

Any questions about the RFB or the project services must be submitted to the Project Manager no later than May 1, 2024 at 2:00 p.m. EST.

Copies of the RFB Documents may be downloaded from the Town's website at https://bladensburgmd.gov. Requests for printed copies should be directed to the Town of Bladensburg, 4229 Edmonston Road, Bladensburg, Maryland 20710, Monday - Friday 8:00 a.m. - 5:00 p.m. (telephone 301-927-7048).

The Town of Bladensburg is an Equal Opportunity Employer. Unlawful discrimination based on race, religion, sex, age, ethnicity, ancestry or national origin, physical or mental disability, color, marital status, sexual orientation, gender identity, genetic information, political affiliation or other unlawful basis is expressly prohibited is expressly prohibited.

The Town reserves the right to reject any and all bids based on the Town's best interest. The Project Manager for this contract is Purnell Hall, telephone 301-927-7048; e-mail: phall@bladensburgmd.gov and clerk@bladensburgmd.gov

TOWN OF BLADENSBURG REQUEST FOR BIDS – Bridge Repairs

RFB 004- 2024

SECTION 1: SCOPE OF WORK AND TOWN BACKGROUND

1.1 Scope of Work

The Town of Bladensburg seeks a qualified individual or firm to complete bridge repairs for certain locations. A successful proposal should demonstrate the company's ability to meet the following objectives:

- 1. Repair Issues noted on the engineering reports for the following locations:
 - a. Spring Rd.
 - b. 54th Place
 - c. Taylor St.
 - d. Upshur St.
 - e. Varnum St.

<u>Note</u>: Engineering Reports from 2021 are attached, the Public Work Supervisor Purnell Hall, <u>Phall@bladensburgmd.gov</u> may modify or remove smaller items from the scope that may be repaired in house. Please contact Mr. Hall for further information. To schedule an appointment please contact him directly.

1.2 Background and Resources – Town of Bladensburg

The Town of Bladensburg is located along the Anacostia River in Prince George's County, Maryland. The Town is north and east of Washington, DC. Bladensburg's roots reach as far back as the 1720s. The town has witnessed and played a major role in much of the history of colonial times and the United States. **Population 2020 US Census – 9,657**



Mission: The Town of Bladensburg is a vibrant and exciting destination that offers superior services and opportunities to all community stakeholders in a clean and safe environment, promoting redevelopment, investment and diversity.

Vision: Bladensburg is an ethical and responsive government that provides high-quality customer service committed to creating a culturally and economically viable community. **Core values:** Bladensburg CARES exemplifies the values we hold in the delivery of excellent public service to residents, property owners and stakeholders of the Town.

Collaboration – We value effective partnerships.

Accountability – We recognize our individual and collective roles and responsibility for service and program delivery.

Responsiveness – We value prompt customer service.

Ethics and Efficiency – We are ethical and efficient in our operations.

Service Excellence to the Community – We value efficient, high-quality service in everything we do.

SECTION 2: RFB AND BID SUBMITTAL PROCESS

2.1 RFB Issuance

Upon issuance, the RFB will be posted to the Town's website at https://bladensburgmd.gov as well as other RFB distribution websites. The Town may send notification of the issuance of the Bridge Repairs RFB to certain potential bidders. This notification does not in any way indicate prequalification of said bidders. No pre-bid meeting is scheduled. Potential bidders with questions about the RFB or its process may contact Purnell Hall, Project Manager, no later than May 15, 2024, at 3:00 p.m. EST. Contact information is: 301-927-7048; e-mail: phall@bladensburgmd.gov. For questions received by the deadline, we anticipate issuance of an addendum by May 1, posting the responses on the Town's website.

2.2 Proposal Submittal Requirements

All interested parties shall submit proposals by the submittal deadline. Responses must include the following:

- 1. Cover Letter/Memo: Briefly introduce your company and express interest in the project.
- 2. Cost Estimate: A detailed labor, materials, and other relevant expenses breakdown.
- 3. A List of References from at least three similar projects.

2.3 RFB Addenda (if any)

If the Town must amend the RFB, either in response to submitted bidder questions (see section 3.1 above) or to clarify provisions in the RFB, any addenda issued will be posted on the Town's website. It is the bidder's responsibility to check whether any addenda has been issued and to comply with any provisions or changes contained in the addenda. Bidder will be asked to acknowledge receipt of any addenda on their bid submittal form.

2.4 Bid Submittal Requirements

Bidders may bid only on the entire contract. In order to be considered complete, all bid submittals must include the specified number of copies of the various forms in the Bid Documents, listed as follows:

Form	Electronic	
Bid Proposal Packet	2	
Information Regarding the Bidder Form	2	
Affidavits:	2	
Non-Collusion Affidavit	2	
Affidavit With Respect To Non-Conviction,	2	
Non- Suspension And False Pretenses		

Bid proposals should be Sent electronically and titled **Bridge Repairs**, and delivered to: phall@bladensburgmd.gov and clerk@bladensburgmd.gov

no later than May 15, 2024 at 3:00 p.m. EST. Late submittals will not be accepted.

The submittal shall include the specified documents, organized in the following manner to facilitate review:

- a. Bid Proposal Submittal Packet and supplemental documents
- Information Regarding the Bidder
 NOTE: The information requested on this form may be submitted in a separate document so long as all requested information is provided and numbered according to the form.
- c. Affidavits

SECTION 3: BID EVALUATION

3.1 Evaluation Criteria

The Town will evaluate the responses received from each bidder. Prior to the selection of the apparent successful bidder, bidders shall be available to meet with the Town to discuss their responses to the RFB, inclusion of required criteria, and other items deemed appropriate by the Town. If an award is made as a result of this RFB, it shall be awarded to the bidder whose proposal is most advantageous to the Town. In determining which proposal is best, the Town will consider the bid price and the experience, qualifications, references, responsibility, and currently available facilities of the Bidder to perform the work.

- 1. Experience and Qualifications: Relevant experience in similar projects.
- 2. Cost Competitiveness: The reasonableness of the cost estimate.

3. References: Past client references and project success stories.

3.2 Right to Cancel

The Town reserves the right to change any aspect of, terminate, or delay this RFB, the RFB process and/or the program which is outlined within this RFB at any time, and notice shall be given in a timely manner thereafter. The Town reserves the right to reject any or all proposals, and to exercise its sole discretion to best serve the interests of the Town.

3.3 Other Provisions

- a. Responses to this RFB will become the property of the Town, and will form the basis of negotiations of an agreement between the Town and the apparent selected bidder.
- b. The Town is not liable and will not be responsible for any costs incurred by any bidder(s) for the preparation and delivery of the RFB responses, nor will the Town be liable for any costs incurred prior to the execution of an agreement, including, but not limited to, presentations by RFB finalists to the Town.
- c. The Town reserves the right, at its sole discretion, to waive minor administrative irregularities contained in any proposal.
- d. The Town reserves the right to make an award without further discussion of the proposal submitted. Therefore, the proposal should be submitted initially with the bidder's most favorable terms.
- e. Bidder may withdraw a proposal that has been submitted at any time up to the RFB closing date and time. To accomplish this, a written request signed by an authorized bidder representative must be submitted to the Project Manager. The bidder may submit another proposal at any time up to the RFB closing date and time. Bidders will be held to the terms of the bid for 90 days.
- f. As a result of the selection of a bidder to supply products and/or services, the Town is neither endorsing nor suggesting that the bidder's product or services are the best or only solution. The bidder agrees to make no reference to the Town in any literature, promotional material, brochures, sales presentation or the like without the express written consent of the Town.
- g. Any information contained in the proposal that is proprietary must be clearly designated. Marking the entire proposal as proprietary will be neither accepted nor honored.
- h. A bid bond is not required.
- i. A performance bond is not required.
- j. A payment bond is not required.
- k. Throughout this RFB, associated documents and sample consultant agreement, the title "bidder", "bidder" and/or "consultant" may be used interchangeably. Each of these terms refers to the individual or firm submitting a bid proposal to the Town of Bladensburg in response to this RFB.

I. The Town's payment terms are net 30 days. It is anticipated that progress payments under the contract will be made based on measurable milestones.

3.4 Contract Award

Following a staff recommendation, the Mayor and Council of the Town of Bladensburg will make a contract award at the earliest possible date after the date set for receipt of proposals. It is anticipated that the contract will be awarded on a lump sum basis, in the best interest of the Town.

The successful bidder shall be required to execute a contract in a form satisfactory to the Town, in substantially the same form as attached hereto, within 10 days of the award of the contract. The Town reserves the right to cancel the award of the contract at any time prior to execution of the contract without liability on the part of the Town.

If the successful bidder fails to execute the contract as required, the award may be annulled and the contract awarded to the second lowest responsible bidder, and such bidder shall fulfill every stipulation embraced herein, as if he were the original party to whom the award was made, or the Town may reject all of the bids, as its interest may require.

TO BE SUBMITTED WITH BID

TOWN OF BLADENSBURG Bridge Repairs – RFB 004-2024 Bid Proposal Form

TOWN OF BLADENSBURG BID DUE: May 15, 2024 4229 Edmonston Road TIME: 3:00 p.m. EST Bladensburg, MD 20710 (Name of Bidder) hereby submits the following proposal for the Lighting Project 57th Avenue. Having carefully examined the Request for Proposals, related documentation, the proposed Consultant Agreement and Addenda _ (indicate numbers or N/A if none issued), and having received clarification on all items of conflict or upon which any doubt arose, and understanding that all prices bid will remain in effect throughout the term of the contract, whether completed at one time or in interrupted phases, the undersigned proposes to furnish all labor, equipment, materials, etc., required by the documents for the entire work, all in strict accordance with the contract documents. Provide unit and hourly pricing for specific tasks and personnel. **SPECIAL TERMS AND CONDITIONS** A. Failure to properly and completely fill in all blanks may be cause for rejection of this proposal. B. In addition to completing this Bid Proposal Form with bid price, Bidder should provide an estimate of budget and resources required. C. It is understood that the proposal price will be firm for a period of 90 calendar days from the proposal opening date, and that, if the undersigned is notified of acceptance of this proposal within this time period, the Bidder shall execute a contract for the above stated compensation. Name of Bidder Signature Date

Name and Title of Individual Authorized to Bind Bidder

TO BE SUBMITTED WITH PROPOSAL

Non-Collusion Affidavit
, being duly sworn on oath, deposes and says:
That he/she is the
(Owner, Partner, Title if on behalf of a Corporation)
of, (Name of Business, Corporation or Partnership)
the party submitting the Proposal; that no officer of the said Corporation has nor has any person, firm or corporation acting on its behalf; agreed, conspired, connived or colluded to produce a deceptive show of competition in the compilation of the Proposal being submitted herewith; and that the said Corporation has not in any manner, directly or indirectly, entered into any agreement, participated in any collusion to fix the Proposal Price of the Proposer herein or any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the Proposal is submitted; that in making this Affidavit, the affiant represents that she has personal knowledge of the matters and facts herein stated. The Affiant hereby declares and affirms under the penalties of perjury that the foregoing is true to the best of her knowledge and information.
To be signed by a duly authorized Officer.
(SEAL) Name Title
Date:

TO BE SUBMITTED WITH PROPOSAL

AFFIDAVIT WITH RESPECT TO NON-CONVICTION, NON-SUSPENSION AND FALSE PRETENSES

I hereby affirm that:	
1. I am the	(Title) and duly authorized representative of
	(Name of Business Entity) whose address is
	and that I possess the legal authority to make
this affidavit on behalf of	myself and the firm for which I am acting.

- 2. Except as described in Paragraph 7 below, neither I nor the Business Entity nor, to the best of my knowledge, any of its officers, directors, or partners or any of its employees directly involved in obtaining contracts with the State, or any county, bi-county or multi-county agency or subdivision of the State have been convicted, or in an official investigation or other proceeding admitted in writing or under oath, acts or omissions which constitute bribery, attempted bribery or conspiracy to bribe under the provisions of Criminal Law Article of the Annotated Code of Maryland or under the laws of any state or the federal government (conduct prior to July 1, 1977 is not required to be reported); and
- 3. Except as described in Paragraph 7 below, neither I nor the Business Entity nor, to the best of my knowledge, any of its officers, directors, or partners or any of its employees directly involved in obtaining contracts with the State, or any county, bi-county or multi-county agency or subdivision of the State have been convicted under a State of federal law or statute of any offense enumerated in §16-203 of the State Finance and Procurement Article; and
- 4. Except as described in Paragraph 7 below, neither I nor the Business Entity nor, to the best of my knowledge, any of its officers, directors, or partners or any of its employees directly involved in obtaining contracts with the State, or any county, bi-county or multi-county agency or subdivision of the State have been found civilly liable under a State or federal antitrust statute as provided in §16-203 of the State Finance and Procurement Article.
- 5. Except as described in Paragraph 7 below, neither I nor the Business Entity nor, to the best of my knowledge, any of its officers, directors, or partners or any of its employees who will provide, directly or indirectly, supplies, services, architectural services, construction related services, leases of real property, or construction have been debarred or suspended under this subtitle.
- 6. Except as described in Paragraph 7 below, neither I nor the Business Entity nor, to the

best of my knowledge, information and belief, any officer, director, partner, member or associate thereof; nor any of its employees directly involved in obtaining contracts with the Town, has been convicted of false pretenses, attempted false pretenses or conspiracy to commit false pretenses under the laws of any state or federal government, based upon acts committed after July 1, 1981.

	government, based upon acts committed after July 1, 1981.
7.	State "none" below or, as appropriate, list any suspension, debarment, conviction, plea or admission described in Paragraph 2 - 6 above, with the circumstances, date, court, official or administrative body, the individuals involved and their position with the firm, and the sentence or disposition, if any.
Bladen the An affidav awarde this aff the An acts co	owledge that this affidavit is to be furnished, where appropriate, to the Town of asburg under Section 16-311 of the State of Maryland Finance and Procurement Article of notated Code of Maryland. I acknowledge that, if the representations set forth in this rit are not true and correct, the Town of Bladensburg may terminate any contract and and take any other appropriate actions. I further acknowledge that I am executing fidavit in compliance with Section 16-309 of the State Finance and Procurement Article of notated Code of Maryland, which ordains that any person convicted of bribery (upon semmitted after July 1, 1977) in furtherance of obtaining a contract from the State or any ision of the State of Maryland shall be disqualified from entering into a contract with the
	er affirm that the business entity is properly registered to do business in the State of and, or is not required to be registered.
	lemnly declare and affirm under the penalties of perjury that the contents of the affidavit e and correct.
Date	
Signati	ıre
Printed	 d Name

TO BE SUBMITTED WITH BID

TOWN OF BLADENSBURG Bridge Repairs Information Regarding the Bidder

NOTE: The information requested on this form may be submitted in a separate document as long as all requested information is provided and numbered according to this form.

1.	Name of Bidder:	(Individual/Firm/Corp	oration)
	Business Address:		
		(
	E-mail address:		
2.	Is the business inco	rporated? Yes	No
No	on-Corporation Busin	<u>ess</u>	
3.		#2 above is No, list the name and aving a 10% or greater financial	I business and residence address interest in the business.
<u>Na</u>	ame 	Business Address	Residence Address
<u>Cc</u>	orporate Business En	tities - Please answer items 4 ar	<u>nd 5</u>
4.		all officers of the corporation date on which they assumed the	, their business and residence ir respective offices.
Na	ame Office	Residence and Business Address	<u>Date Office</u> <u>Assumed</u>

5.		st the names		the current Board c	f Directors, and their business and		
Name		<u>Business Address</u>			Residence Address		
6.			e the following information is similar to the		work that you have done within the		
			CONTRACT AMOUNT		CONTACT'S NAME/ TELEPHONE NUMBER		
7.			nswer the following artner and/or corpor		vord "you" refers to any individual s.)		
	a.	Have you e	ever failed to comple	ete any work award	ed to you?		
		If yes, state	e where and why: _				
	b.	Have you e	ever been affiliated	with some other or	ganization that failed to complete a		
		If yes, state name of individual and reason therefor.					
	c.	With what o	other businesses ar	e you affiliated?			
	d.	Please provide at least 3 references, including any Maryland governmental units or agencies for which you have worked on a similar project. Include the name and telephone number of your contact with each.					

i	Identify all subsuccessful bidders, materialmen, and suppliers that you intend to use in performing the work under the Contract, and specify the work each is expected to perform.		
- -			
Dated t	hisday	of	, 20
		Na	ame of Bidder
		Ву	r:
		Pri	inted Name:
		Tit	:le:

Prince George's County



2021 BRIDGE INSPECTION REPORT March 25, 2021



BRIDGE NO. P-BL01001 SPRING ROAD OVER STREAM Prepared by



Prince George's County

2021 BRIDGE INSPECTION REPORT

BRIDGE NO. P-BL01001

SPRING ROAD OVER STREAM

Prepared by



		5/4/2021
Inspection Team L	Leader: Caleb Percy, P.E.	Date
80	ED.	_ 5/4/2021
Inspector:	Daria Ross	Date

Professional Engineer: Caleb Percy, P.E. Date

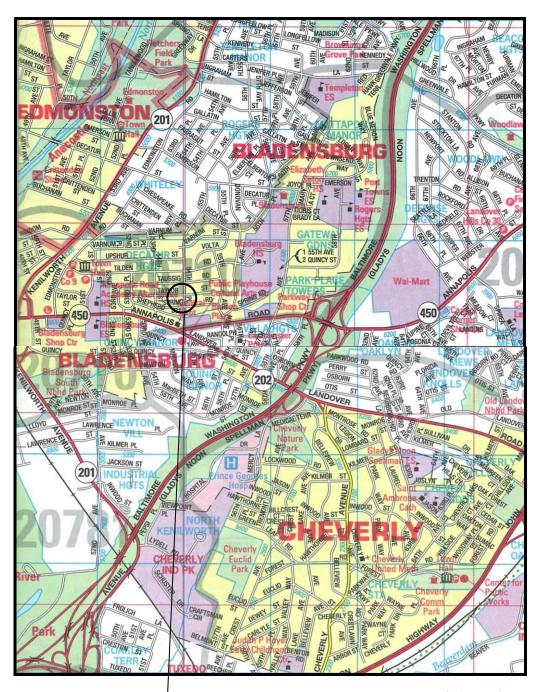
Professional Certification: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 39263, Expiration Date: June 27, 2022.

The condition report and recommendations presented herein are based on a visual inspection of accessible portions of the existing structure. No responsibility is assumed by Century Engineering, Inc. for the presence of any latent structural defects that cannot be detected by such visual inspection.

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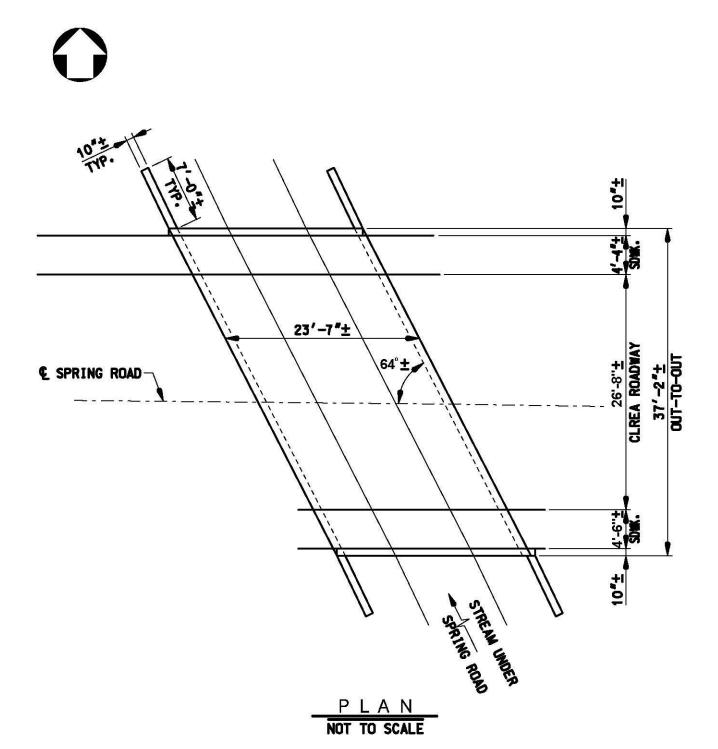


Bridge No. P-BL-01R

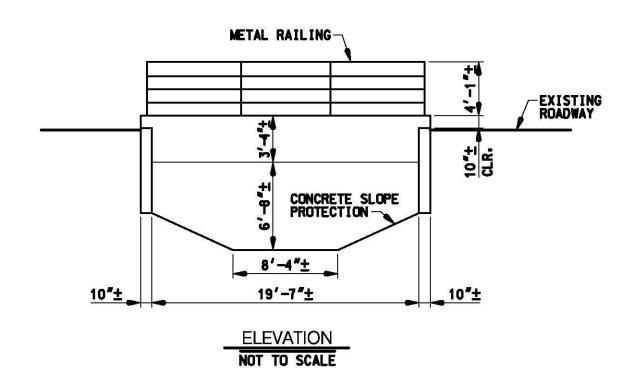
ADC Street Grid Location: 5410-B10

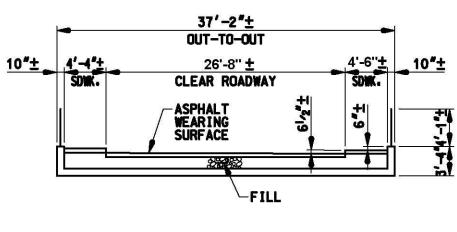
LOCATION MAP

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BRIDGE NO. PBL01 - SPRING ROAD OVER STREAM





2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL01R **Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME** Year Built 1958 Name SPRING ROAD Crossing STREAM Photos 20 Inspection Date 03/25/2021 Inspection Crew C. Percy, D. Ross **DESCRIPTION:** Single-span concrete rigid-frame bridge with an asphalt wearing surface. The substructure consists of concrete rigid-frame wall abutments. There is concrete slope and channel protection under the bridge and upstream and downstream of the bridge. The structure carries two lanes of traffic and two sidewalks. The stream flows from south to north under the bridge. The numbering convention for the bridge is from the north and the west. **OVERALL LENGTH:** 23'-7" **CLEAR ROADWAY:** 26'-8" **POSTED LOAD: YEAR BUILT:** 1958 YEAR REHABILITATED: SINGLE, LBS 24,000 lbs. G.V.W. POSTED SPEED LIMIT: 25 M.P.H. COMBINATION, LBS 44,000 lbs. G.C.W. **BEAM SPACING: MAP COORDINATES:** 12-F6 **NUMBER OF BEAMS:** SIZE OF BEAMS: 5410-B10 **ROADWAY APPROACHES:** Section 26'-8" asphalt roadway with one lane in each direction.

Alignment

Profile Fairly level east approach, upgrade toward west.

Both approaches are straight.

Traffic Barrier No approach traffic barrier.

REVIEW OF ITEM 113 - SCOUR POTENTIAL RATING: 8P

Item 113 was previously rated an 8P, which implies that the structure is a culvert type structure with a paved bottom. Based on the observed conditions, this rating is still valid and does not require reevaluation.

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge	No. P-BL01R	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958
Name	SPRING ROAD	Crossing STREAM	Photos 20
Inspec	tion Date 03/25/	Inspection Crew C. Percy, D	. Ross

REVIEW OF PREVIOUS REPORT:

A 2019 Bridge Inspection Report prepared by Sabra & Associates, Inc. was available and used for comparison purposes. The overall condition of the structure appeared to be essentially the same as noted in the previous report with the following exceptions:

- 1. There is a full width longitudinal crack with efflroesecence in the soffit of the top slab 10'-0" from the south end.
- 2. There is a crack with efflorescence in the West Abutment.

LIVE LOAD RATINGS:

The load ratings were re-calculated by Mercado Consultants, Inc. during the 2013-14 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The condition of the structure has not changed significantly due to deterioration, damage or rehabilitation since the 2013 inspection. The load ratings for the Maryland Legal Load Vehicles are as follows:

<u>Truck</u>	Gross Vehicle Weight	<u>Inventory</u>	<u>Operating</u>
H-15	15 tons	25 tons	42 tons
HS-20	36 tons	45 tons	75 tons
Type 3	33 tons	33 tons	55 tons
Type 3S2	40 tons	61 tons	99 tons

The structure is currently posted for 24,000 lbs. G.V.W. and 44,000 lbs. G.C.W. Based on the above ratings, we recommend adjusting the posting to 66,000 lbs. G.V.W. and 80,000 lbs. G.C.W.

The recommendation for posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

SI&A CONDITION RATING SUMMARY:

<u>Item</u>	<u>Current</u>	<u>2019</u>	<u>2017</u>	<u>2015</u>
Deck (Item 58) -	7	7	7	7
Superstructure (Item 59) -	7	7	7	7
Substructure (Item 60) -	7	7	7	7
Channel and Channel Protection (Item 61) -	6	6	7	7
Culvert (Item 62) -	N	N	N	N

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL01R Bridge Type SINGLE-S	SPAN CONCRETE F	RIGID-FRAME	Year Built 1	958
Name SPRING ROAD Crossing	STREAM		Phot	os <u>20</u>
Inspection Date 03/25/2021	Inspection Crev	C. Percy, D	. Ross	
Waterway Adequacy (Item 71) -	6	6	6	6
Approach Roadway Alignment (Item 72) -	8	8	8	8
Bridge Sufficiency Rating (BSR) -	96.0	96.0	96.0	96.0
Routine Inspection Frequency -	24 months 24	4 months	24	24
Date of Inspection -	03/25/2021 03	3/05/2019 03	3/20/2017	03/09/2015
Partial Interim Inspection Frequency -	N/A			

Load Rating Summary:

The load ratings were re-calculated by Mercado Consultants, Inc. during the 2013-14 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The condition of the structure has not changed significantly due to deterioration, damage or rehabilitation since the 2013 inspection. The load ratings for the Maryland Legal Load Vehicles and Permit Vehicles are as follows:

<u>Vehicle</u>	Gross Vehicle Weight	Inventory Rating (Tons)	Operating Rating (Tons)
HL-93	36 tons		
H-15	15 tons	25.0	42.0
T-3	33 tons	33.0	55.0
T-4	35 tons	33.0	57.0
HS-20	36 tons	45.0	75.5
T-3S2	40 tons	61.0	99.9
150K	75 tons	67.0	99.9
90K Permit	45 tons	43.0	72.0
90K Mobile Crane	45 tons	41.5	69.5
90K Cargo	45 tons	53.0	88.5
80K Cargo	40 tons	61.0	99.9
120K Vehicle	60 tons	57.5	96.5
108K Mobile Crane	54 tons	47.0	78.5
120K Mobile Crane	60 tons	58.0	97.0

The structure is currently posted for 24,000 lbs. G.V.W and 44,000 lbs. G.C.W. Based on the above ratings, we recommend adjusting the posting to 66,000 lbs. G.V.W. and 80,000 lbs. G.C.W.

The recommendation for posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

03/25/2021 03/25/2021

2021 BRIDGE INSPECTION REPORT

Bridge	No. P-BL01R	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958	
Name	SPRING ROAD	Crossing STREAM	Photos_	20
Inspec	tion Date 03/25/	Inspection Crew C. Percy, D	. Ross	

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

	DESCRIPTION	COUNTY ITEM NUMBER	QUANTITY	UNIT COST	TOTAL COST
lmm	nediate:				
1	Install flared and turned down end treatments at the corners of the structure.	20	4 EA	\$1150/EA	\$4,600
2	Repair the settled Northeast and Southeast Sidewalk and Curb.	7	48 SF	\$14/SF	\$672
3	Install object markers at all four corners of the bridge.	81	4 EA	\$200/EA	\$800
4	Replace the bridge railing with a crash tested bridge railing.	101	46 LF	\$150/LF	\$6,900
5	Install an advance posting sign at the nearest intersection on the East Approach.	82	1 EA	\$500/EA	\$500
	Subtotal (Immediate Items)				\$13,472
Rou	tine:				
1	Repair minor spall in underside of deck.	1	1 CF	\$225/CF	\$225
2	Repair spalls in slope protection.	6	15 CF	\$50/CF	\$750
3	Repair bent and disconnected top rail in fence at Southwest Wingwall.	101	1 LS	\$250/LS	\$250
	Subtotal (Routine Items)				\$1,225
<u>Prev</u>	<u>/entative:</u>				
1	Remove vegetation overgrowing all the slope protections.	102	1 LS	\$300/LS	\$300
2	Adjust load posting signs to 66,000 lbs. for single-unit vehicles and 80,000 lbs. for				
	combination-unit vehicles.	83	3 EA	\$250/EA	\$750
	Subtotal (Preventative Items)				\$1,050
				Total:	\$15.747

Total: \$15,747

Immediate Repairs - Severe Defects that may affect the serviceability of the structure or are missing safety features that present a hazard to the public. Immediate repairs should be scheduled within 12 months of notification.

Routine Repairs - Moderate defects that do not presently affect the serviceability of the structure. Routine repairs should be scheduled, and given priority, within the current maintenance schedule.

Preventative Repairs - Minor defects that do not presently affect the serviceability of the structure. Preventative repairs should be scheduled within the current maintenance schedule.

2021 BRIDGE INSPECTION REPORT GEOMETRY

Name SPRING ROAD Crossing Inspection Date 03/25/2021 NEW ADC	Δ .	Photos 20
/2021 NEW ADC		
3/25/2021 NEW ADC 0-B10		
NEW ADC 0-B10	Inspection crew C. Percy, D. Ross	
0-B10	OLD ADC	
	12-F6	
Single-span Concrete Rigid Frame	me	
23'-7"		
0001	NO. OF CELLS	
S020S		
A - < 10'		
0372		
26'-8"		
02	00	
z	Z	Z
043 043		
1 - Concrete	TYPE 7 - Non-definable	CODE 1 - Predominant Feature
1 - Concrete	YPE OF PILE 0 - None	CODE 0 - Entire Structure
N - Not Applicable	TYPE	CODE
N - Not Applicable	YPE OF PILE	CODE
1 - Concrete	TYPE	CODE
MATERIAL 1 - Concrete	YPE OF PILE	CODE
1ST BEARING A 2	A	3RD BEARING A
		N

CIII VEDT WALL

	CONDITIO	N RATING FORMS
Bridge No. P-BL01R Bridge	Type SINGLE-SI	PAN CONCRETE RIGID-FRAME Year Built 1958
Name SPRING ROAD	Crossing	STREAM Photos 20
Inspection Date 03/25/2021		Inspection Crew C. Percy, D. Ross
58 DECK	CONDITION RATING	
1. Wearing Surface	7	Type - Asphalt
2. Deck - Topside	-	
3. Deck - Underside	7	Type - Concrete
4. Curbs	7	Type - Concrete
5. Median	-	
6. Sidewalks	7	Type - Concrete
7. Parapets	7	Type - Concrete
8. Railing	6	Type - Four-strand steel pipe railing
9. Roadway Joints	-	
10. Drainage System	-	Type - Inlet
11. Lighting Standards	-	
12. Utilities	_	Overhead lines along south side and both

Inspector's Condition Rating (58)

13. Other

7

Approach

approaches, crossing Spring Road at the West

- 58.1 The asphalt wearing surface is in good condition with minor wear throughout.
- 58.3 The soffit is in good condition. There are a few exposed form ties and graffiti throughout the underside of the deck. There are hairline map cracks at the north end and a 2" long x 2" wide x 1/2" deep spall in the underside of the top slab at the north end approximately 5' from the West Abutment. There is a full-width longitudinal crack with efflorescence 10'-0" from the south end (see Photo 7). There are random hairline cracks throughout with rust stains and small pop-out spalls at the southeast corner.
- 58.4 The curbs are in good condition. There are a few random minor spalls in both curbs.
- 58.6 There are a few minor pop-out spalls and areas of moderate scaling in the sidewalks (see Photo 8). The sidewalk joints have minor debris and vegetative growth. Panel 2 from the bridge on the Northeast Sidewalk has a full-length x up to 1/4" wide longitudinal crack (refer to Photo 8). There is differential settlement up to 2 1/2" in the Northeast Sidewalk (see Photo 9). The Northeast Sidewalk and Curb have separated up to 2" adjacent to the storm drain inlet. The Southeast Sidewalk has settled up to 3 3/4" adjacent to a storm drain inlet (see Photo 10); however, the sidewalk does not extend beyond this location.
- 58.7 There are hairline vertical cracks in the parapets at the base of the railing posts. There is a hairline vertical crack with light efflorescence at the base of Post 2 of the North Railing. Due to insufficient cover, there is a small pop-out spall with exposed corroded reinforcement in the exterior

Bridge	No. P-BL	.01R	Bridge Type SINGLE-S	PAN CONCRETE RIC	SID-FRAME	Year E	3uilt 1958	3	
Name	SPRING	ROAD	Crossing	STREAM			Photos	20	
Inspec	tion Date	03/25/	2021	Inspection Crew	C. Percy, D.	Ross			

face of the North Parapet approximately 5' from the East Abutment.

58.8 - There is light to moderate surface rust throughout both railings. There are no anchor bolts in the base plates of all the bridge railing posts (see Photo 11). There are four cracked/poor welds at the bottom rail to post connections at the North Railing (see Photo 12). The South Railing is slightly leaning to the south (see Photo 13).

Bridge No. P-BL01R Bridge Ty	pe SINGLE-S	PAN CONCRETE RIGID-FRAME Year Built 1958
Name SPRING ROAD	Crossing	STREAM Photos 20
Inspection Date 03/25/2021		Inspection Crew C. Percy, D. Ross
59 SUPERSTRUCTURE		
	4	
Number of Spans	1	anata Diaid France
Type of Construction	Con	crete Rigid-Frame
	CONDITIO RATING	N
1. Bearing Devices	-	
2. Girders or Beams	_	
3. Stringers	-	
4. Floor Beams	-	
5. Diaphragms/Crossframes	-	
6. Paint	-	
7. Other Top Slab	7	Type - Rigid-frame top slab
8. Rivets or Bolts	_	
9. Welds - Cracks	-	
10. Rust	-	
11. Timber Decay	_	
12. Concrete Cracking	7	
13. Collision Damage	_	
14. Deflection Under Load	7	
15. Alignment of Members	7	
16. Vibrations Under Load	7	
17. Fracture Critical Members	_	
Inspector's Condition Rating	g (59)	7

59.7 - See Item 58.3

	CON	IDITION RA	TING FORMS	
Bridge No. P-BL01F			NCRETE RIGID-FRAME	Year Built 1958
Name SPRING RO	AD Cr	ossing STRE	AM	Photos 20
Inspection Date 03	/25/2021	Inspec	C. Percy, [D. Ross
60 SUBSTRUC	TURE	CONDITION		
		RATING		
1. Abutments	-Wingwalls	7	Concrete	
	-Backwalls	-		
	-Stems	7		
	-Footings	-	Concrete	
	-Piles	_		
	-Scour/Erosion	7		
	-Settlement	7		
Overall Abutmo	ent Rating	7	Abutment Type - Co	oncrete rigid-frame
2. Piers or Bents	-Caps	-		
	-Columns/Shaft	-		
	-Footings	-	-	
	-Piles	-		
	-Scour/Erosion	_		
	-Settlement	-		
Overall Pier Ra	ating	-	Pier Type	
3. Pile Bents	-Caps	-		
	-Piles	-		
4. Concrete Cracki	ng or Spalling	7		
5. Steel Corrosion		-		
6. Timber Decay		-		
7. Other		-		
8. Debris on Seats		-		
9. Paint		-		
10. Collision Dama	age	_		

Inspector's Condition Rating (60) 7

11. Overall Undermining/Scour

60.1 - Only the top 3'-0" of the rigid frame abutment walls are visible for inspection. There is graffiti throughout both abutments. There are isolated vertical hairline cracks in the East and West Abutments. There is a crack with efflorescence in the West Abutment (see Photo 14).

Bridge	No. P-BL01R	Bridge Type SINGLE-S	PAN CONCRETE RIGID	-FRAME Year E	3uilt 1958	1	
Name	SPRING ROAD	Crossing	STREAM		Photos	20	
Inspect	tion Date 03/2	5/2021	Inspection Crew C.	Percy, D. Ross			

There is vegetation overgrowth at all wingwalls. The joint material is deteriorating and bulging at the joints between the wingwalls and the structure (see Photo 15). There is a 6" high x 1" wide x 1" deep edge spall in the Northwest Wingwall along the joint with the structure. There is a hairline diagonal crack and hairline map cracking in the Southeast Wingwall.

Fence: There is a chain-link fence along the wingwalls and slope protection. There is typical minor rust, vegetation growth, and misalignments throughout the fence. Embankment erosion has exposed the fence post footing at the end of the Northwest Wingwall. The top fence rail is bent and disconnected adjacent to the Southwest Wingwall.

Bridge	No. P-BL01R	Bridge Type SINGLE-S	PAN CONCRETE RIGID-	FRAME Year E	Built 1958		
Name	SPRING ROAD	Crossing	STREAM		Photos_	20	
Inspec	tion Date 03/25/	2021	Inspection Crew C.	Percy, D. Ross			

61 CHANNEL AND CHANNEL PROTECTION

Type - Concrete
7

- 61.1 The stream channel and banks are lined with concrete. There is up to 2" deep abrasion along the concrete channel, causing a 2" high gap at the interface with the concrete-lined banks.
- 61.3 There is debris accumulation under the bridge at the north end along the East Slope Protection.
- 61.4 There is heavy vegetation overgrowing all four slope protections.
- 61.5 The stream flows from south to north under the structure. The upstream channel curves to the east and the downstream channel is straight.
- 61.8 There are random up to 1/8" wide cracks throughout the concrete slopes. There is minor vegetation growth in the slope protection joints at several locations. The weep holes in the downstream slope protection are fully clogged. There are patched areas with up to 1/8" wide cracks at the base of the upstream slope protection. The Northwest Slope Protection has fractured adjacent to the Northwest Wingwall due to a tree growing through the concrete (see Photo 16). There is a full-height crack with a spall at the base in the Southeast Slope Protection (see Photo 17). There is a 1/4" wide crack with adjacent minor spalling in the Northeast Slope Protection adjacent to a 12" pipe outlet (see Photo 18). There is a 6'-0" long x 3" high x full-depth spall along the base of the Northeast Slope Protection. There is a 1/2" wide x full-height crack/fracture in the Northeast Slope Protection approximately 12' from the bridge (see Photo 19).

Bridge No. P-BL01R			Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME						RAME	Year E	Built 1958		
Name	me SPRING ROAD			Crossing STREAM							Photos_	20	
Inspect	tion C	Date	03/25/	2021			Insp	ection Crew	C. F	Percy, D.	Ross		
71 W	VATE	ERW	VAY A	DEQUA	CY								
Open	ing				Good			Fair		Poor			
Aligni	ment				Good			Fair		Poor			
Frequ	iency	of O	vertopp	oing	Remote			Slight		Occasio	nal	Frequ	ent
In	spec	tor's	Condit	ion Ratir	ng (71)	6							

Bridge No. P-BL	.01R Bridge Ty	ype SINGLE	E-SPAN C	ONCRETE	RIGID-FRAME	Year Built	1958			
Name SPRING	ROAD	Crossii	ng STRE	Phot	Photos 20					
Inspection Date	03/25/2021		Insp	. Ross						
	-									
70 ADDDO	A CILI DO A DIA/	AV ALIO	NIRAE NI	T A DDD	AICAL DATI	NO				
72 APPRO	ACH ROADWA	AY ALIG	NWEN	I APPRA	AISAL KATI	NG				
4 . Mandia al Aliana			- - '	D	Flat					
Vertical Align		Good	Fair Fair	Poor	Flat					
	W			Poor		upgrade from structure				
2. Horizontal Ali	2. Horizontal Alignment E			Poor	- Straight road	way				
	W	Good	Fair	Poor						
3. Speed Limit F	Reduction	None M	inor Su	ıbstantial						
4. Sight Distanc	e Ac	dequate	Not Ad	equate						
Inspector's Co	ndition Rating (7	2) 8]							
APPROAC	H ROADWAY	7								
		CONDI RATI								
5. Approach Tra	affic Barrier	_								
6. Approach Pa	vement	7	7							
7. Approach Em	7. Approach Embankments									
8. Approach Sla	-									
9. Relief Joints		-	-							
10. Signing - Le	gibility and Visibili	ty Good	Fair	Poor						
11a. Roadway S	Speed Limit	25 M	I.P.H.	11b. Poste	ed Bridge Spee	d Limit	n/a			
12. Posted Load	d Limits	24,000 lbs	. G.V.W	-	44,000	lbs. G.C.W.				
13. Traffic Safet	ty Features									
a. Bridge Rail	ing	0	1 N	Туре	- Four Strand S	Steel Pipe rai	ling			
b. Transitions		0	1 N		- No Approach		_			
c. Approach T	raffic Barrier	0	1 N	Туре	- No Approach	Traffic Barrie	er			
d. Approach T	Fraffic Barrier Ends	s 0	1 N	Туре	- No Approach	Traffic Barrie	er			
	o no traffia barriar			. 71	1 15					

- 72.5 There are no traffic barriers at the structure.
- 72.6 The approaches are in good condition with minor wear throughout. There is a 3'-0" long x 1/16" wide transverse crack in the East Approach Roadway.
- 72.10 There are no object markers at the structure. Both postings signs are in place at the structure. The advanced posting sign is in place at the nearest intersection on the West Approach. There is not an advance posting sign in place at the nearest intersection on the East Approach.

Bridge	No. P-BL	.01R	Bridge Type SINGLE-S	PAN CONCRETE RIC	SID-FRAME	Year E	3uilt 1958	,	
Name	SPRING	ROAD	Crossing	STREAM			Photos_	20	
nspect	tion Date	03/25/2	2021	Inspection Crew	C. Percy, D.	Ross			

The bridge is currently posted for 24,000 lbs. for single-unit vehicles and 44,000 lbs. for combination-unit vehicles (see Photo 20).

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL01R - SPRING ROAD OVER STREAM



1. West Approach Looking East



2. East Approach Looking West



3. North (Downstream) Elevation



4. South (Upstream) Elevation



5. Looking North (Downstream)



6. Looking South (Upstream)



7. Deck - Full-width Longitudinal Crack with Efflorescence in Soffit



8. Sidewalk - Typical Scaling and Full-length Longitudinal Crack in Panel 2 of Northeast Sidewalk



9. Sidewalk - Differential Settlement Between Panels in Northeast Sidewalk



10. Sidewalk - Settlement of Southeast Sidewalk at Storm Drain Inlet



11. Railing - Typical Missing Bolts at Base of Railing Posts



12. Railing - Cracked Weld at Bottom Rail Connection of North Railing



13. Railing - South Railing Leaning to the South



14. Abutment - Crack with Efflorescence in West Abutment



15. Wingwall - Bulging Joint at Southeast Wingwall



16. Slope Protection - Fractured Northwest Slope Protection Due to Tree Growing Through Concrete



17. Slope Protection - Full-height Crack with Bottom Spall in Southeast Slope Protection



18. Slope Protection - Spall in Northeast Slope Protection Adjacent to Storm Drain Outfall



19. Slope Protection - Full-height Crack in Northeast Slope Protection 12' from Bridge



20. Signage - Load Posting Sign at East Approach

STRUCTURE INVENTORY AND APPRAISAL REPORT

BRIDGE NUMBER: P-BL01001

IDENTIFICATION			FORM 1 OF 13
(8) STRUCTURE NUMBER:	2 00000 Major Structure P	- BL01 01 Major Str	ucture > 20' 0" 0 Single Structure
(8) FHWA NUMBER:			
(7) FACILITY CARRIED:	SPRING ROAD		
(6) FEATURE INTERSECTED:	STREAM		
(255) FEDERAL SUBMITTAL INDICA	TOR: Y Yes		
(262) NAME OF STRUCTURE:			
(27) YEAR BUILT:	1958 (106) YE	EAR RECONSTRUCTED:	1981
(263) ADDITIONAL RECONSTRUCTION	ON YEARS: N		
(1) STATE CODE:	243 Maryland (2) DIST	RICT CODE:	03
(3) COUNTY CODE:	033 GEORGE'S (4) PLA	CE CODE:	07850
(5) INVENTORY ROUTE:	Route carried "on" 5 City Structure (Route Prefix	تا النا	00092 0 Always Number) (Direction)
(9) LOCATION:	100 FT N. OF 54TH PLACE		
(11) MILEPOINT:	000090		
(12) BASE HIGHWAY NETWORK:	0 Inv. Route is NOT on the Base Net	work	
(266) GIS ROUTE ID:			
(267) GIS MILEPOINT:			
(268) SCENIC ROUTE: N			
(13) LRS INVENTORY ROUTE, SUBF	ROUTE NUMBER:		
(16) LATITUDE: (A)	38562319 (B) 38562	2292 (C) 38562283	(D) 38562306
(17) LONGITUDE: (A)	076552920 (B) 0765	52919 (C) 07655288	(D) 076552884
(28) LANES ON: 02 LANES UI	NDER: 00		
(42) TYPE OF SERVICE ON: 5	Highway-Pedestrian		
TYPE OF SERVICE UNDER: 5	Waterway		
(98) BORDER STATE:	ВО	RDER STATE'S SHARE %:	
(99) BORDER STATE'S NUMBER:			
CLASSIFICATION			FORM 2 OF 13
(104) HWY SYSTEM:	No, Inventory Route is not on the NHS	(103) TEMPORARY STRUCTO	JRE:
(105) FEDERAL LANDS HWYS:	0 Not applicable	(110) NATIONAL NETWORK:	N No, the inventory route is not part of the national network for trucks.
(26) FUNCTIONAL CLASS:	Urban Local	(20) TOLL:	3 On free road
(100) DEFENSE HWY:	The inventory route is not a STRAHNET route	(21) MAINTENANCE:	City or Municipal Highway Agency
(101) PARALLEL STRUCTURE:	No parallel structure	(22) OWNER:	City or Municipal Highway Agency
(102) DIRECTION:	2 2-way traffic	(37) HISTORICAL SIGNIFICA	NCE: 5 Not eligible

(344) PAINT COLOR/NUMBER:

(345) YEARS PAINTED:

FORM 3 OF 13 TRAFFIC (19) **DETOUR**: (109) TRUCK ADT %: 01 05 (30) ADT YEAR: (29) ADT: 000250 2019 (114) FUTURE ADT: (115) FUTURE ADT YEAR: 000375 2039 STRUCTURE TYPE AND MATERIAL **FORM 4 OF 13** (43) STRUCT TYPE: Concrete Α 07 Rigid Frame (44) STRUCT TYPE - APPR: Not Applicable Other 0 00 (232) BOX CULVERT ON PILES: None 0 (208) STRUCT TYPE -Ν Ν Ν WIDENED/EXTENDED: (219) SLOPE PROTECTION: Concrete 1 (228) FOOTING - ABUTMENT: Concrete 0 None Entire Structure 0 (229) SUBSTRUCT ABUTMENT: Concrete 7 Non-definable Predominant Feature 1 1 (230) FOOTING - PIER: Ν Not Applicable (231) PIER TYPE: Not Applicable Ν (242) BEARING TYPE: Α Α Α (108) WEARING SURFACE: 6 Bituminous 0 None 0 None (243) JOINT TYPE: Pourable Seal Pourable Seal Α Pourable Seal (206) STRUCT SUBTYPE - MAIN: Not Applicable (207) STRUCT SUBTYPE - APPR: Not Applicable Ν Ν (257) SCOUR PROTECTION: (270) CONC. DECK SPECIAL TYPE: 4 Not Applicable (221) STRUCTURAL STEEL: Not Applicable (233) DECK - COMP/NON-COMP: Non-Composite Ν 0 (107) DECK STRUCTURE TYPE: Concrete Cast-in-(259) STAY-IN-PLACE FORMS: Ν 1 (235) PARAPET: 02 Concrete-Rectangular Steel Other - None (236) RAILING: 3 9 0 None (237) **FENCING**: 0 None 0 None (278) PAINT SYSTEM: Not Applicable N

Not Applicable

Ν

Ν

GEOMETRICS							FOR	M 5 OF 13
(112) NBIS BRIDGE LENGTH:	Υ		((49) STRUCTU	RE LENGTH:	0000240		
(210) NUMBER OF SPANS:	0001		((45) # SPANS	IN MAIN UNIT:	001		
(46) # APPROACH SPANS:	0000		((209) CONTINU	JOUS SPANS:	N		
(48) LENGTH MAX SPAN:	0020		((238) # STRING	GERS - ORIGINAL:	00		
(240) SPACING - ORIGINAL:	N		((239) # STRING	GERS - WIDENED:	00		
(241) SPACING - WIDENED:	N		((33) BRIDGE M	MEDIAN:	0		
(50) CURB/SIDEWALK WIDTHS:	043	043	((205) MEDIAN	WIDTH:	000		
(51) DECK CURB-CURB WIDTH:	0267		((32) APPROAC	CH ROAD WIDTH:	00 027	00	
(52) DECK OUT-OUT WIDTH:	0372		((10) INVENT R	OUTE, MIN VERT C	LEAR:	9999	
(53) BRIDGE ROADWAY, MIN VE	RTCLEAR:	9999	((47) INVENT R	OUTE, TOTAL HOR	IZ CLEAR:	267	
(54) MIN. VERT. UNDERCLEARAN	NCE:	N Fea	iture n	ot a highway o	or a railroad	Α	< 10'	
(55) MIN. LAT. CLEARANCE (RIG	HT):	N Fea	ature n	ot a highway	or a railroad	000		
(56) MIN. LAT. CLEARANCE (LEF	T):	000	((342) HORIZ C	LEARANCE (ON):		00267	
(34) SKEW, IN DEGREES: 26	3		((280) HORIZ C	LEARANCE (UNDE	R):	N	
(35) STRUCTURE FLARED:	1		((253) NUMBER	R OF CELLS:		N	
(256) SPAN OF CELLS:	N		((254) RISE:			N	
			((258) EARTH F	TLL:		N	
			((343) CENTER	LINE LENGTH (Cul	verts/Pipes):	N	
(223) SHOULDER WIDTHS:	N	N	N	N				
(264) TYPE AND SPAN:	RF 23'-7"		·					

LOAD RATINGS AND POSTINGS

FORM 6 OF 13

(41) STATUS:	Р	Posted for load	(224) WEIGHT POSTED:	24	44	
(31) DESIGN LOAD:	5	HS 20		(New	Split)	
					$\overline{}$	

(398) PEDESTRIAN LOADING: (66) INVENTORY RATING: 450 (399) RAILROAD LOADING: (64) OPERATING RATING: 755 (70) POSTING: Equal to or above legal loads (400) DATE OF RATING: 01 | 2014

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

	INVENT	ORY RATING	OPERAT	ING RATING
HL-93 Vehicle	(402)		(401)	
H-15 Vehicle	(404)	250	(403)	420
T3 (Dump Truck) Vehicle	(406)	330	(405)	550
T4 Reduced Lift Axle Vehicle	(408)	330	(407)	570
HS Vehicle	(410)	450	(409)	755
3S2 Vehicle	(412)	610	(411)	999
150K Vehicle	(414)	670	(413)	999
90K Permit Combination Vehicle	(416)	430	(415)	720
90K Mobile Crane Vehicle	(418)	415	(417)	695
90K Cargo Vehicle	(420)	530	(419)	885
80K Cargo Vehicle	(422)	610	(421)	999
120K Vehicle	(424)	575	(423)	965
108K Mobile Crane Vehicle	(426)	470	(425)	785
120K Mobile Crane Vehicle	(428)	580	(427)	970

(225) SPEED LIMIT ON STRUCTURE: Ν

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

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

CONDITION INSPECTION

FORM 7 OF 13

	Inspection Month	(91) Frequency	Due Date	(90) Inspection Date	e (290) Inspection Report Completion Date
Routine Inspection	03	24	03/25/2023	03/25/2021	06/25/2019
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	r	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) S	UPERSTRUCT	URE: 7 G	ood Condition
(60) SUBSTRUCTURE:	7 Good Condition	(61) C	HANNEL/PRO		nk slump. widespread nor damage
(62) CULVERTS:	Not Applicable				g
(310) INSPECTION DATA UPDATE	DATE: 03/05/2015	(312)	LEAD INSPEC	TOR: Caleb Perc	y, P.E.
(311) INSPECTION TEAM:	YCE	(313)	BRIDGE INSPE	ECTOR: Daria Ross	
(314) HOURS TO INSPECT: 003	(316) DECK P	LANKING %:	00 (31	5) DECK PUNCTUR	E S %: 00
(317) DECK PATCHING %: 00	(318) BLOCK	ING:	00 (31	9) POWER WASHIN	G: N
(320) IDENTIFICATION NO.:	(321) INVENT	ORY DIRECTION:	SOUT (32	23) PERMIT:	N
(324) NIGHT WORK:	(325) WEEKE	ND WORK:	N		
(322) LOOKING TOWARD: ROL	JTE 450				
(326) MAINTENANCE OF TRAFFIC	STANDARDS:				
(327) MOT COMMENTS:					
(328) LOCATION OF MIN.					

(329A) CRITICAL FINDINGS: N (329B) CRITIC	AL FINDINGS DATE:
(330) CRITICAL FINDINGS COMMENTS:	
(331) CAUTION COMMENTS:	
(332) UNDERCLEARANCE POSTING SIGNS: X Postin	g signs not required
(340) INSPECTION EQUIPMENT:	
W Waders	
(333) MHOI: N (334) MHOI LOCATIONS:	
(335) ADVANCED NOTIFICATION: N	
(336) ADVANCED NOTIFICATION COMMENTS:	

APPRAISAL							FORM 8 OF 13
(67) STRUCTURAL EVALUATION:	7	BSR	(68) DECK GEOM	ETRY:		5	
(69) UNDERCLEARANCE:	N	96.0	(72) APPROACH	ALIGNME	NT:	8	
(71) WATERWAY ADEQUACY:	6	30.0					•
(00) 110 1110 0711 211	NGS: 0	Does NOT m	eet Standards				
FEATURES TRANSITI	ONS: 0	Does NOT m	eet Standards				
APPROACH BARI	RIER: 0	Does NOT m	eet Standards				
APPROACH BARRIER E	ENDS: 0	Does NOT m	eet Standards				
(113) SCOUR EVALUATION:	8P	Bridge is a cu	lvert-type structure with paved b	oottom.			
(DT) DEDUCT CODE:	Z						
(STAT) STATUS:	0	Not Defici	ent				
NAVIGATION							FORM 9 OF 13
(38) NAVIGATION CONTROL:	0		(39) NAV V	ERT CLE	ARANCE:		000
(40) NAV HORIZONTAL CLEARANC	E : 000	00					
(111) PIER/ABUTMENT PROTECTIO	N:						
(116) MIN NAV VERT CLEARANCE,	VERT LIFT	BRIDGE:					
(247) DESIGN YEAR STORM:	00	00	(248) RUN	-OFF Q:	000000		
(249) DRAINAGE AREA:	00	00000	(250) STRI	UCTURE I	N TIDAL ARE	A:	0 0
(251) HIGH WATER ELEVATION:	00	00					
(252) YEAR HIGH WATER ELEVATION	ON - LATES	T : 000	00				
HISTORY AND PROPOS	ED IMPF	ROVEME	INTS	_			FORM 10 OF 13
(201) CONTRACT NUMBERS:							
(203) SHA SPEC- YEAR:	0000	<u> </u>	N N				
(204) AASHTO SPEC-YEAR:	0000	1 N	N N				
(75) TYPE OF PROPOSED WORK:		(76) LENGTH OF IMPROVE	MENT:	000000		
(94) BRIDGE IMPROVE COST:	000000	(95) ROADWAY IMPROVE (COST:	000000		
(96) TOTAL PROJECT COST:	000000	(97) YEAR OF IMPROVEME	NT:		Ī	

(558) WITH NOISE BARRIER:

MISCELLANEOUS	FORM 11 OF 13
(244) SIGNS ON STRUCTURE:	(245) BRIDGE ROADWY LIGHTING: 0
(246) PROVISION FOR ROADWAY LIGHTING: 0	
(260) UTILITIES - ON:	(261) UTILITIES - UNDER:
0 Not Applicable	0 Not Applicable
0 Not Applicable	0 Not Applicable
0 Not Applicable	0 Not Applicable
0 Not Applicable	0 Not Applicable
0 Not Applicable	0 Not Applicable
REMARKS:	
NOISE BARRIER (501) TYPE: (503) LENGTH: (504) MAXIMUN	FORM 12 OF 13 (502) ALIGNMENT:
(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:

(559) PURPOSE:

Structure Inventory and Appraisal Sheet

NATIONAL BRIDGE INVENTORY -----STRUCTURE INVENTORY AND APPRAISAL **IDENTIFICATION** SUFFICIENCY RATING = 96.0 (1) STATE NAME:..... Maryland CODE...... STRUCTURE NO:..... 2-00000-P--BL01-01-0 (8)STATUS = 0 INV RTE (ON/UNDER):..... 1-5-1-00092-0 (5)**CLASSIFICATION** (2)STATE HIGHWAY DEPARTMENT DISTRICT:......... 03 (112) NBIS BRIDGE LENGTH:..... (3)COUNTY CODE:...... 033 (4) STATE CODE:. 07850 FTR INTRS:..... STREAM (6)FACILITY CARRIED:..... SPRING ROAD (7) LOCATION:..... 100 FT N. OF 54TH PLACE (9)(11)BASE HIGHWAY NETWORK: 0 (103) TEMPORARY STRUCTURE:..... LATITUD 38562319. (17) LONGITUDE:... 076552920 BORDER BRIDGE STATE % Share..... BORDER BRIDGE STRUCT NO..... MAINTENANCE:04 STRUCTURE TYPE AND MATERIAL OWNER:......04 (43)STRUCTURE TYPE MAIN: MATERIAL HISTORICAL SIGNIFICANCE:..... 5 TYPE..... Α 07 (44) STRUCTURE TYPE APPR: MATERIAL **CONDITION** TYPE..... 00 (58) DECK:.... (45) NUMBER OF SPANS IN MAIN UNIT:..... SUPERSTRUCTURE: 7 (107) DECK STRUCTURE TYPE...... 1 (61) CHANNEL AND CHANNEL PROTECTION:..... 6 (108) WEARING SURFACE/PROTECTIVE SYSTEM: A) TYPE WEARING SURFACE: CODE:..... 6 LOAD RATING AND POSTING CODE:.... B) TYPE MEMBRANE: (31) DESIGN LOAD:..... C) TYPE DECK PROTECTION: CODE:.... (64) OPERATING RATING: 755 AGE AND SERVICE (27) YEAR BUILT:..... INVENTORY RATING: 450 (66)(106) YEAR RECONSTRUCTED..... BRIDGE POSTING:.... (42) TYPE OF SERVICE: ON: (41) STRUCTURE OPEN, POSTED, OR CLOSED:..... P 5 UNDER...... CODE..... APPRAISAL (28) LANES: ON STRUCT 02 UNDER STRUCT: იი (67) STRUCTURAL EVALUATION:.... (68) DECK GEOMETRY:.... (30) YEAR OF ADT:..... **2019** (109) TRUCK ADT:..... (69) UNDERCLEARANCES, VERT AND HOR:..... N BYPASS, DETOUR LENGTH:.... (71) WATERWAY ADEQUACY:.... GEOMETRIC DATA (72) APPROACH ROADWAY ALIGNMENT:..... LENGTH OF MAXIMUM SPAN:.... (48)(113) SCOUR CRITICAL BRIDGES:...... 8P CURB/SIDEWALK: LFT 043 FT RGT: 043 (51) BRDG RDWY WIDTH CURB TO CURB....... 0267 . FT PROPOSED IMPROVEMENTS (52) DECK WIDTH OUT TO OUT..... 0372 FT (75) TYPE OF WORK:.... (32) APPR RDWY WIDTH: 00 027 00 FT (76) LENGTH OF IMPROVEMENT:..... 000000 (33) BRIDGE MEDIAN:.... (94) BRIDGE IMPROVEMENT COST:..... 000,0 26 DEG (35) STRUCT FLARED (34)SKEW: Ν (95) ROADWAY IMPROVEMENT COST:..... 000,0 (10) INV RTE MIN VERTICAL CLEAR:...... FT (96) TOTAL PROJECT COST:.... 000,0 (97) YEAR OF IMPROVEMENT COST EST:..... INV RTE TOT HORIZONTAL CLEAR:.. 267 FT MIN VERT CLEAR OVER BRDG RDW 9999 FT (54) MIN VERT UNDERCLEAR N Α FT (115) YEAR OF FUTURE ADT:.....

Bridge Inspection Report Element Form

Bridge No: P-BL01001							Inspection	on Date: 0	3/25/2021
SPRING ROAD OVER S	TREAM						Milepoin	t : 0	00090
(58) Deck	7	(59)	Superstructi	ıre 7		(6	60) Substru	cture 7	,
(61) Channel	6	(62)	Culvert	N					
			ı			Γ	T	r	1
Element			Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
38 - Reinforced Cor	ncrete Slab		1 - Ben.	629	sq. ft.	604	25	0	0
☐Eng Req	□FYI	□Di	istrict	□Ir	naccess	sible?		Eng Com	ıments
The asphalt wearin	g surface is in good o	condition v	vith minor we	ar through	out.				
There are hairline rat the north end ap	d condition. There are map cracks at the nor proximately 5' from th th end. There are ran	th end and ne West A	d a 2" long x 2 butment. The	2" wide x ′ re is a full	1/2" dee width l	ep spall in ongitudina	the unders Il crack witl	ide of the n effloresc	top slab ence
215 - Reinforced Co	oncrete Abutment		1 - Ben.	82	ft.	82	0	0	0
☐Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	ments
	of the rigid frame abut are isolated vertical he West Abutment.								
330 - Metal Bridge F	Railing		1 - Ben.	46	ft.	42	0	4	0
☐Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	iments
bridge railing posts	derate surface rust th . There are four crac ghtly leaning to the so	ked/poor v							
331 - Reinforced Co	oncrete Bridge Rai	ling	1 - Ben.	48	ft.	47	1	0	0
☐Eng Req	□FYI	□Di	istrict	□ Ir	naccess	sible?		Eng Com	iments
light efflorescence	vertical cracks in the part the base of Post 2 ded reinforcement in	of the Nor	th Railing. D	ue to insu	fficient	cover, the	re is a sma	all pop-out	spall
8062 - Sidewalk, Re	inforced Concrete	•	1 - Ben.	47	Ft.	38	9	0	0
☐Eng Req	□FYI	□Di	istrict	□Ir	naccess	sible?		Eng Com	ıments
The sidewalks over	r the structure have m	ninor pop-o	out spalls and	l minor sc	aling th	roughout.			
8246 - Culvert Head Concrete	lwall, Reinforced		1 - Ben.	48	Ft.	40	8	0	0
☐Eng Req	□FYI	□Di	istrict	Ir	naccess	sible?		Eng Com	ments

P-BL01001 03/25/2021

Bridge Inspection Report Element Form

Bridge No: P-BL01001							Inspection	on Date:	03/25/2021
SPRING ROAD OVER S	STREAM						Milepoin	t:	000090
(58) Deck	7	(59)) Superstructur	e 7		(6	0) Substru	cture	7
(61) Channel	6	(62)) Culvert	N					
cracks at the base	walls are exposed on to of railing posts. Due to e North Headwall abou	insuffic	ient cover, ther	e is a sr					
8251 - Wingwalls, R	Reinforced Concrete	•	1 - Ben.	25	Ft.	19	6	0	0
☐Eng Req	□FYI	□D	istrict	□lr	naccess	ible?		Eng Co	mments
wingwalls and the	n overgrowth at all wing structure. There is a 6' There is a hairline diag	' high x 1	I" wide x 1" dee	ep edge	spall in	the North	west Wing	wall along	
8260 - Slope, Prote	cted		1 - Ben.	2	Each	0	2	0	0
☐Eng Req	□FYI	□D	istrict	□ lr	naccess	ible?		Eng Co	mments
The slope protection	on at the abutments hav	ve rando	m up to 1/8" wi	de cracl	KS.				
8322 - Roadway Ap	proach Transition		1 - Ben.	2	Each	2	0	0	0
☐Eng Req	□FYI	□D	istrict	□ lr	naccess	ible?		Eng Co	mments
transverse crack in	proaches are in good on the East Approach Ro ere are no traffic barrier	adway.		ar throu	ghout. T	Γhere is a	3'-0" long	x 1/16" w	ride
have minor debris 1/4" wide longitudir Sidewalk and Curb 3 3/4" adjacent to a	are a few minor pop-ou and vegetative growth. nal crack. There is diffe have separated up to a storm drain inlet; how	Panel 2 erential s 2" adjac ever, the	2 from the bridg settlement up to ent to the storm sidewalk does	e on the 2 1/2" i drain ir not ext	Northen the Northet The	ast Sidew ortheast S e Southea ond this lo	ralk has a fidewalk. Tast Sidewa	full-length Fhe North Ik has se	x up to east
Curbs: The curbs	are in good condition.	There ar	e a few randon	n minor	cracks a	and spalls	in the curb	os.	
posting sign is in p	no object markers at the lace at the nearest inte st intersection on the Ea	rsection	on the West Ap						
The bridge is curre	ntly posted for 24,000 I	bs. for s	ingle-unit vehic	les and	44,000	lbs. for co	mbination-	unit vehi	cles.
8342 - Fencing			1 - Ben.	25	Ft.	0	25	0	0
☐Eng Req	□FYI	□D	istrict	□lr	naccess	ible?		Eng Co	mments
and misalignments	ik fence along the wing throughout the fence. II. The top fence rail is	Embank	kment erosion h	nas expo	sed the	fence po	st footing a	at the end	
8344 - Drainage De	vices		1 - Ben.	1	Entire Bridge	0	1	0	0
☐Eng Req	□FYI	□D	istrict		naccess	ible?		Eng Co	nments

P-BL01001 03/25/2021

Bridge Inspection Report Element Form

Bridge No: P-BL01001							Inspection	on Date: 0	3/25/2021
SPRING ROAD OVER S	STREAM						Milepoin	t : 0	00090
(58) Deck	7	(59) Superstruct	ure 7		(6	0) Substru	cture 7	
(61) Channel	6	(62) Culvert	N					
The weep holes in	the slope protection are fu	ully cl	ogged.						
8345 - Stream Char	nnel		1 - Ben.	1	Entire Bridge	1	0	0	0
☐Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	ments
downstream chang abrasion along the heavy vegetation of end along the East Slope Protection: growth in the slope clogged. There are full-height crack wife fractured adjacent with adjacent mind high x full-depth sp	from south to north under the lis straight. The stream concrete channel, causing overgrowing all four slope put Slope Protection. There are random up to 1/8 protection joints at several e patched areas with up to the strength of the Northwest Wingwal or spalling in the Northeast pall along the base of the Nope Protection approximal	e char g a 2 ² prote 8" wid al loc o 1/8" e Sou I due : Slop Northe	nnel and bank high gap at the ctions. There de cracks throughter the value of the cracks autheast Slope to a tree growe Protection agast Slope Pr	s are line the interfa is debris ughout the veep hole at the base Protection udjacent to otection.	ed with concernation accumulate a	ete slopes downstrea upstream Northwest concrete.	There is up ete-lined bater the brid. There is a slope protologies a slope. There is a . There is	to 2" deep anks. The ge at the r minor veg rotection a ection. The tection has 1/4" wide of a 6'-0" lon	re is north etation re fully ere is a crack g x 3"
8359 - Soffit (under and slabs	rside) of concrete deck	(S	1 - Ben.	1	Entire Bridge	1	0	0	0
☐Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	ments
There are hairline at the north end ap	d condition. There are a formap cracks at the north ereproximately 5' from the Windom hairline cracks throug	nd an /est A	d a 2" long x : butment. The	2" wide x re is a fu	1/2" dee	ep spall in ongitudina	the unders I crack 10'	ide of the -0" from th	top slab e south

2021 BRIDGE INSPECTION REPORT APPROACH TRAFFIC BARRIER FORM

							 	Transition			Appro	Approach Traffic Barrier	arrier	Exist. End Treatment	Proposed End Treatment
Corners	Bridge Railings Meet MDSHA Standard		Approach Traffic Barrier Present	Traffic	Attached to Bridge	2 .	Thrie Beam Present	 →	Gradually Stiffened	Post Spacing	Rail Type	Post Type	Post Spacing	Туре	Туре
	>	z	>	z	>	z	>	z	z ≻						
1		×		×										None	Flared, Turned-Down
7		×		×										None	Flared, Turned-Down
3		×		×										None	Flared, Turned-Down
4		×		×										None	Flared, Turned-Down

Bridge No.: P-BL01R

County: Prince George's

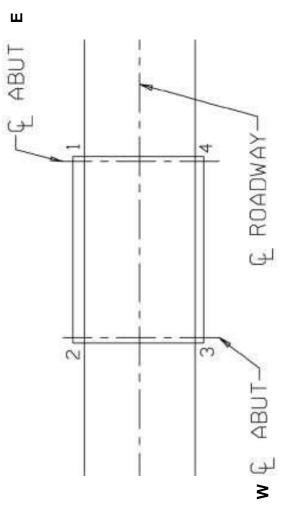
Road Carried: SPRING ROAD

Crossing: STREAM

Date Inspected: 03/25/2021
Inspector: C. Percy, D. Ross

Comments:

There are no traffic barriers at the structure.





Load Rating Standard Summary Sheet

Bridge No.: PBL01001 on SPRING ROAD over STREAM
Date of Rating: 01/27/2014 LARS Program: Yes No No Program Used: BOX5
Rating Method: LRFR LFR ASR Ingineering Load Surface (in.)
Rating Type: As-Built ☐ As Inspected ☑ Condition Report Date: 03/05/2013
Comments/Defects/Assumptions: This Load Rating is based on the latest inspection report as noted above,
as well as a previous load rating dated 1996. Rating factors for the top slab have been listed.

LRFR Design/Load Rating Vehicle (Limit States are Strength I for all materials, Service II for Steel only, or Service III for prestressed concrete Inventory only)								
	Rating Details	<u>Inventory</u>	Operating					
Truck/ Axle/ Tons	Controlling Member	Limit State	Limit State					
	Controlling Stress (Moment, Shear, Service)	Rating Factor	Rating Factor					
III 02/2/26 Terra	enter controlling member (i.e. Sp. 1, Ext. Beam)	Limit State	Limit State					
HL-93/3/36 Tons	Select the Controlling Stress	X.XX	X.XX					

Legal Loads (For LRFR the Limit States are Strength I for all materials or Service II for steel only)							
Truck/ Axle/ Tons Controlling Member		Inventory or Limit State	Operating				
	Controlling Stress	Tons (XX.X)	Tons (XX.X)				
H-15 / 2 / 15	Top slab	25.0	42.0				
H-15/2/15	Moment		42.0				
T-3 / 3 / 33	Top slab	33.0	55.0				
1-3/3/33	Moment		33.0				
T-4 / 4/ 35	Top slab	33.0	57.0				
1-4/4/33	Moment		37.0				
HS-20 / 3 / 36	Top slab	45.0	75.5				
HS-20 / 3 / 30	Moment		73.3				
3S2 / 5 / 40	Top slab	61.0	99.9				
384/3/40	Moment		77.9				

Permit Loads - (For LRFR the Limit State is Strength II)								
Truck/ Axle/ Tons	Inventory	Operating						
Truck/ Axie/ Tons	Controlling Stress (Moment, Shear, Service)	Tons (XX.X)	Tons (XX.X)					
150K / 8 / 75	Top slab	67.0	99.9					
130K/6//3	Moment	07.0	99.9					
90K Comb./4/45	Top slab	43.0	72.0					
90K Comb./ 4 / 45	Moment	43.0	72.0					
90K Crane / 4 / 45	Top slab	41.5	69.5					
90K Crane / 4 / 45	Moment	41.3	09.5					
90K Cargo/ 5 / 45	Top slab	53.0	88.5					
90K Cargo/ 5 / 45	Moment	55.0	00.5					
80K Cargo/ 5 / 40	Top slab	61.0	99.9					
our Cargo/ 3 / 40	Moment	01.0	99.9					
120K Spec./ 5 / 60	Top slab	57.5	96.5					
120K Spec./ 5 / 00	Moment	37.3	90.3					
108K Crane/ 4/ 54	Top slab	47.0	78.5					
TOOK CTAILE/ 4/ 54	Moment	47.0	70.5					
120K Crane/ 5 / 60	Top slab	58.0	97.0					
120K Clane/ 5 / 00	Moment	36.0	97.0					

BOX5 data input: Equivalent fill depth:

East: 0.176 / 0.12 = 1.47'
West: 0.255/0.12 = 2.125'
Grade: (2.125'-1.47')/22.42'=3.2%

Box5 Truck list:

Legal rating	Permit rating
SP-1 H 15	SP-1 150K
SP-2 T-3	SP-2 90K COMB.
SP-3 T-4	SP-3 90K CRANE
SP-4 HS20	SP-4 90K CARGO
SP-5 3S2	SP-5 80K CARGO
	SP-6 120K
	SP-7 108K
	SP-8 120K CRANE

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PBL01001_LFR_121013_Legal.OUT
******************
*
                        BOX CULVERT DESIGN AND RATING
                                                                    335529
                                                                          *
*
                                                                          *
                                                                          *
                             COPYRIGHT (C) 1990
                                                                          *
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                                                                          *
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*******************
                        BOX CULVERT DESIGN AND RATING
                                                                      335529
PROGRAM P4356010
                                                            02/16/2014 21:38
VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\Yang\Desktop\box\PBL01001\PBL010~1.DAT
P-BL01 SINGLE CELL FRAME WITHOUT BOTTOM SLAB.
  STRUCTURE IDENTIFICATION
                               SPAN
CNTY
       SR
              SEGMENT OFFSET
                               ID
                                           STRUCTURE DESCRIPTION
       0000
                                    1001
 01
               0000
                        0000
                               PBL0
          RUN
                 BOTTOM
                                  FISH
                                         LIVE
                                                NO OF
                                                        TOP
                                                               NO OF
                         HAUNCH
  METHOD
          TYPE
                  SLAB
                                 CHANNEL
                                         LOAD
                                                CELLS
                                                        SLAB
                                                               LANES
                                           9
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                    Ν
                            Ν
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                                     Page 1
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PBL01001_LFR_121013_Legal.OUT LOAD FACTORS UNIT EQUIV f'c TOP
BETA E BETA E WEIGHT FLUID SLAB AT REBAR GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 5 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 21.76 2.79 20.00 0.00 10.00 0.00 10.00 0.8 3.20
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 2 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 6.00 14.0 2 24.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 26.00 4.0 3 26.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00 Page 2

Page 2

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AXLE AXI F AXLE AXLE DIST NO. NO. LOAD DIST NO. LOAD LOAD DIST NO. LOAD DTST 8.00 14.0 2 32.00 14.0 3 32.00 0.0

SPECIAL LIVE LOADING 5

BOTTOM SIZE SPAC

0.000 4 9.0

AS

NUMBER

OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 5 6.00 4.00

AXLE AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 31.0 4 17.00 4.0

5 17.00 0.0

WALL REINFORCEMENT

WALL 1

1 WALL 2
TOP BOTTOM TOP
AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 7 9.0 0.000 4 9.0 0.000 7 9.0

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE : SP-1 SP-2 SP-3 SP-4 SP-5

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS DIST MOMENT THRUST SHEAR CAPAC 0.00 F DL+EPH 6.076 5.945 10.205 LL+I 5.869 4.566 IR OR REINF REINF 0.70 1.18 4@ 9.0 RATING TONS 10.55 17.63 2.79 F DL+EPH -8.355 5.491 25.581 2.24 3.74 7@ 9.0 LL+I -7.688 4.566 RATING TONS 33.61 56.13

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR
DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF
0.00 F DL+EPH -6.240 6.399 10.250 0.68 1.14 4@ 9.0
LL+I -5.869 4.566

RATING TONS 10.25 17.12
Page 3

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2.79 F DL+EPH 8.570 5.945 25.591 2.21 3.70 7@ 9.0 LL+I 7.688 4.566

RATING TONS 33.21 55.46

SLAB 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC DIST IR OR REINF REINF 61.234 4.98 0.00 F DL+EPD-10.962 0.847 8.32 7@ 9.0 LL+I -10.090RATING TONS 74.73 124.81 1.46 V DL+EPF -3.590 4.637 23.226 2.90 4.84 7@ 9.0 0.000 LL+I 5.381 6.420 RATING TONS 43.44 72.54 10.88 F DL+EPH 19.068 0.387 61.165 1.68 2.80 7@ 9.0 LL+I 25.073 RATING TONS 25.18 42.06 -4.896 23.226 20.30 V DL+EPF -3.254 2.86 4.77 7@ 9.0 0.000 -6.4205.381 LL+IRATING TONS 42.83 71.53 21.76 F DL+EPD-11.111 0.847 4.97 61.234 8.30 7@ 9.0 LL+I -10.090RATING TONS 74.51 124.44

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 10.25 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 17.12 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 10.158 0.34 0.56 0.00 F DL+EPH 6.076 5.945 4@ 9.0 LL+I 12.158 8.443 RATING TONS 11.08 18.51 7@ 9.0 2.79 F DL+EPH -8.355 25.548 1.08 5.491 1.80 LL+I -15.927 8.443 RATING TONS 35.62 59.49

WALL 2

ECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF **FACTORED EFFECTS** MOMENT THRUST 0.00 F DL+EPH -6.240 6.399 10.205 0.33 0.54 4@ 9.0 LL+I -12.158 8.443 RATING TONS 10.76 17.97 2.79 F DL+EPH 8.570 5.945 25.558 1.07 1.78 7@ 9.0 Page 4

PBL01001_LFR_121013_Legal.OUT 15.927 8.443 LL+I

RATING TONS 35.20 58.78

SLAB 1

ULT RATING FACTOR FACTORED EFFECTS ACTUAL SHEAR IR REINF REINF MOMENT THRUST SHEAR CAPAC DIST OR 0.00 F DL+EPD-10.962 61.234 2.42 4.04 7@ 9.0 0.847 LL+I -20.797 RATING TONS 79.77 133.22 1.46 V DL+EPF -3.590 4.637 23.226 1.49 2.49 7@ 9.0 0.000 3.842 12.471 LL+I 49.19 82.15 RATING TONS 10.88 F DL+EPH 19.068 0.387 61.165 1.00 1.67 7@ 9.0 42.045 RATING TONS 33.04 55.18 20.30 V DL+EPF -3.254 -4.896 23.226 1.47 2.45 7@ 9.0 0.000 LL+I 3.842 -12.47148.50 81.00 RATING TONS 21.76 F DL+EPD-11.111 0.847 61.234 2.41 4.02 7@ 9.0 LL+I -20.797 RATING TONS 79.53 132.82

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 10.76 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 17.97 TONS AT DISTANCE 0.00 IN WALL 2.

********* * LIVE LOAD RATING - SP-3 LOADING * *********

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR IR MOMENT THRUST SHEAR CAPAC OR REINF REINF DTST 0.55 0.00 F DL+EPH 6.076 5.945 10.177 0.33 4@ 9.0 12.432 9.057 LL+I RATING TONS 11.55 19.28 2.79 F DL+EPH -8.355 5.491 25.561 1.06 1.76 7@ 9.0 9.057 LL+I -16.286RATING TONS 36.98 61.75

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH -6.240 6.399 SHEAR CAPAC IR OR REINF REINF 10.223 0.32 0.54 4@ 9.0 LL+I -12.432 9.057 RATING TONS 11.21 18.73 2.79 F DL+EPH 8.570 5.945 25.572 1.04 1.747@ 9.0 9.057 LL+I 16.286 RATING TONS 36.54 61.02 Page 5

SLAB 1

			MOMENT -10.962	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	82.51	137.79		
1.46	٧		-3.590 2.695		4.637 12.060	23.226	1.54	2.57	7@ 9.0	0.000
		LLTI	2.093			IG TONS	53.95	90.09		
10.88	F	DL+EPH LL+I		0.387		61.165	0.98	1.64	7@ 9.0	
		LLII	72.510		RATIN	IG TONS	34.33	57.33		
20.30	20.30 V D		-3.254 2.695		-4.896 -12.060	23.226	1.52	2.54	7@ 9.0	0.000
		LLTI	2.093	_		IG TONS	53.20	88.84		
21.76	F	DL+EPD-		0.847		61.234	2.35	3.93	7@ 9.0	
		LLII	21.323		RATIN	IG TONS	82.26	137.38		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 11.21 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 18.73 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST							REINF	REINF
0.00 F DL+EPH				10.297	0.47	0.79	4@ 9.0	
LL+I	8.971	8.400						
			RATIN	IG TONS	16.94	28.29		
2.79 F DL+EPH				25.646	1.47	2.46	7@ 9.0	
LL+I -	-11.752	8.400						
			RATIN	IG TONS	52.96	88.45		

WALL 2

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH	-6.240	6.399		10.340	0.46	0.76	4@ 9.0	
	-8.971							
			RATTN	IG TONS	16.45	27.48		
			10 (1 2)		10.15	27.10		
2.79 F DL+EPH	8 570	5 945		25 655	1 45	2 43	70 9 N	
	11.752			23.033	1.15	2.15	76 5.0	
CLTI	11.732	0.400	DATTN	IC TONS	52.33	87 40		
			KAITI	NG IONS	12.33	07. 4 0		

Page 6

PBL01001_LFR_121013_Legal.OUT SLAB 1

			MOMENT -10.962	THRUST	FECTS SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0							
					RATIN	NG TONS	124.35	207.67								
1.46	٧		-3.590 3.322		4.637 10.274	23.226	1.81	3.02	7@ 9.0	0.000						
		LLII	3.322			NG TONS	65.14	108.78								
10.88	F	DL+EPH LL+T		0.387		61.165	1.26	2.10	7@ 9.0							
			331130		RATIN	NG TONS	45.33	75.71								
20.30	20.30 V DI							-3.254 3.322			-4.896 -10.274	23.226	1.78	2.98	7@ 9.0	0.000
		LLTI	3.322			NG TONS	64.23	107.26								
21.76	F	DL+EPD-		0.847		61.234	3.44	5.75	7@ 9.0							
		LLII	I-1.33T		RATIN	NG TONS	123.98	207.05								

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 16.45 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 27.48 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH 6.076 5.945 LL+I 8.025 6.563 RATING TONS 20.70 34.56

2.79 F DL+EPH -8.355 5.491 LL+I -10.513 6.563 RATING TONS 65.60 109.55

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 10.272 0.50 0.84 0.00 F DL+EPH -6.240 6.399 4@ 9.0 LL+I-8.025 6.563 RATING TONS 20.10 33.57 2.79 F DL+EPH 8.570 5.945 25.607 1.62 2.71 7@ 9.0 10.513 6.563 LL+I RATING TONS 64.82 108.25

SLAB 1

Page 7

		DL+EPD-	MOMENT	RED EFF	FECTS SHEAR	ULT CAPAC	RATING IR	gal.OUT FACTOR OR 6.17	REINF	
					RATIN	NG TONS	147.88	246.96		
1.46	٧		-3.590 2.184		4.637 8.287	23.226	2.24	3.75	7@ 9.0	0.000
			2.104			NG TONS	89.73	149.84		
10.88	F		19.068 27.491	0.387		61.165	1.53	2.56	7@ 9.0	
					RATIN	IG TONS	61.25	102.29		
20.30	٧		-3.254 2.184		-4.896 -8.287	23.226	2.21	3.69	7@ 9.0	0.000
		LLTI	2.104			NG TONS	88.47	147.75		
21.76	F		-11.111 -13.598	0.847		61.234	3.69	6.16	7@ 9.0	
			13.330		RATIN	NG TONS	147.44	246.23		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 20.10 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 33.57 TONS AT DISTANCE 0.00 IN WALL 2.

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VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\Yang\Desktop\box\PBL01001\PBL010~2.DAT
P-BL01 SINGLE CELL FRAME WITHOUT BOTTOM SLAB.
   STRUCTURE IDENTIFICATION
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P-BL01001 53 03/25/2021

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LOAD FACTORS UNIT EQUIV f'C TOP BETA E BETA E WEIGHT FLUID SLAB AT REBAR
GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 8 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 21.76 2.79 20.00 0.00 10.00 0.00 10.00 0.8 3.20
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 8 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 8.00 11.0 2 26.00 4.0 3 26.00 30.0 4 18.00 4.0 5 18.00 4.0 6 18.00 4.0 7 18.00 4.0 8 18.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 12.00 12.0 2 24.00 35.0 3 27.00 4.0 4 27.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 18.00 5.4 2 18.00 6.9 3 27.00 5.4 4 27.00 0.0
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE Page 2

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Page 2

PBL01001_LFR_121013_permit.OUT 6.00 4.00 AXLE AXLE AXLE
DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 12.0 2 17.00 4.0 3 17.00 28.0 4 22.00 4.0 AXIF NO. LOAD 1 12.00 5 22.00 LOAD 0.0 SPECIAL LIVE LOADING 5 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 14.0 4 17.00 4.0

5 17.00 0.0 SPECIAL LIVE LOADING 6 NUMBER 3% GAGE PASSING OF AXLES INCR DISTANCE DISTANCE 6.00 4.00 SPECIAL LIVE LOADING 7 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 XLE AXLE AXLE AXLE
NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST
1 27.00 5.4 2 27.00 6.8 3 27.00 5.4 4 27.00 0.0 AXLE NO. LOAD SPECIAL LIVE LOADING 8 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 WALL REINFORCEMENT WALL 1 WALL 2

BOTTOM TOP BOTTOM TOP

AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 4 9.0 0.000 7 9.0 0.000 4 9.0 0.000 7 9.0 Page 3

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SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC 1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-8

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

DIST 0.00 F DL+EPH	MOMENT	THRUST 5.945	SHEAR	CAPAC	IR	FACTOR OR 0.45	REINF	
	23.303		RATIN	G TONS	20.19	33.72		
2.79 F DL+EPH	-8.355 -20.134			25.587	0.86	1.43	7@ 9.0	
LLTI	20.134	12.100	RATIN	G TONS	64.19	107.19		

WALL 2

	FACTOR	RED EFFE	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT T	HRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH				10.258	0.26	0.44	4@ 9.0	
LL+I -	-15.369 1	L2.166						
			RATIN	IG TONS	19.61	32.74		
2.79 F DL+EPH				25.597	0.85	1.41	7@ 9.0	
LL+I	20.134 1	L2.166						
			RATIN	IG TONS	63.42	105.92		

DIST 0.00				THRUST	FECTS SHEAR	CAPAC	IR	FACTOR OR 3.27	REINF	
					RATIN	NG TONS	146.89	245.30		
1.46	٧	DL+EPF	-3.590 -5.207		4.637 13.525	23.226	1.37	2.30	7@ 9.0	0.000
		LLII	3.207			NG TONS	103.08	172.15		
10.88	F	DL+EPH LL+I	19.068 47.117	0.387		61.165	0.89	1.49	7@ 9.0	
					RATIN	NG TONS	67.01	111.91		
20.30	٧	DL+EPF	-3.254		-4.896	23.226 Page		2.26	7@ 9.0	0.000

PBL01001_LFR_121013_permit.OUT LL+I -5.207 -13.525RATING TONS 101.64 169.75 21.76 F DL+EPD-11.111 0.847 61.234 1.95 3.26 7@ 9.0 LL+I -25.669RATING TONS 146.45 244.57 THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 19.61 TONS AT DISTANCE 0.00 IN WALL 2. THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 32.74 TONS AT DISTANCE 0.00 IN WALL 2. ********* * LIVE LOAD RATING - SP-2 LOADING * ********** WALL 1 CTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF FACTORED EFFECTS DIST MOMENT THRUST 0.00 F DL+EPH 6.076 5.945 0.32 10.158 0.54 4@ 9.0 LL+I 12.625 8.768 RATING TONS 14.55 24.30 2.79 F DL+EPH -8.355 5.491 25.548 1.04 1.74 7@ 9.0 LL+I -16.539 8.768 RATING TONS 46.78 78.12 WALL 2 **FACTORED EFFECTS** ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 0.00 F DL+EPH -6.240 6.399 10.205 0.31 0.52 4@ 9.0 LL+I -12.625 8.768 RATING TONS 14.13 23.60 2.79 F DL+EPH 8.570 5.945 25.558 1.03 1.72 7@ 9.0 16.539 8.768 LL+I RATING TONS 46.22 77.19 SLAB 1 PACIORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR PETNIS 500.00 F DL+EPD-10.962 0.847 LL+I -21.597 RATING TONS 104.75 174.93 1.46 V DL+EPF -3.590 4.637 23.226 1.51 2.53 7@ 9.0 0.000 LL+I 5.668 12.271 RATING TONS 68.17 113.85 10.88 F DL+EPH 19.068 0.387 61.165 0.96 1.61 7@ 9.0 LL+I43.663 RATING TONS 43.39 72.46 20.30 V DL+EPF -3.254 -4.896 23.226 1.49 2.49 7@ 9.0 0.000 LL+I 5.668 -12.271RATING TONS 67.22 112.26 Page 5

PBL01001_LFR_121013_permit.OUT

21.76 F DL+EPD-11.111 0.847 61.234 2.32 3.88 7@ 9.0 LL+I -21.597

RATING TONS 104.44 174.41

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 14.13 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 23.60 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

	FACTORED EFFECTS			ULT	RATING	FACTOR	ACTUAL SHE	ΑR
DIST								NF
0.00 F DL+EPH	6.076	5.945		10.247	0.29	0.49	4@ 9.0	
LL+I	14.156	12.045						
			RATIN	IG TONS	13.26	22.15		
2.79 F DL+EPH	-8.355	5.491		25.611	0.93	1.55	7@ 9.0	
LL+I	-18.544	12.045						
			RATTN	IG TONS	41.87	69.93		

WALL 2

0.00 F DL+EPH	FACTORED EFF MOMENT THRUST -6.240 6.399 -14.156 12.045		IR		REINF REINF
		RATING TONS	12.88	21.51	
	8.570 5.945 18.544 12.045	25.621	0.92	1.54	7@ 9.0
22.1		RATING TONS	41.37	69.10	

DIST 0.00		DL+EPD- LL+I -	MOMENT -10.962	THRUST	FECTS SHEAR	CAPAC	IR		REINF	
					RATIN	IG TONS	96.28	160.78		
1.46	٧		-3.590 -0.902		4.637 13.988	23.226	1.33	2.22	7@ 9.0	0.000
LL+1 -0.3		0.302	RATING TONS			59.81	99.87			
10.88	F		19.068 45.366	0.387		61.165	0.93	1.55	7@ 9.0	
			.5.500		RATIN	IG TONS	41.76	69.74		
20.30	٧	DL+EPF LL+I			-4.896 -13.988	23.226	1.31	2.19	7@ 9.0	0.000
			0.302			IG TONS	58.97	98.48		
21.76	F	DL+EPD-	-11.111	0.847		61.234 Page		3.56	7@ 9.0	

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LL+I -23.497

RATING TONS 95.99 160.31

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 12.88 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 21.51 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

							ACTUAL	
	MOMENT							REINF
	+EPH 6.076 +T 10.287			10.128	0.40	0.66	40 9.0	
LL	10.207	7.177	RATIN	G TONS	17.86	29.82		
	+EPH -8.355 +T -13.477			25.548	1.28	2.13	7@ 9.0	
LL	TI -13.4//	7.177	RATIN	G TONS	57.41	95.87		

WALL 2

	FACTO	FACTORED EFFECTS			RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH	-6.240	6.399		10.205	0.39	0.64	4@ 9.0	
LL+I	-10.287	7.144						
			RATIN	NG TONS	17.34	28.96		
2.79 F DL+EPH	8.570	5.945		25.558	1.26	2.11	7@ 9.0	
LL+I	13.477	7.144						
			RATIN	NG TONS	56.73	94.73		
			KAITI	NG TONS	30.73	JT./J		

			MOMENT	THRUST		CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	128.55	214.69		
1.46	٧	DL+EPF	-3.590 4.619		4.637 9.998	23.226	1.86	3.10	7@ 9.0	0.000
		LLII	1.013			IG TONS	83.67	139.72		
10.88	F	DL+EPH LL+I	19.068 35.577	0.387		61.165	1.18	1.98	7@ 9.0	
			331377		RATIN	IG TONS	53.25	88.92		
20.30	٧		-3.254 4.619		-4.896 -9.998	23.226	1.83	3.06	7@ 9.0	0.000
			11013			IG TONS	82.50	137.78		
21.76	F		-11.111 -17.598	0.847		61.234	2.85	4.76	7@ 9.0	
			1550		RATIN	IG TONS Page	128.17 e 7	214.05		

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 17.34 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 28.96 TONS AT DISTANCE 0.00 IN WALL 2.

******* * LIVE LOAD RATING - SP-5 LOADING *

WALL 1

FACTORED EFFE			ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF
0.00 F DL+EPH				10.228	0.52	0.86	4@ 9.0	
LL+I	8.025	6.563						
			RATIN	NG TONS	20.70	34.56		
2.79 F DL+EPH				25.597	1.64	2.74	7@ 9.0	
LL+I	-10.513	6.563						
			RATIN	NG TONS	65.60	109.55		

WALL 2

	FACT	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF
0.00 F DL+EPH				10.272	0.50	0.84	4@ 9.0	
LL+I	-8.025	6.563	DATT	C TONG	20 10	22 57		
			KAIIN	IG TONS	20.10	33.57		
2.79 F DL+EPH	8.570	5.945		25.607	1.62	2.71	7@ 9.0	
	10.513							
			RATIN	IG TONS	64.82	108.25		

			MOMENT -10.962	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	147.88	246.96		
1.46	٧	DL+EPF LL+I			4.637 8.287	23.226	2.24	3.75	7@ 9.0	0.000
		LLTI	2.104			IG TONS	89.73	149.84		
10.88	F	DL+EPH LL+I		0.387		61.165	1.53	2.56	7@ 9.0	
		LLII	27.131		RATIN	IG TONS	61.25	102.29		
20.30	٧	DL+EPF LL+I			-4.896 -8.287	23.226	2.21	3.69	7@ 9.0	0.000
		LLTI	2.104		0.20.	IG TONS	88.47	147.75		
21.76	F		-11.111 -13.598	0.847		61.234	3.69	6.16	7@ 9.0	
			13.330		RATIN	IG TONS	147.44	246.23		

PBL01001_LFR_121013_permit.OUT

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 20.10 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.
THE MINIMUM OPERATING RATING IS 33.57 TONS AT DISTANCE 0.00 IN WALL 2.

* LIVE LOAD RATING - SP-6 LOADING *

WALL 1

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF
0.00 F DL+EPH	6.076	5.945		10.158	0.32	0.54	4@ 9.0	
LL+I	12.625	8.768						
			RATIN	IG TONS	19.40	32.40		
2.79 F DL+EPH	-8.355	5.491		25.548	1.04	1.74	7@ 9.0	
LL+I	-16.539	.539 8.768						
			RATIN	IG TONS	62.37	104.16		

WALL 2

			FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
								OR		REINF
0.00	F			6.399		10.205	0.31	0.52	4@ 9.0	
		LL+I -	-12.625	8.768						
					RATIN	IG TONS	18.84	31.47		
2 70	_		00	- 04-		25 550	4 02	4 70	7 0 0 0	
2.79	F			5.945		25.558	1.03	1.72	7@ 9.0	
		LL+1	16.539	8.768			61 63	102 02		
					RAIIN	IG TONS	61.63	102.92		

SLAB 1

			MOMENT -10.962	THRUST	SHEAR	CAPAC	IR	FACTOR OR 3.89	REINF	
			21.337		RATIN	NG TONS	139.66	233.24		
1.46	٧		-3.590 4.283			23.226	1.45	2.42	7@ 9.0	0.000
		LLTI	4.203			NG TONS	86.92	145.16		
10.88	F			0.387		61.165	0.96	1.61	7@ 9.0	
		LLTI	43.003		RATIN	NG TONS	57.85	96.61		
20.30	٧		-3.254 4.283			23.226	1.43	2.39	7@ 9.0	0.000
		LL+1	4.203	_		NG TONS	85.71	143.13		
21.76	F	DL+EPD-		0.847		61.234	2.32	3.88	7@ 9.0	
		LL 1 1	21.557		RATIN	NG TONS	139.25	232.55		

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 18.84 TONS AT DISTANCE 0.00 IN WALL 2. Page 9

PBL01001_LFR_121013_permit.OUT

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 31.47 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

						_			
DIST 0.00 F	DL+EPH	MOMENT 6.076	THRUST	SHEAR	CAPAC	IR	OR	ACTUAL REINF 4@ 9.0	
				RATIN	IG TONS	14.19	23.69		
2.79 F	DL+EPH	-8.355 -20 783	5.491 13.399		25.608	0.83	1.39	7@ 9.0	
		201703	13.333		IG TONS	44.83	74.86		
					WALL 2	2			
DIST 0.00 F	DL+EPH	-6.240	ORED EFF THRUST 6.399 13.399	FECTS SHEAR	ULT CAPAC 10.287	RATING IR 0.26	FACTOR OR 0.43	ACTUAL REINF 4@ 9.0	SHEAR REINF
	LL+1 -	-13.003	13.399	RATIN	IG TONS	13.78	23.01		
2.79 F			5.945 13.399		25.618	0.82	1.37	7@ 9.0	
	LLTI	20.765	13.333		IG TONS	44.29	73.97		
SLAB 1									
DIST 0.00 F	DL+EPD-	MOMENT	THRUST	SHEAR				ACTUAL REINF 7@ 9.0	
		-20.210		RATIN	IG TONS	103.58	172.97		
1.46 V	DL+EPF	-3.590 -3.355		4.637 15.149	23.226	1.23	2.05	7@ 9.0	0.000
		3.333		RATIN	IG TONS	66.26	110.66		
10.88 F	DL+EPH LL+I				61.165	0.87	1.46	7@ 9.0	
				RATIN	IG TONS	47.09	78.63		
20.30 V	DL+EPF LL+I	-3.254 -3.355	-	-4.896 -15.149	23.226	1.21	2.02	7@ 9.0	0.000
	_			RATIN	IG TONS	65.34	109.11		
21.76 F	DL+EPD-	-11.111 -26.210	0.847						
						400 07	4 7 2 4 6		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 13.78 TONS AT DISTANCE 0.00 IN WALL 2.

RATING TONS 103.27 172.46

THE OPERATING RATING IS GOVERNED BY MOMENT. Page 10

$$\operatorname{PBL01001_LFR}_121013_\operatorname{permit.OUT}$$ THE MINIMUM OPERATING RATING IS 23.01 TONS AT DISTANCE 0.00 IN WALL 2.

**************** * LIVE LOAD RATING - SP-8 LOADING *

WALL 1

						_			
DIST 0.00 F	DL+EPH	MOMENT	THRUST 5.945	SHEAR	CAPAC	IR	OR	ACTUAL REINF 4@ 9.0	
				RATIN	NG TONS	17.48	29.19		
2.79 F	DL+EPH LL+I -	-8.355 -18.716	5.491		25.605	0.92	1.54	7@ 9.0	
	LLTI	10.710	11.542	RATIN	NG TONS	55.30	92.35		
					WALL 2	2			
DIST 0.00 F	DL+EPH	-6.240	6.399		ULT CAPAC 10.283	RATING IR 0.28	FACTOR OR 0.47	ACTUAL REINF 4@ 9.0	SHEAR REINF
	LL+I -	-14.287	11.942		NG TONS	16.98	28.35		
2.79 F		8.570 18.716			25.615	0.91	1.52	7@ 9.0	
	LLTI	10.710	11.942		NG TONS	54.64	91.25		
SLAB 1									
DIST 0.00 F	DL+EPD-	FACTO MOMENT -10.962 -23.668	THRUST 0.847	SHEAR	ULT CAPAC 61.234	RATING IR 2.12	FACTOR OR 3.55	ACTUAL REINF 7@ 9.0	SHEAR REINF
	LLTI -	-23.000		RATIN	NG TONS	127.44	212.83		
1.46 V	DL+EPF	-3.590 -3.178		4.637	23.226	1.37	2.29	7@ 9.0	0.000
	LLTI	3.170			NG TONS	82.12	137.14		
10.88 F		19.068 43.291			61.165	0.97	1.62	7@ 9.0	
		131231		RATIN	NG TONS	58.35	97.44		
20.30 V	DL+EPF LL+I	-3.254 -3.178		-4.896 -13.583	23.226	1.35	2.25	7@ 9.0	0.000
	,_	3.1.0			NG TONS	80.97	135.22		
21.76 F	DL+EPD-	-11.111 -23.668	0.847		61.234	2.12	3.54	7@ 9.0	
	CCTT -	23.000		DATTA	IC TONC	127 07	212 20		

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 16.98 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 28.35 TONS AT DISTANCE 0.00 IN WALL 2.

Page 11

RATING TONS 127.07 212.20

Prince George's County



2021 BRIDGE INSPECTION REPORT March 25, 2021



BRIDGE NO. P-BL02001

54TH PLACE

OVER

STREAM

Prepared by



Prince George's County

2021 BRIDGE INSPECTION REPORT

BRIDGE NO. P-BL02001

54TH PLACE OVER STREAM

Prepared by



W		5/4/2021	
Inspection Team I	Leader: Caleb Percy, P.E.	Date	
80	ED.	5/4/2021	
Inspector:	Daria Ross	Date	

Professional Certification: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 39263, Expiration Date: June 27, 2022.

Professional Engineer:

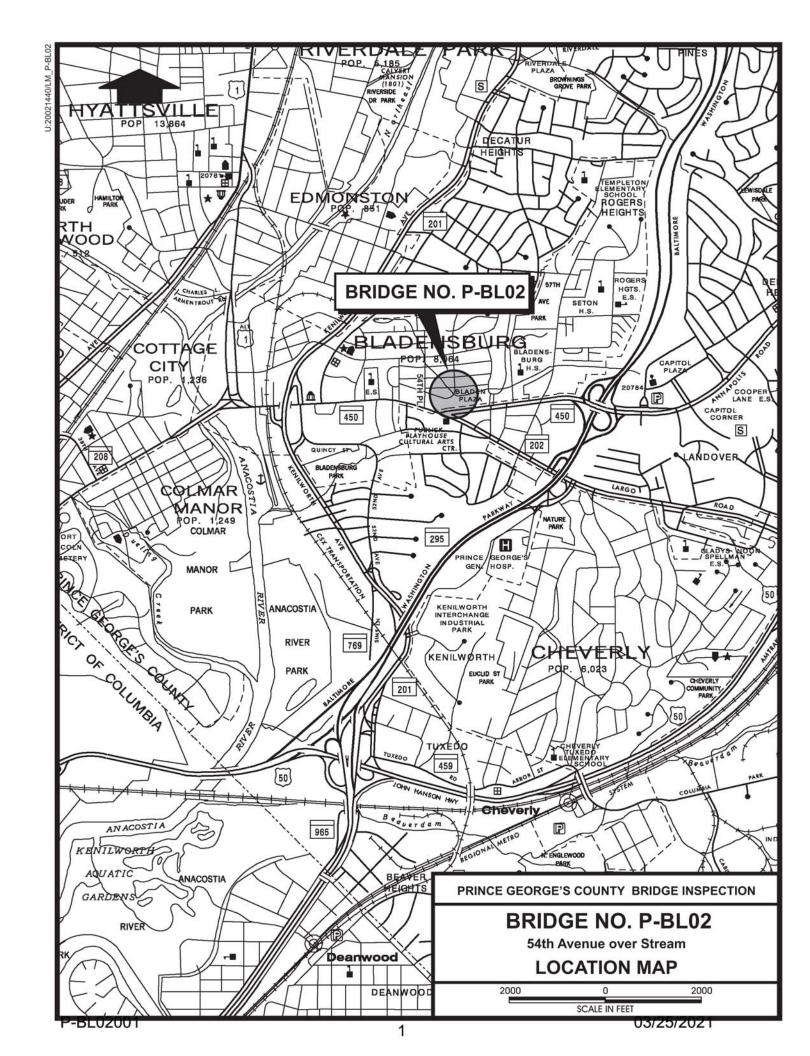
5/4/2021

Date

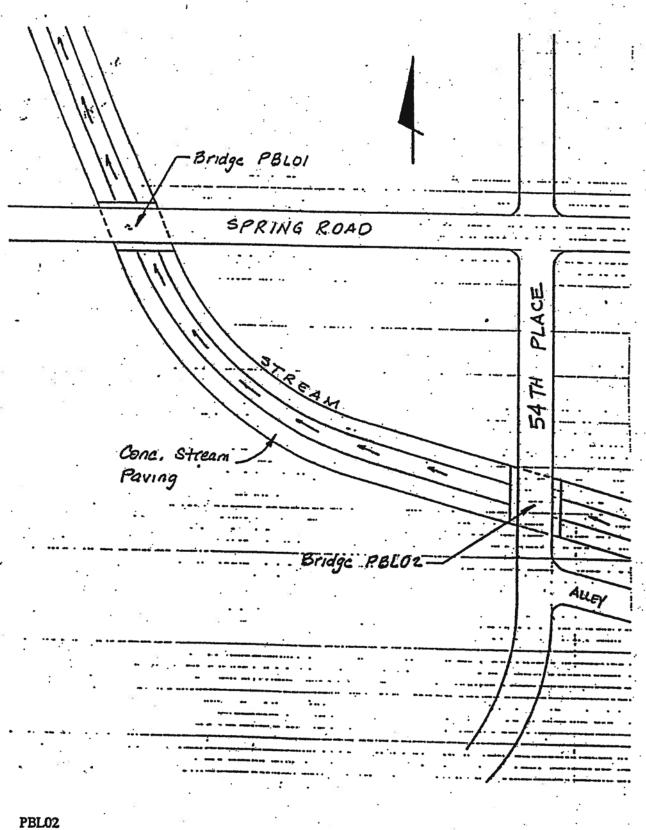
The condition report and recommendations presented herein are based on a visual inspection of accessible portions of the existing structure. No responsibility is assumed by Century Engineering, Inc. for the presence of any latent structural defects that cannot be detected by such visual inspection.

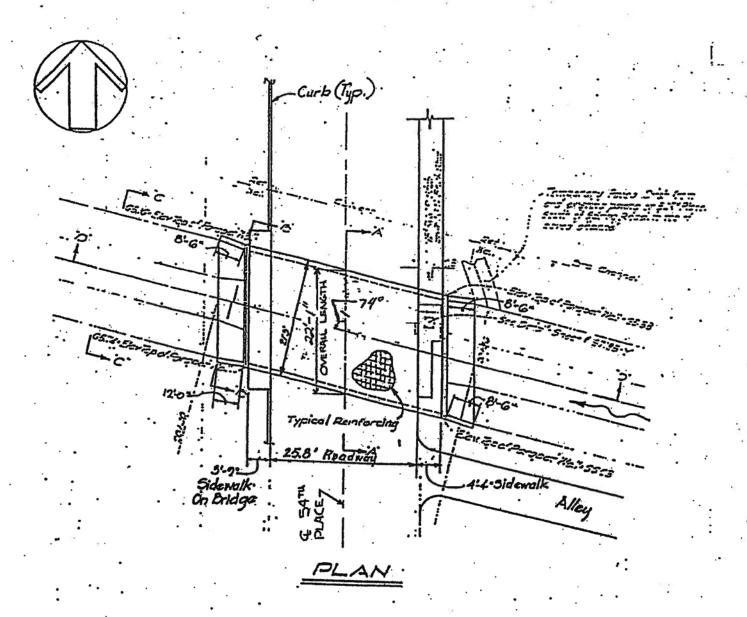
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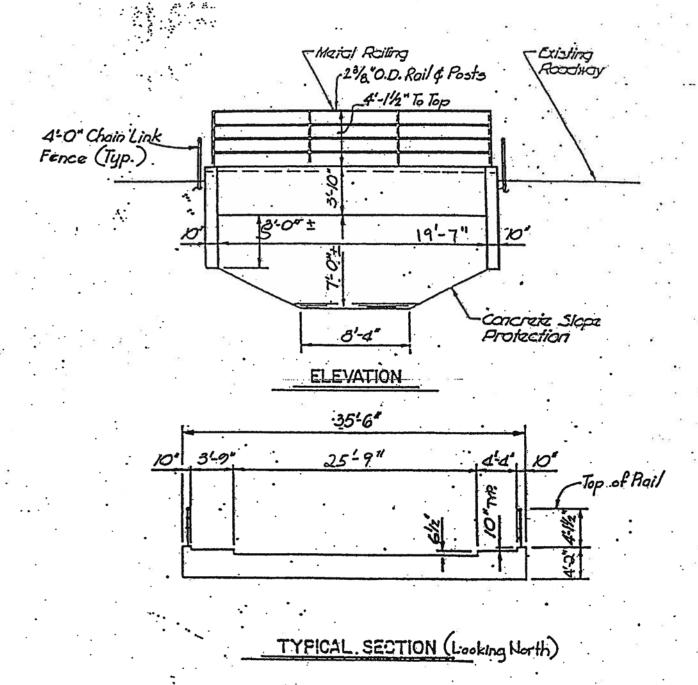
BRIDGE NO. PBL02 - 54TH PLACE OVER STREAM





PBL02

BRIDGE NO. PBL02 - 54TH PLACE OVER STREAM



PBL02

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL02R **Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME** Year Built 1958 Name 54TH PLACE Crossing STREAM Photos 24 Inspection Date 03/25/2021 Inspection Crew C. Percy, D. Ross **DESCRIPTION:** Single-span concrete rigid-frame bridge with an asphalt wearing surface. Substructure consists of concrete rigid-frame wall abutments with concrete slope and channel protection. The concrete slab and walls were reconstructed at a later date. The bridge carries a two-lane roadway and two sidewalks. The stream flows from east to west under the structure. The numbering convention for the bridge is from the north and the west. **OVERALL LENGTH:** 22'-1" **CLEAR ROADWAY:** 25'-9" YEAR BUILT: 1958 **POSTED LOAD:** YEAR REHABILITATED: SINGLE, LBS 28.000 G.V.W. **POSTED SPEED LIMIT: COMBINATION, LBS 25 MPH BEAM SPACING: MAP COORDINATES:** 12F7 **NUMBER OF BEAMS:** 5410C10 **SIZE OF BEAMS: ROADWAY APPROACHES:** Section 25'-9" wide asphalt roadway with one lane in each direction. There is a two way stop at the north approach and a sharp horizontal Alignment curve at the south approach. Profile Slight uphill grade towards the south. **Traffic Barrier** There are no approach traffic barriers.

REVIEW OF ITEM 113 - SCOUR POTENTIAL RATING: 8P

Item 113 was previously rated an 8P, which implies that the bridge is a culvert type structure with a paved bottom. Based on the observed conditions, this rating is still valid and does not require reevaluation.

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge	No. P-BL02R	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958	3	
Name	54TH PLACE	Crossing STREAM	Photos_	24	
Inspec	tion Date 03/25	/2021 Inspection Crew C. Percy, D	. Ross		

REVIEW OF PREVIOUS REPORT:

A 2019 Bridge Inspection Report prepared by Sabra & Associates was available and used for comparison purposes. The overall condition of the culvert appeared to be essentially the same as noted in the previous report with the following exceptions:

- 1. There is cracking with efflorescence along the exterior face of the East Parapet.
- 2. There is scaling along the bottom edges of the slope protection panels.

LIVE LOAD RATINGS:

The load ratings were re-calculated by Wallace, Montgomery & Associates, LLP during the 2013-2014 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The load ratings for the Maryland Legal Load vehicles are as follows:

<u>Truck</u>	Gross Vehicle Weight	<u>Inventory</u>	<u>Operating</u>
H-15	15 tons	28 tons	47 tons
HS-20	36 tons	50 tons	85 tons
Type 3	33 tons	37 tons	63 tons
Type 3S2	40 tons	70 tons	99 tons

The bridge is currently posted at 28,000 lbs. for single-unit vehicles only. Based on the above previously computed load ratings, we recommend removing the current posting sign.

The recommendation for not posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

SI&A CONDITION RATING SUMMARY:

	<u>ltem</u>	Current	<u>2019</u>	<u>2017</u>	<u>2015</u>	
Deck (Item 58) -		7	7	7	7	
P-BL02001		6			03/25/2	021

6

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL02R Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME Year Built 1958									
Name 54TH PLACE Crossing	g STREAM		Ph	otos 24					
Inspection Date 03/25/2021	Inspection	Crew C. Percy	, D. Ross						
Superstructure (Item 59) -	7	7	7	7					
Substructure (Item 60) -	7	7	7	7					
Channel and Channel Protection (Item 61) -	6	6	6	6					
Culvert (Item 62) -	N	N	N	N					
Waterway Adequacy (Item 71) -	7	7	7	7					
Approach Roadway Alignment (Item 72) -	6	6	6	6					
Bridge Sufficiency Rating (BSR) -	91.5	91.5	91.5	91.5					
Routine Inspection Frequency -	24 months	24 months	24	24					
Date of Inspection -	03/25/2021	03/05/2019	03/20/2017	03/09/2015					
Partial Interim Inspection Frequency -	N/A								

Load Rating Summary:

The load ratings were re-calculated by Wallace, Montgomery & Associates, LLP during the 2013-2014 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The load ratings for the Maryland Legal Load vehicles and Permit Vehicles are as follows:

<u>Vehicle</u>	Gross Vehicle Weight	Inventory Rating (Tons)	Operating Rating (Tons)
HL-93	36 tons		
H-15	15 tons	28.0	47.0
T-3	33 tons	37.5	63.0
T-4	35 tons	39.5	66.0
HS-20	36 tons	50.5	85.0
T-3S2	40 tons	70.0	99.9
150K	75 tons	80.0	99.9
90K Permit	45 tons	79.5	83.0
90K Mobile Crane	45 tons	78.5	81.5
90K Cargo	45 tons	61.0	99.9
80K Cargo	40 tons	70.0	99.9
120K Vehicle	60 tons	66.0	99.9
108K Mobile Crane	54 tons	55.0	92.5
120K Mobile Crane	60 tons	68.5	99.9

The bridge is currently posted at 28,000 lbs. for single-unit vehicles only. Based on the above previously computed load ratings, we recommend removing the current posting.

The recommendation for not posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

2021 BRIDGE INSPECTION REPORT

Bridge	No. P-BL02R	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958	
Name	54TH PLACE	Crossing STREAM	Photos 24	1
Inspec	tion Date 03/25/	/2021 Inspection Crew C. Percy, D.	Ross	

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

DESCRIPTION		COUNTY ITEM NUMBER	QUANTITY	UNIT COST	TOTAL COST
lmm	nediate:				
1	Install object markers at all four corners of the structure.	81	4 EA	\$200/EA	\$800
2	Install bridge rail that meets current MDSHA standards.	22	40 LF	\$100/LF	\$4,000
3	Install flared and turned down end treatments at the Northwest, Northeast and Southwest Embankments.	21	3 EA	\$1150/EA	\$3,450
4	Install MDSHA Type K end treatment at the Southeast Embankment.	21	1 EA	\$1150/EA	\$1,150
_	Subtotal (Immediate Items)				\$9,400
	tine:				
1	Repair the undermining of the Northeast Sidewalk.	99	2 CF	\$60/CF	\$120
	Subtotal (Routine Items)				\$120
<u>Prev</u>	ventative:				
1	Repair delaminated concrete along the outside face of both parapets.	2	7 CF	\$350/CF	\$2,450
2	Patch spalls on concrete channel protection.	6	4 CF	\$50/CF	\$200
3	Remove existing load posting sign.	83	1 EA	\$250/EA	\$250
4	Repair disconnected top rail of the Northeast Fence and damaged section of the Southeast	101	15 LF	\$50/LE	\$750
5	Fence Seal the cracks in the roadway over the	101	15 LF	\$50/LF	\$750
5	bridge and at the approaches.	23	300 LF	\$10/LF	\$3,000
6	Replace the missing section of the Northwest Fence	101	10 LF	\$50/LF	\$500
7	Replace deteriorated joint material between abutment and wing walls	11	20 LF	25/LF	\$500
	Subtotal (Preventative Items)				\$7,650
				Total:	\$17,170

otal: \$17,170

Immediate Repairs - Severe Defects that may affect the serviceability of the structure or are missing safety features that present a hazard to the public. Immediate repairs should be scheduled within 12 months of notification.

Routine Repairs - Moderate defects that do not presently affect the serviceability of the structure. Routine repairs should be scheduled, and given priority, within the current maintenance schedule.

Preventative Repairs - Minor defects that do not presently affect the serviceability of the structure. Preventative repairs should be scheduled within the current maintenance schedule.

2021 BRIDGE INSPECTION REPORT GEOMETRY

			GLOMLINI	
	Bridge No. P-BL02R	_ 	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958
	Name 54TH PLACE	LACE Crossing	ing STREAM	Photos 24
	Inspection Date	e 03/25/2021	Inspection Crew C. Percy, D. Ross	Ross
		NEW ADC	OLD ADC	
MAP COORDINATE		5410C10	12F7	
SKEW WITH HORIZONTAL (DEGREES)	L (DEGREES)	16		
STRUCTURE TYPE		Rigid Frame		
OVERALL LENGTH		22'-1"		
NO. OF SPAN		0001	NO. OF CELLS	
SPAN LENGTH		S020S		
VERTICAL CLEARANCE		A - < 10'		
OUT-TO-OUT (FEET)		0355		
ROADWAY WIDTH (FEET)		25'-9"		
APPROACH ROADWAY WIDTH	VIDTH	00	026 00	
SHOULDER WIDTH		z	z	z
CURB/SIDEWALK WIDTH		038	042	
NO OF BEAMS		1		
SIZE OF BEAMS		1		
BEAM SPACINGS				
ABUTMENT TYPE	MATERIAL	1 - Concrete	TYPE 7 - Non-definable	CODE 1 - Predominant Feature
ABUTMENT FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE 0 - None	CODE 0 - Entire Structure
PIER TYPE	MATERIAL	N - Not Applicable	TYPE	CODE
PIER FOOTING	MATERIAL	N - Not Applicable	TYPE OF PILE	CODE
WINGWALL TYPE	MATERIAL	1 - Concrete	TYPE	CODE
WINGWALL FOOTING	MATERIAL	MATERIAL 1 - Concrete	TYPE OF PILE	CODE
BEARING TYPE	1ST BEARIN	1ST BEARING N - None or N/A	2ND BEARING N - None or N/A	3RD BEARING N - None or N/A
SPAN OF CULVERT		Z		
RISE OF CULVERT		Z		

CIII VEBT WALL

	CONDITIO	N RATING FORMS	
Bridge No. P-BL02R Bridge	Type SINGLE-SF	PAN CONCRETE RIGID-FRAME	Year Built 1958
Name 54TH PLACE	Crossing	STREAM	Photos 24
nspection Date 03/25/2021		Inspection Crew C. Percy, D	. Ross
58 DECK	CONDITION RATING		
1. Wearing Surface	7	Type - Asphalt	
2. Deck - Topside	-		
3. Deck - Underside	7	Type - Concrete	
4. Curbs	7	Type - Concrete	
5. Median	-		
6. Sidewalks	6		
7. Parapets	6	Type - Concrete	
8. Railing	5	Type - Four-strand steel pi	pe railing
9. Roadway Joints	-		
10. Drainage System	_		
11. Lighting Standards	_		

13. Other

Inspector's Condition Rating (58)

12. Utilities

structure.

58.1 – There are a few isolated longitudinal cracks up to 1/8" wide in the wearing surface over the

Type - Overhead lines over north approach

- 58.3 The soffit is in good condition. There is a longitudinal hairline crack with light efflorescence in the underside of the top slab along the centerline of the roadway and one hairline diagonal crack at the northwest corner of the top slab (see Photo 7).
- 58.4 There are minor edge spalls along the curbs.
- 58.6 There are shallow spalls and minor scaling throughout both sidewalks. There is up to 1/2" differential settlement between sidewalk panels near the Northeast and Northwest Transition. There is vegetation and debris between sidewalk panels and the curb. There are minor pop out spalls in some of the Northeast Sidewalk panels (see Photo 8).
- 58.7 There are hairline cracks in the parapets at the base of the railing posts. The gunite coating on the exterior face of the parapets has delaminated with uneven areas throughout. The hairline vertical cracks at the base of the railing posts are typical along the West Parapet. The hairline vertical crack on the West Parapet at the base of Post 2 has efflorescence on both faces (see Photo 9). There are hairline map cracks throughout the gunite along the outside face of the West Parapet. There is a 2'-3" long x 6" high area where the gunite coating has failed at the north end of the West Parapet (see Photo 10). There is cracking with efflorescence in the exterior face of the East Parapet (see Photo 11). There are three cracks between 0.012" and 0.05" wide in the East Parapet at the base of the railing posts.
- 58.8 There is light surface rust throughout both railings at the welds. There are no anchor bolts at all

Bridge	No. P-BL02R	Bridge Type SINGLE-S	PAN CONCRETE RIGID-FR	AME Year I	Built 1958	3	
Name	54TH PLACE	Crossing	STREAM		Photos	24	
Inspect	tion Date 03/2	5/2021	Inspection Crew C. Pe	ercy, D. Ross			

the base plates (see Photo 12). There is a dent in the bottom rail of the West Railing between Posts 2 and 3. There are two cracked welds in the West Railing, one at Post 2 and the bottom rail (see Photo 13) and the other at Post 3 and the bottom rail. The East Railing is loose and slightly leaning to the east. There is up to 100% section loss at the base of Post 4 of the East Railing (refer to Photo 12). There is a dent on the post at the south end of the East Railing (see Photo 14). There are nine cracked welds at the railing to posts connections in the East Railing.

ame 54TH PLACE	Crossing	STREAM		Photos 24
spection Date <u>03/25/2021</u>		Inspection Crew	C. Percy, D.	Ross
59 SUPERSTRUCTURE				
Number of Spans	1			
Type of Construction	Con	crete Rigid-Frame		
	CONDITIO RATING	N		
1. Bearing Devices	-			
2. Girders or Beams	-			
3. Stringers	-			
4. Floor Beams	-			
5. Diaphragms/Crossframes	-			
6. Paint	-			
7. Other Rigid Frame Top Slab	7	Type - Rigid-f	rame top slab	•
8. Rivets or Bolts	-			
9. Welds - Cracks	-			
10. Rust	-			
11. Timber Decay	-			
12. Concrete Cracking	7			
13. Collision Damage	-			
14. Deflection Under Load	8			
15. Alignment of Members	8			
16. Vibrations Under Load	8			
17. Fracture Critical Members	-			

59.7 - See comments for Item 58.3.

Bridge	No. P-BL02R	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958	
Name	54TH PLACE	Crossing STREAM	Photos 24	
Inspec	tion Date 03/25	/2021 Inspection Crew C. Percy, D.	Ross	

60 SUBSTRUCT	TURE	CONDITION RATING		
		KATING		
1. Abutments	-Wingwalls	7		
	-Backwalls	-		
	-Stems	7		
	-Footings	-		
	-Piles	-		
	-Scour/Erosion	8		
	-Settlement	8		
Overall Abutme	ent Rating	7	Abutment Type	Concrete rigid-frame
2. Piers or Bents	-Caps	-		
	-Columns/Shaft	-		
	-Footings	-		
	-Piles	-		
	-Scour/Erosion	-		
	-Settlement	-		
Overall Pier Ra	ting	-	Pier Type	
3. Pile Bents	-Caps	-		
	-Piles	-		
4. Concrete Crackir	ng or Spalling	7		
5. Steel Corrosion		-		
6. Timber Decay		-		
7. Other		-		
8. Debris on Seats		-		
9. Paint		-		
10. Collision Damaç	ge	-		
11. Overall Underm	ining/Scour	8		
lnonoctorio	Condition Boting	(60)		

60.1 – There are several isolated vertical hairline cracks throughout the abutments.

Bridge	No. P-BL02R	Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958
Name	54TH PLACE	Crossing STREAM	Photos 24
Inspec	tion Date 03/25	/2021 Inspection Crew C. Percy, D	. Ross

There are several minor spalls in the wingwalls along the joints with the abutments. There is minor water stains at the bottom of these joints. The expansion joints between the parapets and wingwalls are open and joint material is exposed at all four corners. The joint material between the wingwall and the abutment is deteriorating (see Photo 15). There is vegetation overgrowth at the Southwest Wingwall.

Fence: There is a chain-link fence adjacent to the wingwalls that continues to the slope protection. There is minor to moderate rust throughout the fence. There is vegetation growth throughout the fence along the Southeast, Northeast and Southwest Wingwalls. The top rail of the fence along the Northwest Wingwall is disconnected from the post at the end of the wingwall (see Photo 16). There is a missing fence post cap at the fence along the Southwest Wingwall. There are tree trunks growing through the fence over the Southeast Wingwall causing the mesh to pull away from Post 3 up to 9".

Bridge	No. P-BL02R	Bridge Type SINGLE-S	PAN CONCRETE RIGID-F	RAME Year I	Built 1958	i	
Name	54TH PLACE	Crossing	STREAM		Photos	24	
Inspec	tion Date 03/25	5/2021	Inspection Crew C. F	Percy, D. Ross			

61 CHANNEL AND CHANNEL PROTECTION

	CONDITION RATING				
1. Channel Scour	6				
2. Embankment Erosion	7				
3. Drift/Debris	8				
4. Vegetation	7				
5. Channel Alignment	8				
6. Fender System	-				
7. Spur Dikes and Jetties	-				
8. Riprap/Slope Protection	6	Type - Concrete			
Inspector's Condition Rating (61)					

- 61.1 There is up to 2" deep abrasion throughout the invert of the concrete lined channel.
- 61.4 There is heavy vegetation growth on the Southwest, Northeast and Southeast Slope Protection.
- 61.5 The stream flows from east to west under the structure. The upstream and downstream channels curve to the north.
- 61.8 There are hairline to 1/16" wide cracks with efflorescence throughout the concrete slope protection. There are small spalls along the base of the concrete slope protection. There is an 1/8" wide crack underneath the storm drain outfall in the Northwest Wingwall. On the North Slope Protection under the bridge, there is an area of hairline map cracking at the west end and a full-height hairline vertical crack with light efflorescence at the east end (see Photo 17) as well as two spalls 8" high x 3" wide x 2" deep and 8" high x 4 1/2" wide x 2" deep with exposed reinforcement along the joint (see Photo 18). There is scaling along the bottom edges which is typical for all slope protection panels (see Photo 19).

Fence: There is minor to moderate rust and minor misalignments throughout the fence. There is vegetation growth throughout the Northeast, Southeast and Southwest Fence. There are tree stumps throughout the Northwest Fence causing the mesh to pull away from the posts up to 1'-6". There is a missing section of the Northwest fence (see Photo 20). There is vegetation overgrowth along the Southwest Fence (see Photo 21). The top rail of the Northeast Fence is disconnected from the post. The top rail of the Southeast Fence is laying in the stream channel and the mesh is bent and pushed out to the north (see Photo 22).

Bridge No. P-BL02R Brid	ge Type SINGLE-SI	PAN CONCRETE RI	GID-FRAME	Year E	Built 1958
Name 54TH PLACE	Crossing	STREAM			Photos 24
Inspection Date 03/25/2021		Inspection Crew	C. Percy, D	. Ross	
71 WATERWAY ADEC	UACY				
Opening	Good	Fair	Poor		
Alignment	Good	Fair	Poor		
Frequency of Overtopping	Remote	Slight	Occasi	onal	Frequent
Inspector's Condition F	Rating (71) 7				

Bridge	No. P-BL	02R B ri	dge Type	SINGLE	-SPA	N CC	NCRETE	E RIGID-	FRAME	Year E	Built 195	i8
Name	54TH PLACE			Crossing STREAM					Photos	24		
Inspection Date 03/25/2021				Inspection Crew C. Percy, D. Ro					D. Ross			
72	APPRO	ACH ROA	DWΔY	ΔLIG	NMF	NT	ΔΡΡΡ	ΡΔΙςΔΙ	Ι ΒΔΤ	ING		
,	A 1 1 10 1	AOII KO	<u> </u>	ALIO		-111	ALLIN					
1. Vei	rtical Align	ment	N	Good	Fai	r	Poor	- Sliat	nt uphill	grade to	wards s	outh
			S	Good	Fai		Poor	o.i.g.	т артт	grade to	···ai·ao o	Jan
		N	Good	Fai		Poor	- Two	-wav sto	op at nor	th appro	ach	
		9	S	Good	Fai	_	Poor	- Shai	rp horizo	ontal cur	• •	
3 Sn/	eed Limit F	Reduction	Noi	00 Mi		Sub	stantial	appro	acn			
·	tht Distanc			uate	inor Not		quate					
J					INOL I	Aue	quate					
		ndition Rat		6								
AP	PROAC	H ROAD	WAY	CONDI	TION							
				CONDITE RATIO								
5. Ap _l	proach Tra	affic Barrier		_								
6. Approach Pavement			6 Type - Asphalt									
7. Approach Embankments			6									
8. Approach Slabs			-									
9. Relief Joints			-									
10. Si	igning - Le	gibility and	Visibility	Good	l F	air	Poor			oosting a at south		
11a. F	Roadway S	Speed Limit		25 N	ЛРН] 1	1b. Pos	ted Brid	lge Spe	ed Limit		n/a
12. Po	osted Load	d Limits	;	28,000 C	3.V.V	٧.				-		
13. Tr	raffic Safet	y Features										
a. E	Bridge Rail	ing		0	1	Ν	Туре	e - Steel	l Pipe R	ailing		
b. Transitions			0	1	N Type - No Approach Transitions							
c. Approach Traffic Barrier			0	1	N	N Type - No Approach Traffic Barrier						
d. A	Approach T	raffic Barrie	er Ends	0	1	N	Туре	e - No A	pproach	n Traffic l	Barrier E	Ends

72.5 - There are no approach traffic barriers.

72.6 - There are up to 1" wide transverse, longitudinal and map cracks in the North Approach roadway (see Photo 23). There are up to 1/8" wide longitudinal and transverse cracks throughout the South Approach roadway (see Photo 24).

72.7 - The Northeast Sidewalk is undermined 2'-6" long x 3 1/2" high x 1'-6" deep. The approach curb adjacent to this area is settled up to 1/2". The Southeast Sidewalk has a 3 1/2" high drop-off along the

Bridge	No. P-BL	.02R Bridge Typ	e SINGLE-S	PAN CONCRETE RIC	SID-FRAME Yea	r Built 1958	3	
Name	lame 54TH PLACE			Crossing STREAM			24	
Inspection Date		03/25/2021		Inspection Crew	C. Percy, D. Ros	S		

edge for a 10'-0" length.

72.10 - There are no object markers at the structure. The load posting sign on the west side of the South Approach is posted on the wrong side of the street and does not meet current standards. There is no load posting sign in place at the North Approach. There is no advance load posting signs in place at the nearest intersections of the approaches. The bridge is currently posted at 28,000 lbs for single-unit vehicles.

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM

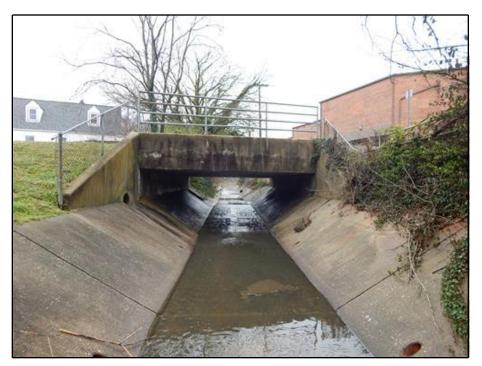


1. North Approach Looking South



2. South Approach Looking North

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



3. West (Downstream) Elevation



4. East (Upstream) Elevation

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



5. Looking West (Downstream)



6. Looking East (Upstream)

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



7. Soffit - Full-width Longitudinal Crack with Efflorescence



8. Sidewalk - Spall and Settlement in Panel of Northeast Sidewalk

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



9. Railing - Vertical Crack with Efflorescence in Interior Face of West Parapet



10. Parapet - Area of Failure in Coating at north End of West Parapet

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



11. Parapet - Cracks with Efflorescence along Exterior Face of East Parapet



12. Railing - Typical Missing Anchor Bolts at Base of Railing Posts and Section Loss at Base of Post 4 of East Railing

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



13. Railing - Typical Cracked Welds in East and West Railing



14. Railing - Dent in Post at South End of East Railing

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



15. Wingwall - Deteriorating Joint Material between Northwest Wingwall and North Abutment



16. Wingwall - Disconnected Top Rail of Fence along the Northwest Wingwall

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



17. Slope Protection - Vertical Crack with Efflorescence at East End of North Slope Protection



18. Slope Protection - Spall with Exposed reinforcement in North Slope Protection at East End

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



19. Slope Protection - Typical Scaling along Bottom of Slope Protection



20. Fence - Missing Section of Northwest Fence

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



21. Fence - Vegetation Growth over Southwest Fence



22. Fence - Damaged Section of Southeast Fence

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL02R - 54TH PLACE OVER STREAM



23. Approach - Map Cracking Throughout North Approach Pavement



24. Approach - Longitudinal and Transverse Cracks in South Approach Pavement

STRUCTURE INVENTORY AND APPRAISAL REPORT

BRIDGE NUMBER: P-BL02001

IDENTIFICATION			FORM 1 OF 13
(8) STRUCTURE NUMBER:	2 00000 Major Structure P-	BL02 01 Major Structure	> 20' 0" O Single Structure
(8) FHWA NUMBER:			
(7) FACILITY CARRIED:	54TH PLACE		
(6) FEATURE INTERSECTED:	STREAM		
(255) FEDERAL SUBMITTAL INDICA	TOR: Y Yes		
(262) NAME OF STRUCTURE:			
(27) YEAR BUILT:	1958 (106) YE	AR RECONSTRUCTED: 1981	
(263) ADDITIONAL RECONSTRUCTI	ON YEARS: N		
(1) STATE CODE:	243 Maryland (2) DIST	RICT CODE: 03	03
(3) COUNTY CODE:	033 GEORGE'S (4) PLA	CE CODE : 0785	0
(5) INVENTORY ROUTE:	Route carried "on" 5 City Structure (Route Prefix		
(9) LOCATION:	50 FT S. OF SPRING ST.		
(11) MILEPOINT:	0000020		
(12) BASE HIGHWAY NETWORK:	0 Inv. Route is NOT on the Base Net	vork	
(266) GIS ROUTE ID:			
(267) GIS MILEPOINT:			
(268) SCENIC ROUTE: N			
(13) LRS INVENTORY ROUTE, SUBF	ROUTE NUMBER: 605400110	0000	
(16) LATITUDE: (A)	38562314 (B) 38562	2290 (C) 38562283	(D) 38562306
(17) LONGITUDE: (A)	076552920 (B) 07655	52920 (C) 076552883	(D) 07655288
(28) LANES ON: 02 LANES U	NDER: 00		
(42) TYPE OF SERVICE ON: 5	Highway-Pedestrian		
TYPE OF SERVICE UNDER: 5	Waterway		
(98) BORDER STATE:	ВО	RDER STATE'S SHARE %:	
(99) BORDER STATE'S NUMBER:			
CLASSIFICATION			FORM 2 OF 13
(104) HWY SYSTEM:	No, Inventory Route is not on the NHS	(103) TEMPORARY STRUCTURE	
(105) FEDERAL LANDS HWYS:	0 Not applicable	(110) NATIONAL NETWORK:	No, the inventory route is not part of the national network for trucks.
(26) FUNCTIONAL CLASS:	19 Urban Local	(20) TOLL:	3 On free road
(100) DEFENSE HWY:	The inventory route is not a STRAHNET route	(21) MAINTENANCE:	O4 City or Municipal Highway Agency
(101) PARALLEL STRUCTURE:	No parallel structure	(22) OWNER:	O4 City or Municipal Highway Agency
(102) DIRECTION:	2 2-way traffic	(37) HISTORICAL SIGNIFICANCE	: 5 Not eligible

(344) PAINT COLOR/NUMBER:

(345) YEARS PAINTED:

FORM 3 OF 13 TRAFFIC (19) **DETOUR**: (109) TRUCK ADT %: 01 05 (30) ADT YEAR: (29) ADT: 000310 2019 (114) FUTURE ADT: (115) FUTURE ADT YEAR: 000440 2039 STRUCTURE TYPE AND MATERIAL **FORM 4 OF 13** (43) STRUCT TYPE: Concrete Α 07 Rigid Frame (44) STRUCT TYPE - APPR: Not Applicable Other 0 00 (232) BOX CULVERT ON PILES: None Entire Structure 0 0 (208) STRUCT TYPE -Ν Ν Ν WIDENED/EXTENDED: (219) SLOPE PROTECTION: Concrete 1 (228) FOOTING - ABUTMENT: Concrete 0 None Entire Structure 1 0 (229) SUBSTRUCT ABUTMENT: Concrete 7 Non-definable Predominant Feature 1 1 (230) FOOTING - PIER: Ν Not Applicable (231) PIER TYPE: Not Applicable Ν None or N/A None or N/A (242) BEARING TYPE: Ν None or N/A Ν Ν (108) WEARING SURFACE: 6 **Bituminous** 0 None 0 None (243) JOINT TYPE: None Ν None Ν None (206) STRUCT SUBTYPE - MAIN: Not Applicable (207) STRUCT SUBTYPE - APPR: Not Applicable Ν Ν (257) SCOUR PROTECTION: (270) CONC. DECK SPECIAL TYPE: 4 Not Applicable (221) STRUCTURAL STEEL: Not Applicable (233) DECK - COMP/NON-COMP: Non-Composite Ν 0 Concrete Cast-in-(107) DECK STRUCTURE TYPE: (259) STAY-IN-PLACE FORMS: Ν 1 (235) PARAPET: 02 Concrete-Rectangular Steel Other - None (236) RAILING: 3 9 0 None (237) **FENCING**: 0 None 0 None (278) PAINT SYSTEM: Not Applicable N

Not Applicable

Ν

Ν

Ν

GEOMETRICS							FOR	M 5 OF 13
(112) NBIS BRIDGE LENGTH:	Υ		(49) STRUCTU	IRE LENGTH:	0000220		
(210) NUMBER OF SPANS:	0001		(45) # SPANS	IN MAIN UNIT:	001		
(46) # APPROACH SPANS:	0000		(209) CONTIN	UOUS SPANS:	N		
(48) LENGTH MAX SPAN:	0020		(238) # STRIN	GERS - ORIGINAL:	00		
(240) SPACING - ORIGINAL:	N		((239) # STRIN	GERS - WIDENED:	00		
(241) SPACING - WIDENED:	N		(33) BRIDGE N	/IEDIAN:	0		
(50) CURB/SIDEWALK WIDTHS:	038	042	(205) MEDIAN	WIDTH:	000		
(51) DECK CURB-CURB WIDTH:	0258		(32) APPROAG	CH ROAD WIDTH:	00 026	00	
(52) DECK OUT-OUT WIDTH:	0355		(10) INVENT R	OUTE, MIN VERT (CLEAR:	9999	
(53) BRIDGE ROADWAY, MIN VE	RTCLEAR	: 9999	(4	47) INVENT R	OUTE, TOTAL HOF	RIZ CLEAR:	258	
(54) MIN. VERT. UNDERCLEARA	NCE:	N	Feature no	ot a highway	or a railroad	Α	< 10'	
(55) MIN. LAT. CLEARANCE (RIG	HT):	N	Feature no	ot a highway	or a railroad	999		
(56) MIN. LAT. CLEARANCE (LEF	T):	000) (342) HORIZ C	LEARANCE (ON):		02510	
(34) SKEW, IN DEGREES: 1	6		(280) HORIZ C	LEARANCE (UNDE	ER):	N	
(35) STRUCTURE FLARED:	1		(253) NUMBEF	R OF CELLS:		N	
(256) SPAN OF CELLS:	N		(254) RISE:			N	
			(258) EARTH F	FILL:		N	
			(343) CENTER	LINE LENGTH (Cu	lverts/Pipes):	N	
(223) SHOULDER WIDTHS:	N	N	N	N				
(264) TYPE AND SPAN:	20'							

LOAD RATINGS AND POSTINGS

FORM 6 OF 13

(41) STATUS:	P Posted for load	(224) WEIGHT POSTED:	28 N
(31) DESIGN LOAD:	5 HS 20		(New Split)
(398) PEDESTRIAN LOADING:	N	(66) INVENTORY RATING:	505
(399) RAILROAD LOADING:	N	(64) OPERATING RATING:	850
(70) POSTING:	5 Equal to or above legal loads	(400) DATE OF RATING:	12 2013

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

	INVENT	ORY RATING	OPERAT	ING RATING
HL-93 Vehicle	(402)		(401)	
H-15 Vehicle	(404)	280	(403)	470
T3 (Dump Truck) Vehicle	(406)	375	(405)	630
T4 Reduced Lift Axle Vehicle	(408)	395	(407)	660
HS Vehicle	(410)	505	(409)	850
3S2 Vehicle	(412)	700	(411)	999
150K Vehicle	(414)	800	(413)	999
90K Permit Combination Vehicle	(416)	795	(415)	830
90K Mobile Crane Vehicle	(418)	785	(417)	815
90K Cargo Vehicle	(420)	610	(419)	999
80K Cargo Vehicle	(422)	700	(421)	999
120K Vehicle	(424)	660	(423)	999
108K Mobile Crane Vehicle	(426)	550	(425)	925
120K Mobile Crane Vehicle	(428)	685	(427)	999

(225) SPEED LIMIT ON STRUCTURE: Ν

(226) MIN VERT CLEARANCE OVER ROADWAY POSTED:

Χ required

(227) MIN VERT UNDERCLEARANCE POSTED:

Posting signs not

Posting signs not required

CONDITION INSPECTION

FORM 7 OF 13

	Inspection Month	(91) Frequency	Due Date	(90) Inspection D	ate (290) Inspection Report Completion Date
Routine Inspection	03	24	03/25/2023	03/25/2021	06/25/2019
Critical Feature Inspections	(291) Inspection Month	(92) Frequency	Due Date	(93) Critical Featu 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) Anch	or	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) S	SUPERSTRUCT	TURE: 7	Good Condition
(60) SUBSTRUCTURE:	7 Good Condition	(61) C	HANNEL/PRO		Bank slump. widespread minor damage
(62) CULVERTS:	Not Applicable				•
(310) INSPECTION DATA UPDATE	E DATE: 02/18/2015	(312)	LEAD INSPEC	TOR: Caleb Pe	ercy, P.E.
(311) INSPECTION TEAM:	YCE	(313)	BRIDGE INSPE	ECTOR: Daria Ros	SS
(314) HOURS TO INSPECT: 00	(316) DECK P	LANKING %:	N (31	15) DECK PUNCTU	RES %: 00
(317) DECK PATCHING %: 00	(318) BLOCK	ING:	00 (31	19) POWER WASH	ING: N
(320) IDENTIFICATION NO.:	(321) INVENT	ORY DIRECTION:	SOUT (32	23) PERMIT:	N
(324) NIGHT WORK:	(325) WEEKE	ND WORK:	N		
(322) LOOKING TOWARD:	 ARYLAND ROUTE 45	60			
(326) MAINTENANCE OF TRAFFIC	STANDARDS: N				
(327) MOT COMMENTS:					
(328) LOCATION OF MIN.					

(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:
W Waders
(333) MHOI: N (334) MHOI LOCATIONS:
(335) ADVANCED NOTIFICATION: N
(336) ADVANCED NOTIFICATION COMMENTS:

APPRAISAL		FORM 8 OF 13
(67) STRUCTURAL EVALUATION:	7 BSR (68) DECK GEOMETRY: 5	5
(69) UNDERCLEARANCE:	N 91.5 (72) APPROACH ALIGNMENT:	5
(71) WATERWAY ADEQUACY:	7	_
(36) TRAFFIC SAFETY RAILI	NGS: 0 Does NOT meet Standards	
FEATURES TRANSITI	DNS: 0 Does NOT meet Standards	
APPROACH BARI	IER: 0 Does NOT meet Standards	
APPROACH BARRIER E	NDS: 0 Does NOT meet Standards	
(113) SCOUR EVALUATION:	Bridge is a culvert-type structure with paved bottom.	
(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 CLEARANC	≣: 0000	
(111) PIER/ABUTMENT PROTECTIO	N:	
(116) MIN NAV VERT CLEARANCE,	/ERT 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:	000	<u> </u>
(252) YEAR HIGH WATER ELEVATION	ON - LATEST: 0000	
HISTORY AND PROPOS	ED IMPROVEMENTS	FORM 10 OF 13
(201) CONTRACT NUMBERS:		
(203) SHA SPEC- YEAR:	0000 N N N	
(204) AASHTO SPEC-YEAR:	0000 N N N	
(75) TYPE OF PROPOSED WORK:	(76) LENGTH OF IMPROVEMENT: 000000	
(94) BRIDGE IMPROVE COST:	000000 (95) ROADWAY IMPROVE COST: 000000	

(97) YEAR OF IMPROVEMENT:

000000

(96) TOTAL PROJECT COST:

(558) WITH NOISE BARRIER:

MISCELLANEOUS			FORM 11 OF 13
(244) SIGNS ON STRUCTURE:	N No	(245) BRIDGE ROADWY LIGHTING:	N No
(246) PROVISION FOR ROADWAY LIGHTING:	N No		
(260) UTILITIES - ON:		(261) UTILITIES - UNDER:	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
REMARKS:			
NOISE BARRIER (501) TYPE:	AXIMUM HEIGHT:	(502) ALIGNMENT:	FORM 12 OF 13
(513) FEDERAL COLOR:		(514) STACKED PANELS:	
(515) NOISE BARRIER POST MATERIAL:		(516) ACCESS DOORS:	
(517) FIRE HYDRANTS:		(518) RETROFITS:	
(011,11121111111111111111111111111111111		(616)	
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:	

(559) PURPOSE:

Structure Inventory and Appraisal Sheet

	NATIONAL BRIDGE INVENTORY	STRUCTURE INVENTORY AND APPRAISAL	
	IDENTIFICATION	**************	**
(1)	STATE NAME: Maryland CODE 243	SUFFICIENCY RATING = 91.5	
(8)	STRUCTURE NO: 2-00000-PBL02-01-0	STATUS = 0	
(5)	INV RTE (ON/UNDER):		_
(2)	STATE HIGHWAY DEPARTMENT DISTRICT: 03	CLASSIFICATION (1440) AIRIO PRIDGE LENGTH	
(3)	COUNTY CODE: 033 (4) STATE CODE:. 07850	(112) NBIS BRIDGE LENGTH:	
(6)	FTR INTRS:STREAM	(104) HIGHWAY SYSTEM:	
(7)	FACILITY CARRIED:	(26) FUNCTIONAL CLASS:	
(9)	LOCATION: 50 FT S. OF SPRING ST.	(100) DEFENSE HIGHWAY:	
(11)	MILEPOINT: 0000020	(101) PARALLEL STRUCTURE:	
(12)	BASE HIGHWAY NETWORK:0	(102) DIRECTION OF TRAFFIC:	
(16)	LATITUD 38562314 (17) LONGITUDE: 076552920	(103) TEMPORARY STRUCTURE:	
(98)	BORDER BRIDGE STATE % Share	(110) DESIGNATED NATIONAL NETWORK:	
(99)	BORDER BRIDGE STRUCT NO	(20) TOLL:	
	OTDICTUDE TYPE AND MATERIAL	(21) MAINTENANCE:	04
(43)	STRUCTURE TYPE AND MATERIAL STRUCTURE TYPE MAIN: MATERIAL	(22) OWNER:	04
(43)	TYPE CODE A 07	(37) HISTORICAL SIGNIFICANCE:	5
(44)	STRUCTURE TYPE APPR: MATERIAL	GOVENTYON	
(,	TYPE	CONDITION	_
(45)	NUMBER OF SPANS IN MAIN UNIT:	(58) DECK:	
` '	NUMBER OF APPROACH SPANS:	(59) SUPERSTRUCTURE:	
	DECK STRUCTURE TYPE 1	(60) SUBSTRUCTURE:	
` '	WEARING SURFACE/PROTECTIVE SYSTEM:	(61) CHANNEL AND CHANNEL PROTECTION:	
(106)	A) TYPE WEARING SURFACE: CODE:	(62) CULVERTS:	N
	B) TYPE MEMBRANE: CODE:	LOAD RATING AND POSTING	
	C) TYPE DECK PROTECTION: CODE:	(31) DESIGN LOAD:	-5
	,	(64) OPERATING RATING: 8	
(27)	AGE AND SERVICE YEAR BUILT: 1958	(66) INVENTORY RATING:	
	YEAR RECONSTRUCTED	(70) BRIDGE POSTING:	
	TYPE OF SERVICE: ON:	(41) STRUCTURE OPEN, POSTED, OR CLOSED:	
(72)	UNDER CODE 5 5	(41) STRUCTURE OFEN, FOSTED, OR GEOSED	•
(20)	LANES: ON STRUCT 02 UNDER STRUCT: 00	APPRAISAL	
	AVERAGE DAILY TRAFFIC:	(67) STRUCTURAL EVALUATION:	7
. ,		(68) DECK GEOMETRY:	
	YEAR OF ADT: 2019 (109) TRUCK ADT: 05	(69) UNDERCLEARANCES, VERT AND HOR:	
(19)	BYPASS, DETOUR LENGTH:	(71) WATERWAY ADEQUACY:	
(40)	GEOMETRIC DATA	(72) APPROACH ROADWAY ALIGNMENT:	
	LENGTH OF MAXIMUM SPAN: 0020	(36) TRAFFIC SAFETY FEATURES: 0 0 0	
(49)	STRUCTURE LENGTH:	(113) SCOUR CRITICAL BRIDGES:	
(50)	CURB/SIDEWALK: LFT 038 FT RGT: 042 FT	(110) 000011 011110/12 21110 020	•
(51)	BRDG RDWY WIDTH CURB TO CURB 0258 FT	PROPOSED IMPROVEMENTS	
(52)	DECK WIDTH OUT TO OUT 0355 FT	(75) TYPE OF WORK:	
(32)	APPR RDWY WIDTH: 00 026 00 FT	(76) LENGTH OF IMPROVEMENT: 00000	00
(33)	BRIDGE MEDIAN: 0	(94) BRIDGE IMPROVEMENT COST:	0
(34)	SKEW: 16 DEG (35) STRUCT FLARED N	(95) ROADWAY IMPROVEMENT COST: 0,00	0
(10)	INV RTE MIN VERTICAL CLEAR: 9999 FT	(96) TOTAL PROJECT COST:	10
(47)	INV RTE TOT HORIZONTAL CLEAR: 258 FT	(97) YEAR OF IMPROVEMENT COST EST:	
(53)	MIN VERT CLEAR OVER BRDG RDW 9999 FT	(114) FUTURE ADT:	40
(54)	MIN VERT UNDERCLEAR N A FT	(115) YEAR OF FUTURE ADT:	

Bridge Inspection Report Element Form

Bridge No: P-BL02001							Inspection	on Date: 0	3/25/2021		
54TH PLACE OVER STR	REAM						Milepoin	t : 0	000020		
(58) Deck	7	(59) Superstruct	ure 7		(6	0) Substru	cture 7			
(61) Channel	6	(62) Culvert	N]						
					_						
Element			Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4		
38 - Reinforced Con	crete Slab		1 - Ben.	784	sq. ft.	769	15	0	0		
☐Eng Req	□FYI	□D	istrict	□lr	naccess	sible?		Eng Com	ments		
There are a few iso	lated longitudinal cracks	up to	1/8" wide in t	he wearin	g surfac	ce over the	structure.				
The soffit is in good	l condition. There is a lor	ngitud	inal hairline c	rack with	light eff	lorescence	e in the und	derside of	the top		
	erline of the roadway and										
215 - Reinforced Co	ncrete Abutment		1 - Ben.	74	ft.	64	10	0	0		
☐Eng Req	□FYI	□D	istrict	□lr	naccess	sible?		Eng Com	ments		
There are several is	solated vertical hairline cr	acks	throughout th	e abutme	nts.						
330 - Metal Bridge R	Railing		1 - Ben.	43	ft.	37	0	6	0		
☐Eng Req	□FYI	□D	istrict	□ lr	naccess	sible?		Eng Com	ments		
is a dent in the bottom Railing, one at Post slightly leaning to the	There is light surface rust throughout both railings at the welds. There are no anchor bolts at all the base plates. There is a dent in the bottom rail of the West Railing between Posts 2 and 3. There are two cracked welds in the West Railing, one at Post 2 and the bottom rail and the other at Post 3 and the bottom rail. The East Railing is loose and slightly leaning to the east. There is up to 100% section loss at the base of Post 4 of the East Railing. There is a dent on the post at the south end of the East Railing. There are nine cracked welds at the railing to posts connections in the East Railing.										
331 - Reinforced Co	ncrete Bridge Railing	J	1 - Ben.	44	ft.	36	8	0	0		
☐Eng Req	□FYI	□D	istrict	□lr	naccess	sible?		Eng Com	ments		
There are hairline cracks in the parapets at the base of the railing posts. The gunite coating on the exterior face of the parapets has delaminated with uneven areas throughout. The hairline vertical cracks at the base of the railing posts are typical along the West Parapet. The hairline vertical crack on the West Parapet at the base of Post 2 has efflorescence on both faces. There are hairline map cracks throughout the gunite along the outside face of the West Parapet. There is a 2'-3" long x 6" high area where the gunite coating has failed at the north end of the West Parapet. There are minor pop out spalls in some of the Northeast Sidewalk panels. There are three cracks between 0.012" and 0.05" wide in the East Parapet at the base of the railing posts.											
8062 - Sidewalk, Re	inforced Concrete		1 - Ben.	43	Ft.	28	15	0	0		
☐Eng Req	□FYI	□D	istrict	□lr	naccess	sible?		Eng Com	ments		
	spalls and minor scaling to panels near the Northeast d the curb.										
8251 - Wingwalls, R	einforced Concrete		1 - Ben.	39	Ft.	37	2	0	0		

41

P-BL02001

Bridge Inspection Report Element Form

Bridg	je No: P-BL02001							Inspecti	on Date: 0	3/25/2021	
54TH	PLACE OVER STREA	AM						Milepoin	n t : 0	000020	
	(58) Deck	7	(59) Superstruct	ure 7		(6	0) Substru	cture 7	•	
	(61) Channel	6	(62) Culvert	N						
	∃Eng Req	□FYI	□D	istrict	<u></u> II	naccess	sible?		Eng Com	ıments	
b e	There are several minor spalls in the wingwalls along the joints with the abutments. There is minor water stains at the bottom of these joints. The expansion joints between the parapets and wingwalls are open and joint material is exposed at all four corners. The joint material between the wingwall and the abutment is deteriorating. There is vegetation overgrowth at the Southwest Wingwall.										
8260) - Slope, Protecte	d		1 - Ben.	2	Each	2	0	0	0	
	∃Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	ments	
h a	eight hairline vertical nd 8" high x 4 1/2" w	rotection under the bri crack with light efflore ide x 2" deep with exp slope protection pane	escend osed	ce at the east	end, as w	/ell as t∖	vo spalls 8	3" high x 3'	" wide x 2"	deep	
8322	2 - Roadway Appro	oach Transition		1 - Ben.	2	Each	2	0	0	0	
	∃Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	ments	
		up to 1" wide transve idinal and transverse o							oadway. T	here are	
Т	raffic Barrier: There	are no traffic barriers.									
С	Curbs: There are min	or edge spalls along t	he cur	bs.							
		east Sidewalk is under to 1/2". The Southea									
p th	osted on the wrong s ne North Approach.	object markers at the stide of the street and of the street and of there is no advance to posted at 28,000 lbs	does n oad po	ot meet curre osting signs in	nt standa place at	rds. Th	ere is no l	oad postin	g sign in p	lace at	
8342	2 - Fencing			1 - Ben.	39	Ft.	24	7	8	0	
	∃Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	ments	
rı S o	There is a chain-link fence adjacent to the wingwalls that continues to the slope protection. There is minor to moderate rust throughout the fence. There is vegetation growth throughout the fence along the Southeast, Northeast and Southwest Wingwalls. The top rail of the fence along the Northwest Wingwall is disconnected from the post at the end of the wingwall. There is a missing fence post cap at the fence along the Southwest Wingwall. There are tree trunks growing through the fence over the Southeast Wingwall causing the mesh to pull away from Post 3 up to 9".										
8345	5 - Stream Channe	l		1 - Ben.	1	Entire Bridge	1	0	0	0	
	∃Eng Req	□FYI	□D	istrict		nacces	sible?		Eng Com	ments	

The stream flows from east to west under the structure. The upstream and downstream channels curve to the north.

P-BL02001 03/25/2021

Bridge Inspection Report Element Form

Bridge No: P-BL02001							Inspection	on Date:	03/25/2021			
54TH PLACE OVER STREAM	M						Milepoin	t:	0000020			
(58) Deck 7		(59) Superstructu	ire 7		(6	0) Substru	cture	7			
(61) Channel 6		(62) Culvert	N								
on the Southwest, North efflorescence throughout protection. There is a 1 series of throughout the Northeat causing the mesh to purail of the Northeast Fellowship the series of	There is up to 2" deep abrasion throughout the invert of the concrete lined channel. There is heavy vegetation growth on the Southwest, Northeast and Southeast Slope Protection. There are hairline to 1/16" wide cracks with efflorescence throughout the concrete slope protection. There are small spalls along the base of the concrete slope protection. There is a 1/8" wide crack underneath the storm drain outfall in the Northwest Wingwall. Fence: There is minor to moderate rust and minor misalignments throughout the fence. There is vegetation growth throughout the Northeast, Southeast and Southwest Fence. There are tree stumps throughout the Northwest Fence causing the mesh to pull away from the posts up to 1'-6". There is a missing section of the Northwest fence. The top rail of the Northeast Fence is disconnected from the post. The top rail of the Southeast Fence is laying in the stream channel and the mesh is bent and pushed out to the north.											
8359 - Soffit (underside and slabs	e) of concrete decl	KS	1 - Ben.	1	Entire Bridge	1	0	0	0			
☐Eng Req	□FYI	□D	istrict	□ lr	naccess	sible?		Eng Co	nments			
	The soffit is in good condition. There is a longitudinal hairline crack with light efflorescence in the underside of the top slab along the centerline of the roadway and one hairline diagonal crack at the northwest corner of the top slab.											

APPROACH TRAFFIC BARRIER FORM 2021 BRIDGE INSPECTION REPORT

							 	Transition				Approac	Approach Traffic Barrier	rrier	Exist. End Treatment	Proposed End Treatment
Corners	Bridge Railings Meet MDSHA Standard		Approach Traffic Barrier Present		Attached to Bridge		Thrie Beam Present	ε	Gradually Stiffened	Post Spacing	Rail Type		Post Type	Post	Туре	Туре
	>	z	>	z	>	z	-	z	_ z 							
-		×		×											None	Cable Anchorage w/ End Section (e.g. MDSHA Type K)
2		×		×											None	Flared, Turned-Down
3		×		×											None	Flared, Turned-Down
4		×		×											None	Flared, Turned-Down

P-BL02R Bridge No.:

Prince George's County:

54TH PLACE Road Carried:

STREAM Crossing: C. Percy, D. Ross

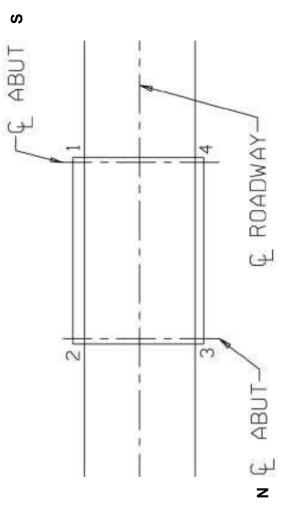
03/25/2021

Date Inspected:

Inspector:

Comments:

There are no approach traffic barriers.





Load Rating Standard Summary Sheet

Bridge No.: PBL02001 on 541H PLACE over STREAM
Date of Rating: 12/13/2013 LARS Program: Yes No No Program Used: BOX5
Rating Method: LRFR LFR ASR Load Load Surface (in.)
Rating Type: As-Built As Inspected Condition Report Date: 03/05/2013
Comments/Defects/Assumptions: This Load Rating is based on the latest inspection report as noted above as well as a previous load rating dated 1996. Ratings for the top slab have been listed.

materials.	LRFR Design/Load Rating Vehicle (Lin Service II for Steel only, or Service III for prestressed cond		
	Rating Details	<u>Inventory</u>	Operating
Truck/ Axle/ Tons	Controlling Member	Limit State	Limit State
	Controlling Stress (Moment, Shear, Service)	Rating Factor	Rating Factor
III 02/2/26 Toma	enter controlling member (i.e. Sp. 1, Ext. Beam)	Limit State	Limit State
HL-93/3/36 Tons	Select the Controlling Stress	X.XX	X.XX

Legal Loads (F	For LRFR the Limit States are Strength I for all materials	or Service II for s	steel only)
Truck/ Axle/ Tons	Controlling Member	Inventory or Limit State	Operating
	Controlling Stress	Tons (XX.X)	Tons (XX.X)
II 15 / 2 / 15	Top slab	28.0	47.0
H-15 / 2 / 15	Moment		47.0
T-3 / 3 / 33	Top slab	37.5	63.0
1-3 / 3 / 33	Moment		03.0
T-4 / 4/ 35	Top slab	39.5	66.0
1-4/4/33	Moment		00.0
HS-20 / 3 / 36	Top slab	50.5	85.0
HS-20 / 3 / 30	Moment		83.0
382 / 5 / 40	Top slab	70.0	99.9
384/3/40	Moment		22.9

	Permit Loads - (For LRFR the Limit State is Streng	th II)		
Truck/ Axle/ Tons	Controlling Member	Inventory	Operating	
Truck/ Axie/ Tons	Controlling Stress (Moment, Shear, Service)	Tons (XX.X)	Tons (XX.X)	
150K / 8 / 75	Top slab	80.0	99.9	
130K/0//3	Moment	80.0	99.9	
00V Comb / 4 / 45	Top slab	49.5	83.0	
90K Comb./ 4 / 45	Moment	49.3	83.0	
90K Crane / 4 / 45	Top slab	48.5	81.5	
90K Crane / 4 / 45	Moment	46.3	81.3	
90K Cargo/ 5 / 45	Top slab	61.0	99.9	
90K Cargo/ 3 / 43	Moment	01.0	99.9	
80K Cargo/ 5 / 40	Top slab	70.0	99.9	
our Cargo/ 3 / 40	Moment	70.0	99.9	
120K Spec./ 5 / 60	Top slab	66.0	99.9	
120K Spec./ 5 / 00	Moment	00.0	99.9	
108K Crane/ 4/ 54	Top slab	55.0	92.5	
TUOK CTalle/ 4/ 34	Moment	33.0	92.3	
120K Crane/ 5 / 60	Top slab	68.5	99.9	
120K Clane/ 5 / 00	Moment	00.5	33.3	

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PBL02001_LFR_121313_legal.OUT
LOAD FACTORS UNIT EQUIV f'C TOP BETA E BETA E WEIGHT FLUID SLAB AT REBAR GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE
1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 5 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 20.06 2.61 20.00 0.00 10.00 0.00 10.00 1.5 3.20
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 2 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 6.00 14.0 2 24.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 26.00 4.0 3 26.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00

Page 2

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AXLE **DXIF** AXLE AXLE DIST NO. NO. LOAD DIST NO. LOAD LOAD DIST NO. LOAD DTST 8.00 14.0 2 32.00 14.0 3 32.00 0.0

SPECIAL LIVE LOADING 5

BOTTOM SIZE SPAC

0.000 4 9.0

AS

NUMBER

OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 5 6.00 4.00

AXLE AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 31.0 4 17.00 4.0

5 17.00 0.0

WALL REINFORCEMENT

WALL 1

1 WALL 2
TOP BOTTOM TOP
AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 7 9.0 0.000 4 9.0 0.000 7 9.0

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS DIST MOMENT THRUST SHEAR CAPAC 0.00 F DL+EPH 6.254 6.615 10.251 LL+I 5.041 3.674 IR OR REINF REINF 0.79 1.32 4@ 9.0 RATING TONS 11.89 19.86 2.61 F DL+EPH -8.322 6.191 25.592 2.69 4.49 7@ 9.0 LL+I -6.422 3.674

WALL 2

RATING TONS 40.34 67.36

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH -6.381 7.002 10.292 0.78 1.30 4@ 9.0 LL+I -5.041 3.674 RATING TONS 11.64 19.43 Page 3

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2.61 F DL+EPH 8.485 6.578 25.601 2.67 4.45 7@ 9.0 LL+I 6.422 3.674

RATING TONS 39.98 66.76

SLAB 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC DIST IR OR REINF REINF 61.244 0.00 F DL+EPD-11.004 0.910 5.87 9.81 7@ 9.0 LL+I -8.552RATING TONS 88.12 147.17 1.46 V DL+EPF -2.787 5.131 23.226 3.06 5.11 7@ 9.0 0.000 5.917 LL+I 5.390 RATING TONS 45.88 76.61 10.03 F DL+EPH 19.839 0.394 61.166 1.89 3.15 7@ 9.0 LL+I 21.924 RATING TONS 28.28 47.22 -5.340 23.226 18.60 V DL+EPF -2.486 3.02 5.05 7@ 9.0 0.000 -5.917 5.390 LL+I RATING TONS 45.35 75.73 20.06 F DL+EPD-11.106 0.910 5.86 61.244 9.79 7@ 9.0 LL+I -8.552RATING TONS 87.94 146.87

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 11.64 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 19.43 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH 6.254 6.615 10.269 0.39 0.64 4@ 9.0 LL+I 10.425 7.937 RATING TONS 12.71 21.23 2.61 F DL+EPH -8.322 6.191 7@ 9.0 1.30 25.605 2.17 LL+I -13.281 7.937 RATING TONS 42.94 71.72

WALL 2

DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH -6.381 7.002 10.309 0.38 0.63 4@ 9.0 LL+I -10.425 7.937 RATING TONS 12.43 20.77

2.61 F DL+EPH 8.485 6.578 25.614 1.29 2.15 7@ 9.0 Page 4

PBL02001_LFR_121313_legal.OUT LL+I 13.281 7.937

RATING TONS 42.56 71.08

SLAB 1

ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS REINF REINF MOMENT THRUST SHEAR CAPAC DIST IR OR 4.78 2.86 7@ 9.0 0.00 F DL+EPD-11.004 0.910 61.244 LL+I -17.543RATING TONS 94.51 157.83 1.46 V DL+EPF -2.787 5.131 23.226 1.60 2.66 7@ 9.0 0.000 11.341 4.613 LL+I 52.66 87.94 RATING TONS 10.03 F DL+EPH 19.839 0.394 61.166 1.15 1.92 7@ 9.0 LL+I 35.990 RATING TONS 37.89 63.28 18.60 V DL+EPF -2.486 -5.340 23.226 -11.341 1.58 2.63 7@ 9.0 0.000 LL+I 4.613 86.92 RATING TONS 52.05 20.06 F DL+EPD-11.106 0.910 61.244 2.86 4.77 7@ 9.0 LL+I -17.543RATING TONS 94.31 157.50

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 12.43 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 20.77 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC MOMENT THRUST OR REINF REINF IR 0.00 F DL+EPH 6.254 6.615 10.261 0.38 0.63 4@ 9.0 10.546 7.870 LL+I RATING TONS 13.30 22.21 2.61 F DL+EPH -8.322 LL+I -13.435 6.19125.599 1.29 2.15 7@ 9.0 7.870 RATING TONS 45.01 75.16

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH -6.381 7.002 LL+I -10.546 7.870 SHEAR CAPAC IR OR REINF REINF 10.301 0.37 0.62 4@ 9.0 RATING TONS 13.01 21.73 2.61 F DL+EPH 8.485 25.608 1.27 2.13 7@ 9.0 6.578 13.435 7.870 LL+I RATING TONS 44.61 74.50 Page 5

SLAB 1

		DL+EPD-	MOMENT	ORED EFF THRUST 0.910	SHEAR	CAPAC	IR	FACTOR OR 4.69	REINF	
					RATIN	IG TONS	98.39	164.31		
1.46	٧		-2.787 3.351		5.131 11.003	23.226	1.64	2.75	7@ 9.0	0.000
		LLTI	3.331			IG TONS	57.56	96.13		
10.03	F	DL+EPH LL+I		0.394		61.166	1.13	1.89	7@ 9.0	
		LLII	30.313		RATIN	IG TONS	39.58	66.10		
18.60	٧		-2.486 3.351		-5.340 -11.003	23.226	1.63	2.71	7@ 9.0	0.000
		LLTI	3.331			IG TONS	56.90	95.02		
20.06	F	DL+EPD- LL+I -		0.910		61.244	2.81	4.68	7@ 9.0	
			17.072		RATIN	IG TONS	98.19	163.97		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 13.01 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 21.73 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00 F DL+EPH	MOMENT	THRUST 6.615	SHEAR	CAPAC	IR	OR	ACTUAL REINF 4@ 9.0	
LLII	7.050	7.133	RATIN	IG TONS	21.31	35.58		
2.61 F DL+EPH	-8.322 -8.957			25.712	1.94	3.24	7@ 9.0	
2211	0.337	7.133	RATIN	IG TONS	69.90	116.73		

WALL 2

	FACT	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF
0.00 F DL+EPH				10.452	0.58	0.97	4@ 9.0	
LL+I	-7.030	7.139			20.04	24 01		
			RATIN	IG TONS	20.84	34.81		
2.61 F DL+EPH				25.720	1.92	3.21	7@ 9.0	
	0.557	133	RATTN	IG TONS	69.28	115.69		

Page 6

PBL02001_LFR_121313_legal.OUT SLAB 1

		DL+EPD-	FACTO MOMENT -11.004 -11.402	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	NG TONS	158.62	264.90		
1.46	٧		-2.787 4.661		5.131 9.145	23.226	1.98	3.30	7@ 9.0	0.000
		LLII	7.001			NG TONS	71.24	118.97		
10.03	F		19.839 29.233	0.394		61.166	1.41	2.36	7@ 9.0	
			23.233		RATIN	NG TONS	50.90	85.00		
18.60	٧		-2.486 4.661		-5.340 -9.145	23.226	1.96	3.27	7@ 9.0	0.000
		LLTI	4.001		J J	NG TONS	70.41	117.59		
20.06	F		-11.106 -11.402	0.910		61.244	4.40	7.34	7@ 9.0	
			11.102		RATIN	IG TONS	158.30	264.36		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 20.84 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 34.81 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 0.58 0.96 0.00 F DL+EPH -6.381 7.002 10.309 4@ 9.0 LL+I -6.816 5.190 RATING TONS 23.05 38.50 2.61 F DL+EPH 8.485 6.578 25.614 1.97 3.29 7@ 9.0 8.684 5.190 LL+IRATING TONS 78.90 131.77

SLAB 1

Page 7

			MOMENT -11.004	ORED EFF	FECTS SHEAR	ULT CAPAC 61.244	RATING IR 4.38	gal.OUT FACTOR OR 7.31	REINF	
1 10			2 707				175.20		70.00	
1.46	٧	DL+EPF	-2./8/ 2.836		5.131 7.498	23.226	2.41	4.03	7@ 9.0	0.000
		LLII	2.030			IG TONS	96.54	161.22		
10.03	F	DL+EPH LL+I		0.394		61.166	1.76	2.93	7@ 9.0	
					RATIN	IG TONS	70.25	117.32		
18.60	٧	DL+EPF	-2.486 2.836		-5.340 -7.498	23.226	2.39	3.98	7@ 9.0	0.000
			2.030			IG TONS	95.42	159.36		
20.06	F	DL+EPD- LL+I -		0.910		61.244	4.37	7.30	7@ 9.0	
			11.170		RATIN	IG TONS	174.84	291.99		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 23.05 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 38.50 TONS AT DISTANCE 0.00 IN WALL 2.

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                        BOX CULVERT DESIGN AND RATING
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PROGRAM P4356010
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VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\jyang\Desktop\NEWFOL~1\PBL020~1.DAT
PBL02001 SINGLE SPAN RIGID FRAME WITHOUT BOTTOM SLAB.
   STRUCTURE IDENTIFICATION
                               SPAN
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              SEGMENT OFFSET
                                ID
                                           STRUCTURE DESCRIPTION
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LOAD FACTORS UNIT EQUIV f'C TOP BETA E BETA E WEIGHT FLUID SLAB AT REBAR GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 8 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 20.06 2.61 20.00 0.00 10.00 0.00 1.5 3.20
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 8 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 8.00 11.0 2 26.00 4.0 3 26.00 30.0 4 18.00 4.0 5 18.00 4.0 6 18.00 4.0 7 18.00 4.0 8 18.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 12.00 12.0 2 24.00 35.0 3 27.00 4.0 4 27.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 18.00 5.4 2 18.00 6.9 3 27.00 5.4 4 27.00 0.0
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE Page 2

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Page 2

PBL02001_LFR_121313_permit.OUT 6.00 4.00 AXLE AXLE AXLE
DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 12.0 2 17.00 4.0 3 17.00 28.0 4 22.00 4.0 AXIF NO. LOAD 1 12.00 5 22.00 0.0 SPECIAL LIVE LOADING 5 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 14.0 4 17.00 4.0

5 17.00 0.0 SPECIAL LIVE LOADING 6 NUMBER 3% GAGE PASSING OF AXLES INCR DISTANCE DISTANCE 6.00 4.00 SPECIAL LIVE LOADING 7 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 XLE AXLE AXLE AXLE AXLE
NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST
1 27.00 5.4 2 27.00 6.8 3 27.00 5.4 4 27.00 0.0 AXLE NO. LOAD SPECIAL LIVE LOADING 8 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 WALL REINFORCEMENT WALL 1 WALL 2

BOTTOM TOP BOTTOM TOP

AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 4 9.0 0.000 7 9.0 0.000 4 9.0 0.000 7 9.0 Page 3

PBL02001_LFR_121313_permit.OUT

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-8

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

0.00 F DL+EPH	MOMENT	THRUST 6.615	ECTS ULT SHEAR CAPAC 10.347		IR	OR	REINF	
CCII	12.323	11.272	RATIN	G TONS	24.50	40.92		
2.61 F DL+EPH				25.663	1.09	1.81	7@ 9.0	
CCTI	L+I -15.961 11.272		RATIN	G TONS	81.48	136.08		

WALL 2

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST						REINF
0.00 F DL+EPH				10.386	0.32	0.53	4@ 9.0	
LL+I -	-12.529	11.272						
			RATIN	IG TONS	23.97	40.03		
2.61 F DL+EPH				25.672	1.08	1.80	7@ 9.0	
LL+I	15.961	11.272				424.0=		
			RATTN	IG TONS	80.76	134.87		

SLAB 1

		DL+EPD-		THRUST	SHEAR	CAPAC	IR	FACTOR OR 4.12	REINF	
					RATIN	NG TONS	185.06	309.05		
1.46	٧		-2.787 -2.555		5.131 11.892	23.226	1.52	2.54	7@ 9.0	0.000
			2.333			NG TONS	114.13	190.60		
10.03	F		19.839 38.554	0.394		61.166	1.07	1.79	7@ 9.0	
					RATIN	NG TONS	80.40	134.26		
18.60	٧	DL+EPF	-2.486		-5.340	23.226 Page	_	2.51	7@ 9.0	0.000

PBL02001_LFR_121313_permit.OUT LL+I -2.555-11.892RATING TONS 112.81 188.39 20.06 F DL+EPD-11.106 0.910 61.244 2.46 4.11 7@ 9.0 LL+I -20.361RATING TONS 184.68 308.42 THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 23.97 TONS AT DISTANCE 0.00 IN WALL 2. THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 40.03 TONS AT DISTANCE 0.00 IN WALL 2. ********* * LIVE LOAD RATING - SP-2 LOADING * ********** WALL 1 FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH 6.254 6.615 LL+I 10.826 8.243 SHEAR CAPAC IR OR REINF REINF 10.269 0.37 0.62 4@ 9.0 RATING TONS 16.69 27.87 2.61 F DL+EPH -8.322 6.191 1.25 2.09 25.605 7@ 9.0 LL+I -13.792 8.243 RATING TONS 56.39 94.17 WALL 2 **FACTORED EFFECTS** ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 0.00 F DL+EPH -6.381 7.002 10.309 0.36 0.61 4@ 9.0 LL+I -10.826 8.243 RATING TONS 16.33 27.27 2.61 F DL+EPH 8.485 25.614 1.24 6.578 2.07 7@ 9.0 13.792 8.243 LL+I RATING TONS 55.89 93.34 SLAB 1 DIST MOMENT THRUST SHEAR CAPAC IR OR RETURN DESTRUCTION OF DL+EPD-11.004 0.910 61 244 2 770 LL+I -18 219 RATING TONS 124.10 207.24 1.46 V DL+EPF -2.787 5.131 23.226 1.59 2.66 7@ 9.0 0.000 LL+I 5.709 11.354 RATING TONS 71.72 119.77 10.03 F DL+EPH 19.839 0.394 61.166 1.11 1.85 7@ 9.0 LL+I37.374 RATING TONS 49.76 83.10 18.60 V DL+EPF -2.486 -5.340 23.226 1.58 2.63 7@ 9.0 0.000 LL+I 5.709 -11.354 RATING TONS 70.89 118.38 Page 5

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20.06 F DL+EPD-11.106 0.910 61.244 2.75 4.60 7@ 9.0 LL+I -18.218

RATING TONS 123.85 206.82

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 16.33 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 27.27 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00 F DL+EPH	MOMENT THRU	JST SHEAR 515	CAPAC	IR			
LLTI	11.302 10.0		NG TONS	15.84	26.46		
2.61 F DL+EPH	-8.322 6.1 -14.755 10.0		25.652	1.17	1.96	7@ 9.0	
LLTI	14.733 10.0		NG TONS	52.85	88.26		

WALL 2

	FACTO	RED EFFI	ECTS	ULT	RATING	FACTOR	ACTUAL SHEAR
DIST							
0.00 F DL+EPH	-6.381	7.002		10.370	0.34	0.58	4@ 9.0
LL+I -	-11.582	10.097					
			RATIN	IG TONS	15.50	25.88	
2.61 F DL+EPH	8.485	6.578		25.660	1.16	1.94	7@ 9.0
	14.755						
			RATIN	IG TONS	52.38	87.48	
			RATIN	IG TONS	52.38	87.48	

SLAB 1

			MOMENT	THRUST	SHEAR	CAPAC	IR	FACTOR OR 4.38	REINF	
			13.113		RATIN	IG TONS	118.06	197.16		
1.46	٧		-2.787 1.274		5.131 12.400	23.226	1.46	2.44	7@ 9.0	0.000
		LLII	1.271			IG TONS	65.67	109.67		
10.03	F	DL+EPH LL+I	19.839 38.064	0.394		61.166	1.09	1.81	7@ 9.0	
		LLII	30.001		RATIN	IG TONS	48.86	81.59		
18.60	٧		-2.486 1.274		-5.340 -12.400	23.226	1.44	2.41	7@ 9.0	0.000
			1127			IG TONS	64.91	108.40		
20.06	F	DL+EPD-	-11.106	0.910		61.244 Page		4.37	7@ 9.0	

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LL+I -19.149

RATING TONS 117.82 196.76

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 15.50 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 25.88 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00 F DL+EPH LL+I	MOMENT	THRUST 6.615	SHEAR	CAPAC 10.269	IR 0.46	0.76	REINF	
			RATIN	IG TONS	20.48	34.21		
2.61 F DL+EPH	-8.322 -11.238			25.605	1.54	2.57	7@ 9.0	
LLTI	11.230	0.710	RATTN	IG TONS	69.21	115.58		

WALL 2

SHEAR
REINF

SLAB 1

			MOMENT		SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
		LLII	14.044		RATIN	IG TONS	152.30	254.35		
1.46	٧		-2.787 4.652		5.131 9.252	23.226	1.96	3.27	7@ 9.0	0.000
		LLTI	4.032		00-	IG TONS	88.02	146.99		
10.03	F		19.839 30.453	0.394		61.166	1.36	2.27	7@ 9.0	
		LLTI	30.433		RATIN	IG TONS	61.07	101.99		
18.60	٧		-2.486 4.652		-5.340 -9.252	23.226	1.93	3.23	7@ 9.0	0.000
		LLTI	4.032			IG TONS	87.00	145.29		
20.06	F		-11.106 -14.844	0.910		61.244	3.38	5.64	7@ 9.0	
		LLTI	17.044		RATIN	IG TONS	151.99	253.83		

Page 7

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 20.04 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 33.46 TONS AT DISTANCE 0.00 IN WALL 2.

******* * LIVE LOAD RATING - SP-5 LOADING * *********

WALL 1

		FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
							OR		REINF
$0.00 \mathrm{f}$	F DL+EPH				10.269	0.59	0.98	4@ 9.0	
	LL+I	6.816	5.190						
				RATIN	IG TONS	23.56	39.35		
2.61 F	DL+EPH				25.605	1.99	3.32	7@ 9.0	
	LL+I	-8.684	5.190			70 61	122 05		
				RATIN	IG TONS	79.61	132.95		

WALL 2

AR
NF

SLAB 1

DIST					ECTS SHEAR				ACTUAL REINF	
		DL+EPD-	-11.004 -11.470					7.31		
			-11.470		RATIN	IG TONS	175.20	292.58		
1.46	٧		-2.787 2.836		5.131 7.498	23.226	2.41	4.03	7@ 9.0	0.000
		LL+1	2.030			IG TONS	96.54	161.22		
10.03	F		19.839 23.532	0.394		61.166	1.76	2.93	7@ 9.0	
		LL+I	23.332		RATIN	IG TONS	70.25	117.32		
18.60	٧					23.226	2.39	3.98	7@ 9.0	0.000
		LL+1	2.836		-7.498 RATIN	IG TONS	95.42	159.36		
20.06	F			0.910		61.244	4.37	7.30	7@ 9.0	
		LL+1 -	-11.470		RATIN	IG TONS	174.84	291.99		

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THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 23.05 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 38.50 TONS AT DISTANCE 0.00 IN WALL 2.

* LIVE LOAD RATING - SP-6 LOADING *

WALL 1

			FACTO	ORED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
				THRUST						REINF
0.00	F		6.254 10.826	6.615 8 243		10.269	0.37	0.62	40 9.0	
		LLII	10.020	0.243	RATIN	IG TONS	22.25	37.17		
2.61	F		-8.322 -13.792	6.191 8.243		25.605	1.25	2.09	7@ 9.0	

RATING TONS 75.19 125.56

WALL 2

		FACTO	ORED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
									REINF
0.00	F DL+EPH				10.309	0.36	0.61	4@ 9.0	
	LL+I -	-10.826	8.243			~	20.20		
				RATIN	NG TONS	21.//	36.36		
2 (1)		0 405	C 570		25 614	1 24	2 07	70 0 0	
2.61	F DL+EPH				25.614	1.24	2.07	7@ 9.0	
	LL+1	13.792	8.243	DATTA	IC TONG	74 52	124 45		
				KAIIN	NG TONS	74.52	124.45		

SLAB 1

			MOMENT -11.004	THRUST	SHEAR	CAPAC	IR	FACTOR OR 4.61	REINF	
		LLII	10.210		RATIN	G TONS	165.47	276.33		
1.46	٧					23.226	1.55	2.58	7@ 9.0	0.000
		LLTI	4.931			G TONS	92.77	154.93		
10.03	F		19.839 37.374	0.394		61.166	1.11	1.85	7@ 9.0	
			37.137.1		RATIN	G TONS	66.35	110.80		
18.60	٧			_		23.226	1.53	2.55	7@ 9.0	0.000
		LLTI	T. 931			G TONS	91.70	153.14		
20.06	F		-11.106 -18.218	0.910		61.244	2.75	4.60	7@ 9.0	
			10.210		RATIN	G TONS	165.13	275.76		

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 21.77 TONS AT DISTANCE 0.00 IN WALL 2. Page 9

PBL02001_LFR_121313_permit.OUT

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 36.36 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00 F	DL+EPH	MOMENT 6.254	ORED EFF THRUST 6.615 12.367	SHEAR	ULT CAPAC 10.395	RATING IR 0.33	FACTOR OR 0.55	ACTUAL REINF 4@ 9.0	SHEAR REINF
					NG TONS	17.75	29.64		
2.61 F	DL+EPH	-8.322 -16.051	6.191 12.367		25.698	1.08	1.81	7@ 9.0	
		10.031	121301	RATIN	NG TONS	58.46	97.62		
					WALL 2	2			
		FACTO	ORED EFF	FECTS	ULT	RATING	FACTOR	ACTUAL REINF	SHEAR
DIST 0.00 F	DL+EPH	-6.381	THRUST 7.002 12.367		CAPAC 10.432	IR 0.32	OR 0.54	REINF 4@ 9.0	REINF
	LLTI	12.555	12.507		NG TONS	17.36	29.00		
2.61 F			6.578 12.367		25.706	1.07	1.79	7@ 9.0	
		10.031	12.507		NG TONS	57.94	96.76		
					SLAB 1	L			
DIST		FACTO MOMENT	ORED EFF	ECTS SHEAR	ULT CAPAC	RATING IR	FACTOR OR	ACTUAL REINF 7@ 9.0	SHEAR REINF
0.00 F		-11.004 -20.574	0.910		61 244	~	4 00	70 0 0	
	LLTI				01.277	2.44	4.08	70 9.0	
		20137		RATIN		2.44 131.86		7@ 9.0	
1.46 V	DL+EPF LL+I				NG TONS	131.86	220.21		
1.46 V	DL+EPF LL+I			5.131 13.232	NG TONS 23.226	131.86	220.21	7@ 9.0	
	DL+EPH	-2.787 -0.271	0.394	5.131 13.232 RATIN	NG TONS 23.226 NG TONS	131.86 1.37 73.85	220.21 2.28 123.33		
	DL+EPH	-2.787 -0.271 19.839	0.394	5.131 13.232 RATIN	23.226 NG TONS 61.166	131.86 1.37 73.85 1.03	220.21 2.28 123.33	7@ 9.0	
10.03 F 18.60 V	DL+EPH LL+I DL+EPF	-2.787 -0.271 19.839 40.293	0.394	5.131 13.232 RATIN RATIN	23.226 NG TONS 61.166 NG TONS	131.86 1.37 73.85 1.03 55.39	220.21 2.28 123.33 1.71 92.50	7@ 9.0	0.000
10.03 F 18.60 V	DL+EPH LL+I DL+EPF	-2.787 -0.271 19.839 40.293	0.394	5.131 13.232 RATIN RATIN -5.340 -13.232	23.226 NG TONS 61.166 NG TONS 23.226	131.86 1.37 73.85 1.03 55.39	220.21 2.28 123.33 1.71 92.50 2.26	7@ 9.0 7@ 9.0	0.000
10.03 F 18.60 V	DL+EPH LL+I DL+EPF LL+I DL+EPD	-2.787 -0.271 19.839 40.293 -2.486 -0.271	0.394	5.131 13.232 RATIN RATIN -5.340 -13.232 RATIN	23.226 NG TONS 61.166 NG TONS 23.226 NG TONS	131.86 1.37 73.85 1.03 55.39 1.35 73.00	220.21 2.28 123.33 1.71 92.50 2.26 121.90	7@ 9.0 7@ 9.0 7@ 9.0	0.000

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 17.36 TONS AT DISTANCE 0.00 IN WALL 2.

RATING TONS 131.59 219.76

THE OPERATING RATING IS GOVERNED BY MOMENT. Page 10

$$\operatorname{PBL02001_LFR}_121313_\operatorname{permit.OUT}$$ THE MINIMUM OPERATING RATING IS 29.00 TONS AT DISTANCE 0.00 IN WALL 2.

**************** * LIVE LOAD RATING - SP-8 LOADING *

WALL 1

0.00 F DL+EPH	MOMENT THRU	23	IR 0.36	OR 0.61	REINF	_
		RATING TONS	21.79	36.40		
2.61 F DL+EPH	-8.322 6.1° -14.497 11.0°		1.20	2.00	7@ 9.0	
LLTI	17.7 <i>51</i> 11.0	RATING TONS	71.89	120.06		

WALL 2

		FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST		MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F	DL+EPH	-6.381	7.002		10.425	0.36	0.59	4@ 9.0	
	LL+I -	11.380	11.023						
				RATIN	NG TONS	21.32	35.60		
2.61 F	DL+EPH	8.485	6.578		25.700	1.19	1.98	70 9.0	
	1 I +T								
				RATIN	NG TONS	71.25	118.99		
	LL+1	14.437	11.023	RATIN	NG TONS	71.25	118.99		

SLAB 1

			FACTO	DRED EFI	FECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
					SHEAR				REINF	REINF
0.00	F			0.910		61.244	2.72	4.54	7@ 9.0	
		LL+I -	-18.472							
					RATIN	NG TONS	163.19	272.52		
1.46	٧	DL+EPF	-2.787		5.131	23.226	1.52	2.55	7@ 9.0	0.000
		LL+I	-0.399		11.870					
					RATIN	NG TONS	91.47	152.75		
10.03	F	DL+EPH	19.839	0.394		61.166	1.14	1.91	7@ 9.0	
		LL+I	36.174							
					RATIN	NG TONS	68.55	114.48		
18.60	V					23.226	1.51	2.52	7@ 9.0	0.000
		LL+I	-0.399	-	-11.870					
					RATIN	NG TONS	90.41	150.98		
20.00	_	D	11 100	0 010		C1 244	2 71	4 53	70 0 0	
20.06	F		-11.106	0.910		61.244	2.71	4.53	7@ 9.0	
		LL+T -	-18.472				162.06	271 07		
					RATIN	NG TONS	T62.86	2/1.9/		

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 21.32 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 35.60 TONS AT DISTANCE 0.00 IN WALL 2.

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BOX5 data input: Equivalent fill depth:

East: 0.176 / 0.12 = 1.47'
West: 0.255/0.12 = 2.125'
Grade: (2.125'-1.47')/22.42'=3.2%

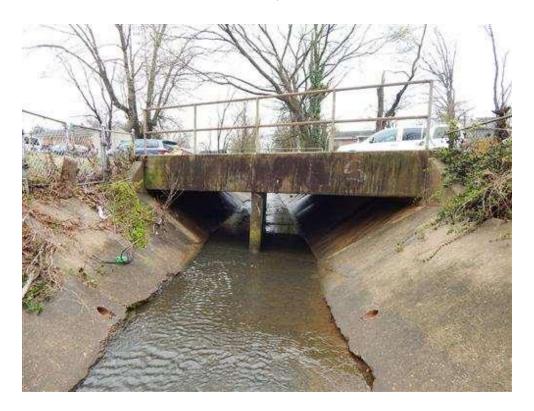
Box5 Truck list:

Legal rating	Permit rating
SP-1 H 15	SP-1 150K
SP-2 T-3	SP-2 90K COMB.
SP-3 T-4	SP-3 90K CRANE
SP-4 HS20	SP-4 90K CARGO
SP-5 3S2	SP-5 80K CARGO
	SP-6 120K
	SP-7 108K
	SP-8 120K CRANE

Prince George's County



2021 BRIDGE INSPECTION REPORT March 25, 2021



BRIDGE NO. P-BL03001 TAYLOR STREET OVER STREAM Prepared by



Prince George's County

2021 BRIDGE INSPECTION REPORT

BRIDGE NO. P-BL03001

TAYLOR STREET
OVER
STREAM

Prepared by



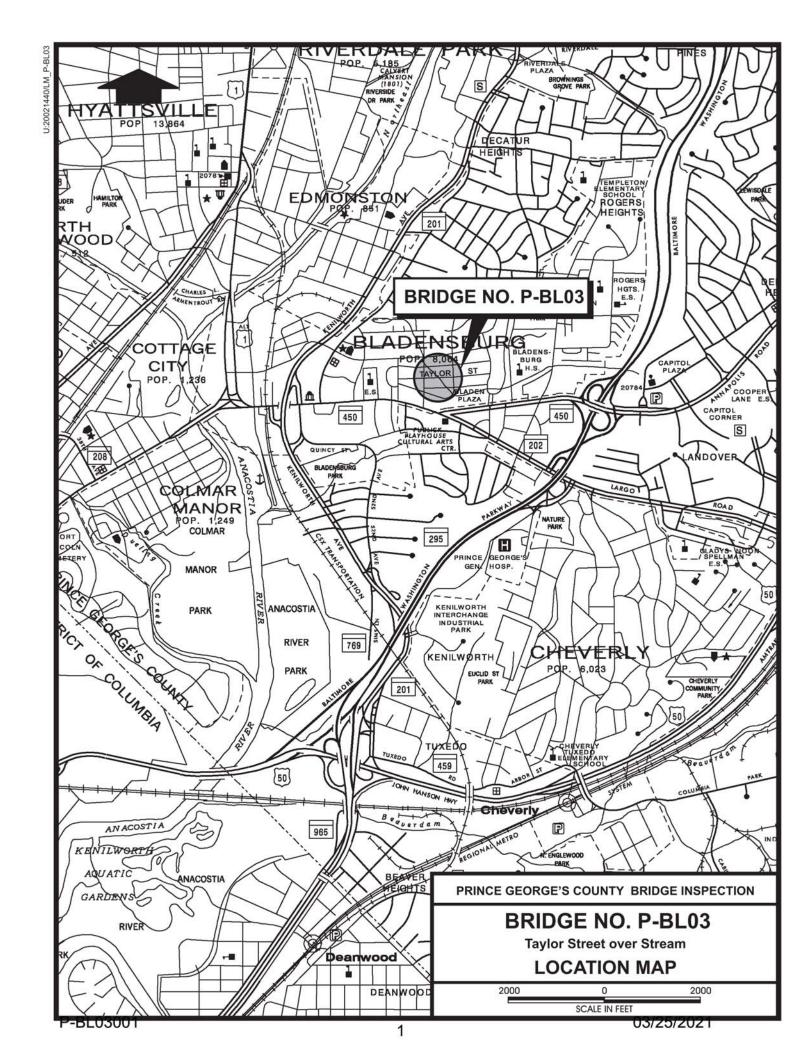
Well /	5/4/2021
Inspection Team Leader: Caleb Percy, P.E.	Date
ESTA	5/4/2021
Inspector: Daria Ross	Date
	5/4/2021
Professional Engineer: Caleb Percy, P.E.	Date

Professional Certification: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 69263, Expiration Date: June 27, 2022.

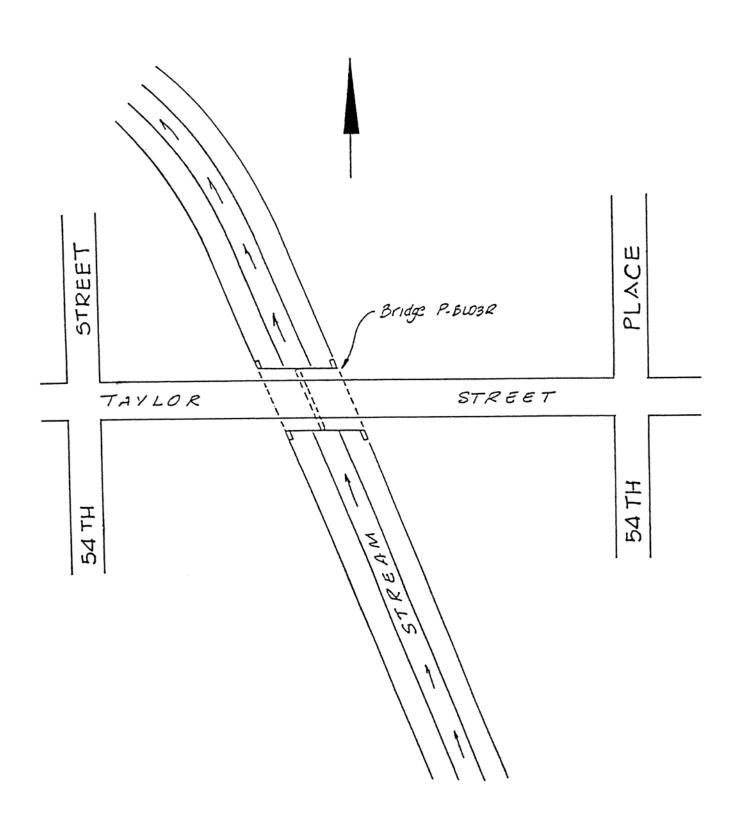
The condition report and recommendations presented herein are based on a visual inspection of accessible portions of the existing structure. No responsibility is assumed by Century Engineering, Inc. for the presence of any latent structural defects that cannot be detected by such visual inspection.

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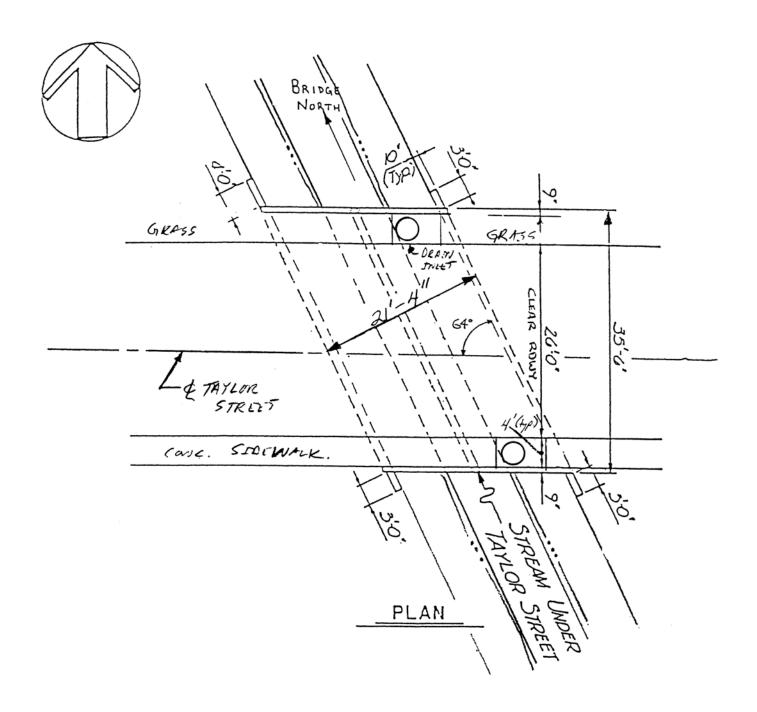
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BRIDGE NO. PBL03R - TAYLOR STREET OVER STREAM

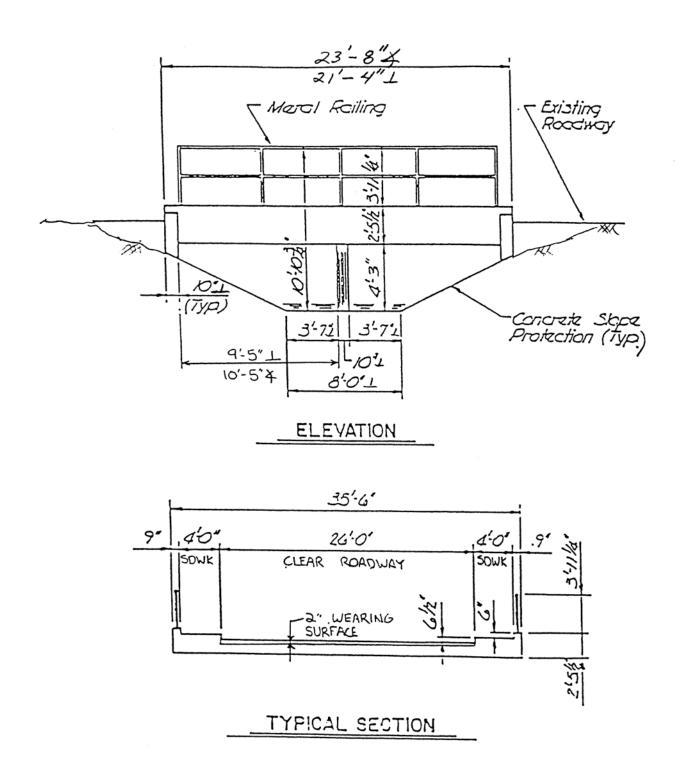


BRIDGE NO. PBL03R - TAYLOR STREET OVER STREAM

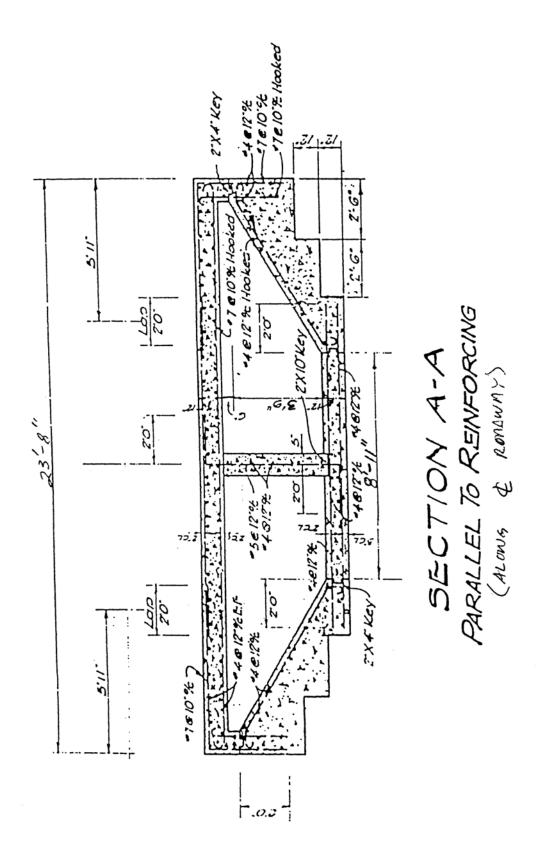


PBL03R

BRIDGE NO. PBLO3R - TAYLOR STREET OVER STREAM



PBL03R



2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL03R **Bridge Type TWO-SPAN CONCRETE RIGID-FRAME** Year Built 1958 Name TAYLOR STREET Crossing STREAM Photos 27 Inspection Date 03/25/2021 Inspection Crew C. Percy, D. Ross **DESCRIPTION:** Two-span concrete rigid-frame bridge with an asphalt wearing surface. The substructure consists of concrete rigid-frame wall abutments with concrete slope and channel protection and a solid shaft concrete pier. The bridge carries a two-lane roadway and two sidewalks. The stream flows from south to north under the bridge. The numbering convention for the bridge is from the north and the west. **OVERALL LENGTH:** 23'-8" **CLEAR ROADWAY:** 26'-0" YEAR BUILT: **POSTED LOAD:** 1958 YEAR REHABILITATED: SINGLE, LBS 52,000 lbs. G.V.W. **POSTED SPEED LIMIT:** COMBINATION, LBS 80,000 lbs G.C.W. 25 MPH **BEAM SPACING: MAP COORDINATES:** 12F6 **NUMBER OF BEAMS:** 5410B10 **SIZE OF BEAMS: ROADWAY APPROACHES:** Section 26' wide asphalt roadway with two lanes.

Alignment Both approaches are straight.

Profile The bridge is located at the sump of a vertical curve.

Traffic Barrier No approach traffic barriers.

REVIEW OF ITEM 113 - SCOUR POTENTIAL RATING: 8P

Item 113 was previously rated an 8P, which implies that the bridge is a culvert type structure with a paved bottom. Based on the observed conditions, this rating is still valid and does not require reevaluation.

REVIEW OF PREVIOUS REPORT:

A 2019 bridge inspection report prepared by Sabra Associates, Inc. was available and used for comparison purposes. The overall condition of the structure appeared to be essentially the same as noted in the previous report with the following exceptions:

- 1. There are full-width holes along the bottom of the South Rail.
- 2. The South Sidewalk has settled up to 1 1/2".

LIVE LOAD RATINGS:

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge	No. P-BL03R	Bridge Type TWO-SPA	AN CONCRETE RIGID-FRAME Ye	ar Built <u>1958</u>	3
Name	TAYLOR STRE	ET Crossing	STREAM	Photos	27
Inspec	tion Date 03/25	/2021	Inspection Crew C. Percy, D. Ro	ss	

The load ratings were re-calculated by Wallace, Montgomery & Associates during the 2013-2014 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The condition of the structure has not changed significantly due to deterioration, damage or rehabilitation since the 2013 inspection. The load ratings for the Maryland Legal Load Vehicles are as follows:

<u>Truck</u>	Gross Vehicle Weight	<u>Inventory</u>	<u>Operating</u>
H-15	15 tons	16 tons	28 tons
HS-20	36 tons	30 tons	50 tons
Type 3	33 tons	28 tons	47 tons
Type 3S2	40 tons	52 tons	88 tons

The bridge is currently posted for 65,000 lbs. for single unit vehicles and 60,000 lbs. for combination unit vehicles.

The recommendation for posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

SI&A CONDITION RATING SUMMARY:

<u>ltem</u>	Current	<u>2019</u>	<u>2017</u>	<u>2015</u>
Deck (Item 58) -	6	6	6	6
Superstructure (Item 59) -	6	6	6	6
Substructure (Item 60) -	6	6	6	6
Channel and Channel Protection (Item 61) -	5	5	5	5
Culvert (Item 62) -	N	N	N	N
Waterway Adequacy (Item 71) -	7	7	7	7
Approach Roadway Alignment (Item 72) -	8	8	8	8
Bridge Sufficiency Rating (BSR) -	87.6	87.6	87.6	87.6
Routine Inspection Frequency -	24 months	24 months	24	24

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL03R Bridge Type TWO-	SPAN CONCRETE F	RIGID-FRAME	_ Year Built	1958
Name TAYLOR STREET Cross	ing STREAM		Pho	otos 27
Inspection Date 03/25/2021	Inspection Cr	ew C. Percy, [D. Ross	
Date of Inspection -	03/25/2021	03/05/2019 0	03/20/2017	03/09/2015
Partial Interim Inspection Frequency -	N/A			

Load Rating Summary:

The load ratings were re-calculated by Mercado Consultants, Inc. during the 2013-2014 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The condition of the structure has not changed significantly due to deterioration, damage or rehabilitation since the 2013 inspection. The load ratings for the Maryland Legal Load Vehicles and Permit Vehicles are as follows:

Vehicle	Gross Vehicle Weight	Inventory Rating (Tons)	Operating Rating (Tons)
HL-93	36 tons		
H-15	15 tons	16.5	28.0
T-3	33 tons	28.5	47.5
T-4	35 tons	32.5	54.5
HS-20	36 tons	30.0	50.0
T-3S2	40 tons	52.5	88.0
150K	75 tons	18.0	30.0
90K Permit	45 tons	37.5	62.5
90K Mobile Crane	45 tons	40.5	67.5
90K Cargo	45 tons	46.0	76.5
80K Cargo	40 tons	52.5	88.0
120K Vehicle	60 tons	49.5	83.0
108K Mobile Crane	54 tons	47.5	79.5
120K Mobile Crane	60 tons	59.5	99.5

The bridge is currently posted for 52,000 lbs. for single-unit vehicles and 80,000 lbs. for combination-unit vehicles. Based on the above previously computed load ratings, we recommend adjusting this posting to 65,000 lbs. for single unit vehicles and 60,000 lbs. for combination unit vehicles.

The recommendation for posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

2021 BRIDGE INSPECTION REPORT

Bridge	No. P-BL03R Bri	dge Type TWO-SPAN CONCRETE RIGID-FRAME	_ Year Built 1958
Name	TAYLOR STREET	Crossing STREAM	Photos 27
Inspec	tion Date 03/25/202	1 Inspection Crew C. Percy,	D. Ross

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

	DESCRIPTION	COUNTY ITEM NUMBER	QUANTITY	UNIT COST	TOTAL COST
lmn	nediate:				
1	Install object markers at the corners of the bridge.	81	4 EA	\$200/EA	\$800
2	Install a load posting sign on the East Approach at the bridge.	82	1 EA	\$500/EA	\$500
3	Install bridge rail that meets current MDSHA standards.	22	48 LF	\$100/LF	\$4,800
4	Install flared and turned down end treatments at the corners of the structure.	20	4 EA	\$1150/EA	\$4,600
	Subtotal (Immediate Items)				\$10,700
Rou	<u>ttine:</u>				
1	Patch the spalls in the underside of the deck and curbs.	1	15 CF	\$225/CF	\$3,375
2	Remove the debris at the upstream end of the pier.	97	1 LS	1000/LS	\$1,000
	Subtotal (Routine Items)				\$4,375
Pre	ventative:				
1	Connect top fence railing to post at northwest, northeast and southeast corners of the				
	bridge.	101	2 EA	\$50/EA	\$100
2	Seal cracks in the deck wearing surface and approach roadway.	13	75 LF	\$140/LF	\$10,500
3	Patch the spalls along the base of the concrete slope protection.	6	30 LF	\$40/LF	\$1,200
	Subtotal (Preventative Items)				\$11,800
		'		Total:	\$26,875

Immediate Repairs - Severe Defects that may affect the serviceability of the structure or are missing safety features that present a hazard to the public. Immediate repairs should be scheduled within 12 months of notification.

Routine Repairs - Moderate defects that do not presently affect the serviceability of the structure. Routine repairs should be scheduled, and given priority, within the current maintenance schedule.

Preventative Repairs - Minor defects that do not presently affect the serviceability of the structure. Preventative repairs should be scheduled within the current maintenance schedule.

2021 BRIDGE INSPECTION REPORT GEOMETRY

	Bridge No. P-BL03R		Bridge Type TWO-SPAN CONCRETE RIGID-FRAME		Year Built 1958
	Name TAYLOF	TAYLOR STREET	Crossing STREAM		Photos 27
	Inspection Date 03/25/2021	03/25/2021	Inspection Crew C. Percy, D. Ross	S. Percy, D. Ross	
		NEW ADC	OLD ADC		
MAP COORDINATE		5410B10	12F6		
SKEW WITH HORIZONTAL (DEGREES)		26			
STRUCTURE TYPE		-			
OVERALL LENGTH		23'-8"			
NO. OF SPAN		0002	NO. OF CELLS		
SPAN LENGTH		S012C C012S			
VERTICAL CLEARANCE		A - < 10'			
OUT-TO-OUT (FEET)		0355			
ROADWAY WIDTH (FEET)		26'-0"			
APPROACH ROADWAY WIDTH		00	026	00	
SHOULDER WIDTH		z	Z	z	Z
CURB/SIDEWALK WIDTH		040	000		
NO OF BEAMS					
SIZE OF BEAMS					
BEAM SPACINGS					
ABUTMENT TYPE	MATERIAL	1 - Concrete	TYPE 8 - Gravity	ravity	CODE 0 - Entire Structure
ABUTMENT FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE 0 - None	one	CODE 0 - Entire Structure
PIER TYPE	MATERIAL	1 - Concrete	TYPE 1-Sc	1 - Solid Shaft	CODE 0 - Entire Structure
PIER FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE 0 - None	one	CODE 0 - Entire Structure
WINGWALL TYPE	MATERIAL	1 - Concrete	TYPE		CODE
WINGWALL FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE		CODE
BEARING TYPE	1ST BEARING	G N - None or N/A	2ND BEARING N-N	N - None or N/A	3RD BEARING N - None or N/A
SPAN OF CULVERT		Z			
RISE OF CULVERT		z			

THICKNESS (IN)

CIII VEBT WALL

Bridge	No. P-BL	.03R Bridge Ty	pe TWO-SPA	AN CONCRETE RIGI	D-FRAME Ye	ar Built 1958	3	
Name	TAYLOR	STREET	_Crossing	STREAM		Photos	_27_	
Inspec	tion Date	03/25/2021		Inspection Crew	C. Percy, D. Ro	ss		

58 DECK	CONDITION RATING	
1. Wearing Surface	6	Type - Asphalt
2. Deck - Topside	-	
3. Deck - Underside	6	Type - Top slab of rigid-frame
4. Curbs	6	Type - Concrete
5. Median	-	
6. Sidewalks	6	Type - 4' wide concrete
7. Parapets	7	Type - Concrete
8. Railing	5	Type - Two-strand steel pipe
9. Roadway Joints	-	
10. Drainage System	7	Type - Brick inlet structures
11. Lighting Standards	-	
12. Utilities	-	Type - Overhead lines along the north side of the roadway
13. Other	-	
Inspector's Condition Rating	(58) 6	

58.1 - There are up to 1/2" wide longitudinal, transverse and map cracks throughout the asphalt wearing surface.

58.3 - There are random areas of delaminating concrete throughout the top slab exposing the reinforcement chairs. There are random hairline cracks throughout the top slab in both spans.

Span 1: There is a 7" diameter x 1/2" deep spall with exposed reinforcement at the northwest corner. There are areas of moderate honeycombing at the north end. There are several areas of delamination up to 2'-0" long x 1'-3" wide at the north end of the top slab. There is a 6" diameter x 1/2" deep spall with exposed reinforcement adjacent to the West Abutment near mid-length. There is a small surface spall with exposed reinforcement south of mid-length. There are ten spalls up to 7" long x 1'-1" wide x 3/4" deep with exposed reinforcement and associated delamination between the spalls adjacent to the pier at the south end of Span 1 (see Photos 7 and 8). There is water staining around the drain through the south end of the top slab.

Span 2: There is minor to moderate abrasion at the storm drains in the top slab. There is a 4'-0" wide x 2'-0" long x up to 3/4" deep spalled and delaminated area with exposed reinforcement at the north end of Span 2 adjacent to the storm drain outlet (see Photo 9). There are six small surface spalls with exposed reinforcement in the top slab at the north end of Span 2 adjacent to the East Abutment (see Photo 10). There is a 7" long x 1'-1" wide x 3/4" deep spall with exposed reinforcement approximately 10' from the north end of Span 2 (see Photo 11). There is a 1'-0" diameter area of delamination in the top slab of Span 2 at the East Abutment approximately 15' from the north end. There is a 1'-0" long x 6" wide area of delamination in the top slab at the pier just south of mid-width of the bridge. There are

Bridge	No. P-BL03R	Bridge Type TWO	D-SPAN CONCRETE RIGID-F	FRAME Year I	Built 1958	3	
Name	TAYLOR STR	EET Cros	sing STREAM		Photos	27	
Inspect	tion Date 03/2	25/2021	Inspection Crew C.	Percy, D. Ross			

several areas of moderate honeycombing and spalls up to 1'-8" long x 8" wide x 1" deep with exposed and corroded reinforcement within 10' of the south end in Span 2 (see Photo 12). The reinforcing bars exhibit minor section loss.

- 58.4 There is a 1'-2" long x 8" wide x 3" deep spall along the top edge of the South Curb (see Photo 13). There is minor scaling throughout both curbs. There are isolated hairline to 1/16" wide vertical cracks throughout the concrete curbs.
- 58.6 The North Sidewalk has moderate scaling throughout (see Photo 14). The South Sidewalk is 3/4" lower than the storm drain inlet (see Photo 15). There is a full-width x 1/8" wide crack with an adjacent 6" long x 1 1/2" wide x 1" deep spall at the east end of the South Sidewalk (see Photo 16).
- 58.7 There are small areas of isolated efflorescence in the exterior face of the parapets. There are hairline cracks around the base of the railing posts. There is a 1/16" wide vertical crack with light efflorescence in the North Parapet above the pier (see Photo 17). There is a hairline vertical crack with light efflorescence in the South Parapet.
- 58.8 There is minor surface corrosion throughout the steel pipe bridge railings with random corrosion holes measuring up to 1" diameter. There are two 4" wide x full depth holes along the bottom of the South Rail (see Photo 18). There are cracks in the repair patch at the base of the South Rail post (see Photo 19).
- 58.10 The drainage inlets at the northeast and southeast corners of the bridge are in good condition. The inlets discharge through the top slab. There are a few 1/16" wide cracks and some missing mortar along the brick mortar joints that make up the inlet walls.

ame TAYLOR STREET	Crossing	STREAM Photos 27
spection Date <u>03/25/2021</u>		Inspection Crew C. Percy, D. Ross
59 SUPERSTRUCTUR	E	
Number of Spans		
Type of Construction		crete Rigid-Frame
	CONDITIO RATING	N
1. Bearing Devices	-	
2. Girders or Beams	-	
3. Stringers	-	
4. Floor Beams	-	
5. Diaphragms/Crossframes	-	
6. Paint	-	
7. Other	6	Type - Rigid-frame top slab
8. Rivets or Bolts	-	
9. Welds - Cracks	-	
10. Rust	-	
11. Timber Decay	-	
12. Concrete Cracking	6	
13. Collision Damage	-	
14. Deflection Under Load	8	
15. Alignment of Members	8	
16. Vibrations Under Load	8	
17. Fracture Critical Member	s -	

59.7 - See comments for Item 58.3.

	CON	DITION RAT	TING FO	RMS	
Bridge No. P-BL03R	Year Built 1958				
Name TAYLOR STR	EET Cro	ssing STREA	M		Photos 27
Inspection Date 03/2	25/2021	Inspec	tion Crew	C. Percy, D.	Ross
60 SUBSTRUCT	URE	CONDITION RATING			
1. Abutments	-Wingwalls	7			
	-Backwalls	_			
	-Stems	7			
	-Footings	-			
	-Piles	-			
	-Scour/Erosion	8			
	-Settlement	8			
Overall Abutme	nt Rating	7	Abutmen	t Type - Cor	ncrete rigid-frame wall
2. Piers or Bents	-Caps	-			
	-Columns/Shaft	6			
	-Footings	-			
	-Piles	-			
	-Scour/Erosion	6			
	-Settlement	8			
Overall Pier Rat	ing	6	Pier Type	e - Concrete	e rigid-frame wall
3. Pile Bents	-Caps	-			
	-Piles	-			
4. Concrete Crackin	g or Spalling	6			
5. Steel Corrosion		-			
6. Timber Decay		-			
7. Other	Invert	6			
8. Debris on Seats					
9. Paint		-			

Inspector's Condition Rating (60) 6

10. Collision Damage

11. Overall Undermining/Scour

60.1 – Both abutments have a few isolated hairline vertical cracks. There is a small edge spall at the north end of the East Abutment.

Bridge	No. P-BL03R	Bridge Type TWO-SPA	N CONCRETE RIGID-FRAM	ME Year	Built 1958	3	
Name	TAYLOR STREE	ET Crossing	STREAM		Photos	27	
Inspect	tion Date 03/25	/2021	Inspection Crew C. Per	cy, D. Ross			

Wingwalls: There is vegetation growth, minor pop-out spalls and hairline cracks at all four wingwalls. The Northeast and Southwest Wingwall joints at the abutments are open up to 2" at the top. The Northwest and Southeast Wingwall joints are open up to 1". The joint filler material is falling out at the Northeast and Southwest Wingwalls (see Photo 20).

60.2 - There are isolated hairline vertical cracks throughout both faces of the pier walls. There is hairline map cracking with efflorescence in the north end of the pier (refer to Photo 17). There is moderate abrasion and patched areas along the base of the pier. There are eight vertical cracks between 0.012" and 0.05" wide in both faces of the pier. There are vertical cracks with built up efflorescence in both faces of the pier at the north end (see Photo 21).

Bridge	No. P-BL03R	Bridge Type TWO-SPA	AN CONCRETE RIGID-FRA	ME Year	Built 1958	3	
Name	TAYLOR STRE	ET Crossing	STREAM		Photos	27	
Inspec	tion Date 03/25	/2021	Inspection Crew C. Pe	rcy, D. Ross			

61 CHANNEL AND CHANNEL PROTECTION

	CONDITION RATING						
1. Channel Scour	7						
2. Embankment Erosion	7						
3. Drift/Debris	5						
4. Vegetation	7						
5. Channel Alignment	8						
6. Fender System	-						
7. Spur Dikes and Jetties	-						
8. Riprap/Slope Protection	5	Type - Concrete					
Inspector's Condition Rating (61)							

- 61.1 There is moderate to heavy abrasion up to 2" deep along the concrete inverts.
- 61.3 There is heavy debris accumulation at the upstream end of the pier.
- 61.5 The stream flows from south to north under the structure. The upstream channel is on a tangent alignment and the downstream channel curves to the west.
- 61.8 There are 1/16" wide cracks and up to 8" high x 8" deep spalls along the base of the concrete slope protection (see Photo 22). This condition is worse at the construction joints and along the base of the slope protection where there is moderate vegetation growing in the joints. A few of the drains in the slope protection are clogged with debris. There are horizontal hairline cracks in the repair patch on the Northwest Slope Protection adjacent to the bridge. There is a full-height x up to 1" wide vertical fracture in the Southwest Slope Protection approximately 10' from the bridge (see Photo 23).

There are hairline vertical and diagonal cracks in the slope protection under the bridge. There is a vertical hairline crack with built-up efflorescence at the south end of the East Slope Protection. The bottom edge of the slope protection under the bridge has heavy abrasion in both spans. There is a 1'-8" long x 8" high x 2 1/2" deep spall in the East Slope Protection near the north end of the bridge.

Fence: There is heavy vegetation, moderate corrosion and misalignments throughout the fence along the concrete slope protection. The top rail of the fence is not connected to the post at the northwest, northeast and southeast corners of the structure (see Photo 24). The top rail of the Southwest Fence is disconnected at Post 2.

Bridge No.	P-BL	03R Bridge	Type TWO-SP	AN CONCRETE RIG	Year	Built 1958	
Name TAY	YLOR	STREET	Crossing	STREAM			Photos 27
Inspection	Date	03/25/2021		Inspection Crew	C. Percy, D	. Ross	
71 WAT	ERW	/AY ADEQL	IACY				
Opening			Good	Fair	Poor		
Alignmen	t		Good	Fair	Poor		
Frequenc	y of O	vertopping	Remote	Slight	Occasio	onal	Frequent
Inspe	ctor's	Condition Ra	ting (71)	7			

Bridge	No. P-BL	.03R B ri	dge Typ	e TWO-S	SPAN CO	NCRETE	RIGID-FRAME	Year Built	1958
Name	TAYLOR	STREET		Crossi	ng STR	EAM		Pho	tos_27_
Inspect	tion Date	03/25/202	1		Insp	ection Cı	ew C. Percy, I	D. Ross	
72	ADDDO	ACH BO	\ D\W\A\	/ ALIC	NMEN	TADDE	RAISAL RAT	ING	
12	AFFRO	ACII KOA	TOVA	ALIG	IAIAITIA	LAFFI	AIOAL IVA I	1140	
1. Vei	rtical Align	ment	W	Good	Fair	Poor	- Bridge is at curve.	the sump of a	vertical
			Е	Good	Fair	Poor			
2. Ho	rizontal Ali	gnment	W	Good	Fair	Poor	- Both approa	aches straight	
			Е	Good	Fair	Poor			
3. Sp	eed Limit F	Reduction	No	ne M	inor Su	ubstantial			
4. Sig	ght Distanc	е	Aded	quate	Not Ac	dequate			
Inspe	ector's Co	ndition Rat	ing (72)	8]				
AP	PROAC	H ROAD	WAY						
				CONDI					
5. Apı	proach Tra	iffic Barrier		-					
	proach Pav			7		Type - As	phalt		
	-	bankments		7		,,			
	proach Sla			_					
9. Re	lief Joints			_					
10. Si	igning - Le	gibility and	Visibility	Good	 d Fair	Poor	Type - Postin	g Signs	
11a. F	Roadway S	Speed Limit		25 [MPH	11b. Pos	ted Bridge Spe	ed Limit	
12. Po	osted Load	d Limits	52		. G.V.W) lbs G.C.W.	
13. Tr	raffic Safet	y Features							
a. E	Bridge Raili	ing		0	1 N	І Туре	e - Two-Strand	Steel Railing	
b. T	Γransitions			0	1 N	І Туре	e - No approach	n traffic barrie	
c. A	Approach T	raffic Barrie	er	0	1 N	І Туре	e - No approach	n traffic barrie	-
d. A	Approach T	raffic Barrie	er Ends	0	1 N	I Туре	e - No approach	n traffic barriei	-

72.5 - There are no approach traffic barriers.

72.6 - There are up to 1/2" wide map cracks throughout the asphalt wearing surface on both approaches (see Photos 25 and 26).

There are minor isolated cracks in the approach curbs. There is a $5" \log x \ 2 \ 1/2" \operatorname{high} x \ 1"$ deep spall in the Northeast Curb near the transition to the bridge. At the Northeast and Southwest Curbs, there is a 1/2" wide crack with up to 1/2" of settlement.

Bridge	No. P-BL03R	Bridge Type T	WO-SPA	N CONCRETE RIGII	D-FRAME Ye	ar Built 1958	3	
Name	TAYLOR STF	REET Cr	rossing	STREAM		Photos	27	
Inspect	tion Date 03/	25/2021		Inspection Crew	C. Percy, D. Ro	ss		

72.10 - There are no object markers at the bridge. The previously noted posting sign at the East Approach has been removed since the 2017 inspection. There is no load posting sign at the West and East Approach. There are advance load posting signs at the following locations: Eastbound Taylor Street at 54th Street, Westbound Taylor Street at 54th Place (see Photo 27). The posting signs have been changed since the 2017 inspection. The signs are posted at 65,000 lbs for single-unit vehicles and 60,000 lbs for combination-unit vehicles, as per the load rating analysis completed by Wallace, Montgomery & Associates, LLP on February 4, 2014.



1. West Approach Looking East



2. East Approach Looking West



3. North (Downstream) Elevation



4. South (Upstream) Elevation



5. Looking North (Downstream)



6. Looking South (Upstream)



7. Deck - Adjacent Spalls with Exposed Reinforcement in Top Slab of Span 1



8. Deck - Adjacent Spalls with Exposed Reinforcement in Top Slab of Span 1 at the South End



9. Deck - Adjacent Spalls with Exposed Reinforcement in the Top Slab of Span 2 at the North End



10. Deck - Spalls with Exposed Reinforcement in Top Slab of Span 2 at South End



11. Deck - Spall with Exposed Reinforcement in Top Slab of Span 2 10' from North End



12. Deck - Typical Surface Spalls Throughout Top Slab of Span 2



13. Curb - Spall in South Curb



14. Sidewalk - Typical Scaling Throughout North Sidewalk



15. Sidewalk - Settlement at the South Sidewalk at Storm Drain Inlet



16. Sidewalk - Transverse Crack with Spall in South Sidewalk



17. Parapet - Vertical Crack with Efflorescence in Exterior Face of North Parapet Extending into Pier



18. Railing - Corrosion Holes in North Railing Posts



19. Railing - Cracks at Base of Railing concrete Repair



20. Wingwall - Bulging Joint Material at Southeast Wingwall



21. Pier - Vertical Cracks with Efflorescence in Pier



22. Slope Protection - Abrasion and Spalling along the Base of Northeast Slope Protection



23. Slope Protection - Vertical Failure in Southwest Slope Protection



24. Fence - Disconnected Top Rail of Southeast Fence



25. Approach - Map Cracking in West Approach



26. Approach - Map Cracking in East Approach



27. Signage - Load Posting Sign at West Approach

STRUCTURE INVENTORY AND APPRAISAL REPORT

BRIDGE NUMBER: P-BL03001

IDENTIFICATION			FORM 1 OF 13
(8) STRUCTURE NUMBER:	2 00000 Major Structure P	- BL03 04 Rigid Frame > 20'	0" Single Structure
(8) FHWA NUMBER:			
(7) FACILITY CARRIED:	TAYLOR STREET		
(6) FEATURE INTERSECTED:	STREAM		
(255) FEDERAL SUBMITTAL INDICA	ATOR: Y Yes		
(262) NAME OF STRUCTURE:			
(27) YEAR BUILT:	1958 (106) YE	EAR RECONSTRUCTED: 0000	
(263) ADDITIONAL RECONSTRUCTION	ION YEARS: N		
(1) STATE CODE:	243 Maryland (2) DIST	RICT CODE: 03	03
(3) COUNTY CODE:	033 GEORGE'S (4) PLA	CE CODE : 07850	
(5) INVENTORY ROUTE:	1 Route carried "on" 5 City St the structure (Route Prefix		0 Always (Direction)
(9) LOCATION:	0.06 MI W OF 54TH PLACE		
(11) MILEPOINT:	0000200		
(12) BASE HIGHWAY NETWORK:	1 Inv. Route is NOT on the Base Net	work	
(266) GIS ROUTE ID:	16011MU0012001WW******	*****	
(267) GIS MILEPOINT:	0.20		
(268) SCENIC ROUTE: N			
(13) LRS INVENTORY ROUTE, SUBF	ROUTE NUMBER: 601200110	0000	
(16) LATITUDE: (A)	(B) 38562649	2618 (C) 38552620	(D) 38552648
(17) LONGITUDE: (A)	076533299 (B) 0765	33278 (C) 076533250	(D) 076533274
(28) LANES ON: 02 LANES U	NDER: 00		
(42) TYPE OF SERVICE ON: 5	Highway-Pedestrian		
TYPE OF SERVICE UNDER: 5	Waterway		
(98) BORDER STATE:	ВС	ORDER STATE'S SHARE %:	
(99) BORDER STATE'S NUMBER:			
CLASSIFICATION			FORM 2 OF 13
(104) HWY SYSTEM:	No, Inventory Route is not on the NHS	(103) TEMPORARY STRUCTURE:	
(105) FEDERAL LANDS HWYS:	0 Not applicable	(110) NATIONAL NETWORK:	No, the inventory route is not part of the national network for trucks.
(26) FUNCTIONAL CLASS:	19 Urban Local	(20) TOLL:	3 On free road
(100) DEFENSE HWY:	The inventory route is not a STRAHNET route	(21) MAINTENANCE:	City or Municipal Highway Agency
(101) PARALLEL STRUCTURE:	No parallel structure	(22) OWNER:	City or Municipal Highway Agency
(102) DIRECTION:	2 2-way traffic	(37) HISTORICAL SIGNIFICANCE:	5 Not eligible

(344) PAINT COLOR/NUMBER:

(345) YEARS PAINTED:

FORM 3 OF 13 TRAFFIC (19) **DETOUR**: (109) TRUCK ADT %: 01 01 (30) ADT YEAR: (29) ADT: 000630 2019 (114) FUTURE ADT: (115) FUTURE ADT YEAR: 000960 2039 STRUCTURE TYPE AND MATERIAL **FORM 4 OF 13** Concrete Continuous (43) STRUCT TYPE: вΙ 07 Rigid Frame Not Applicable (44) STRUCT TYPE - APPR: Other 0 00 (232) BOX CULVERT ON PILES: None Entire Structure 0 0 (208) STRUCT TYPE -Ν Ν Ν WIDENED/EXTENDED: (219) SLOPE PROTECTION: Concrete 1 (228) FOOTING - ABUTMENT: Concrete 0 None 0 Entire Structure 1 (229) SUBSTRUCT ABUTMENT: Concrete Gravity Entire Structure 1 8 0 (230) FOOTING - PIER: 1 Concrete 0 None 0 Entire Structure Solid Shaft Entire Structure (231) PIER TYPE: 1 Concrete 1 0 None or N/A None or N/A None or N/A (242) BEARING TYPE: Ν Ν Ν (108) WEARING SURFACE: 6 Bituminous 0 None 0 None (243) JOINT TYPE: None Ν None Ν None (206) STRUCT SUBTYPE - MAIN: Not Applicable (207) STRUCT SUBTYPE - APPR: Not Applicable Ν Ν (257) SCOUR PROTECTION: (270) CONC. DECK SPECIAL TYPE: Not Applicable (221) STRUCTURAL STEEL: Not Applicable (233) DECK - COMP/NON-COMP: Non-Composite Ν 0 Concrete Cast-in-(107) DECK STRUCTURE TYPE: (259) STAY-IN-PLACE FORMS: Ν 1 (235) PARAPET: 02 Concrete-Rectangular - Two Strand (non-(236) RAILING: Steel - None 3 0 None structural) (237) **FENCING**: 0 None 0 - None (278) PAINT SYSTEM: Not Applicable N

Not Applicable

Ν

Ν

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GEOMETRICS							FOR	M 5 OF 13
(112) NBIS BRIDGE LENGTH:	Υ			(49) STRUCTU	RE LENGTH:	0000240		
(210) NUMBER OF SPANS:	0002			(45) # SPANS	IN MAIN UNIT:	002		
(46) # APPROACH SPANS:	0000			(209) CONTINI	JOUS SPANS:	Υ		
(48) LENGTH MAX SPAN:	0012			(238) # STRING	GERS - ORIGINAL:	00		
(240) SPACING - ORIGINAL:	N			(239) # STRING	GERS - WIDENED:	00		
(241) SPACING - WIDENED:	N			(33) BRIDGE N	IEDIAN:	0		
(50) CURB/SIDEWALK WIDTHS:	040 0	000		(205) MEDIAN	WIDTH:	000		
(51) DECK CURB-CURB WIDTH:	0260			(32) APPROAG	CH ROAD WIDTH:	00 026	6 00	
(52) DECK OUT-OUT WIDTH:	0355			(10) INVENT R	OUTE, MIN VERT C	LEAR:	9999	
(53) BRIDGE ROADWAY, MIN VE	RTCLEAR:	9999		(47) INVENT R	OUTE, TOTAL HOR	IZ CLEAR:	260	
(54) MIN. VERT. UNDERCLEARAI	1CE:	N F	eature n	not a highway	or a railroad	Α	< 10'	
(55) MIN. LAT. CLEARANCE (RIG	HT):	N F	eature n	not a highway	or a railroad	999		
(56) MIN. LAT. CLEARANCE (LEF	T):	000	-	(342) HORIZ C	LEARANCE (ON):		02600	
(34) SKEW, IN DEGREES: 2	3		((280) HORIZ C	LEARANCE (UNDE	R):	N	
(35) STRUCTURE FLARED:	ī			(253) NUMBER	OF CELLS:		N	
(256) SPAN OF CELLS:	N			(254) RISE:			N	
				(258) EARTH F	TLL:		N	
				(343) CENTER	LINE LENGTH (Cul	verts/Pipes):	N	
(223) SHOULDER WIDTHS:	N	N	N	N				
(264) TYPE AND SPAN:	RF 11'-10",	11'-10"						

LOAD RATINGS AND POSTINGS

FORM 6 OF 13

(41) STATUS:	P Posted for load	(224) WEIGHT POSTED:	65 60
(31) DESIGN LOAD:	5 HS 20		(New Split)
(398) PEDESTRIAN LOADING:	N	(66) INVENTORY RATING:	300

 (398) PEDESTRIAN LOADING:
 N
 (66) INVENTORY RATING:
 300

 (399) RAILROAD LOADING:
 N
 (64) OPERATING RATING:
 500

 (70) POSTING:
 5
 Equal to or above legal loads
 (400) DATE OF RATING:
 02
 2014

(65) METHOD USED TO DETERMINE INVENTORY RATING:

1 1 Load Factor (LF)

(63) METHOD USED TO DETERMINE OPERATING RATING:

1 1 Load Factor (LF)

	INVENT	ORY RATING	OPERAT	ING RATING
HL-93 Vehicle	(402)		(401)	
H-15 Vehicle	(404)	165	(403)	280
T3 (Dump Truck) Vehicle	(406)	285	(405)	475
T4 Reduced Lift Axle Vehicle	(408)	325	(407)	545
HS Vehicle	(410)	300	(409)	500
3S2 Vehicle	(412)	525	(411)	880
150K Vehicle	(414)	180	(413)	300
90K Permit Combination Vehicle	(416)	375	(415)	625
90K Mobile Crane Vehicle	(418)	405	(417)	675
90K Cargo Vehicle	(420)	460	(419)	765
80K Cargo Vehicle	(422)	525	(421)	880
120K Vehicle	(424)	495	(423)	830
108K Mobile Crane Vehicle	(426)	475	(425)	795
120K Mobile Crane Vehicle	(428)	595	(427)	995

(225) SPEED LIMIT ON STRUCTURE:

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

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

CONDITION INSPECTION

FORM 7 OF 13

	Inspection Month	(91) Frequency	Due Date	(90) Inspection Da	te (290) Inspection Report Completion Date
Routine Inspection	03	24	03/25/2023	03/25/2021	06/25/2019
Critical Feature Inspections	(291) Inspection Month	(92) Frequency	Due Date	(93) Critical Featur Inspection Date	е
(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) Ancho	r	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:	6 Satisfactory Co	ndition (59) S	UPERSTRUCT	TURE: 6 S	atisfactory Condition
(60) SUBSTRUCTURE:	6 Satisfactory Co	ndition (61) C	HANNEL/PRO	TECTION: 5 B	ank eroded major damage
(62) CULVERTS:	Not Applicable				
(310) INSPECTION DATA UPDATE	DATE : 02/18/2015	(312)	LEAD INSPEC	TOR: Caleb Per	су, Р.Е.
(311) INSPECTION TEAM:	YCE	(313)	BRIDGE INSPI	ECTOR: Daria Ross	S
(314) HOURS TO INSPECT: 003	(316) DECK P	LANKING %:	00 (31	15) DECK PUNCTUR	RES %: 00
(317) DECK PATCHING %: 00	(318) BLOCKI	ING:	00 (31	9) POWER WASHIN	IG: N
(320) IDENTIFICATION NO.: N	(321) INVENT	ORY DIRECTION:	SOUT (32	23) PERMIT:	N
	_		Н		
(324) NIGHT WORK:	(325) WEEKE	ND WORK:	N		
	RYLAND ROUTE 45	0			
(326) MAINTENANCE OF TRAFFIC	STANDARDS:				
(327) MOT COMMENTS:					
(328) LOCATION OF MIN. VERT. UNDERCLEARANCE:					

(329A) CRITICAL FINDINGS: N (329B) CRITICAL FINDINGS DATE:	
(330) CRITICAL FINDINGS COMMENTS:	
(331) CAUTION COMMENTS:	
(332) UNDERCLEARANCE POSTING SIGNS: No, signs or some signs missing	
(340) INSPECTION EQUIPMENT:	
W Waders	
(333) MHOI: N (334) MHOI LOCATIONS:	
(335) ADVANCED NOTIFICATION: N	
(336) ADVANCED NOTIFICATION COMMENTS:	

APPRAISAL					FORM 8 OF 13
(67) STRUCTURAL EVALUATION:	6	BSR	(68) DECK GEOMETRY:		5
(69) UNDERCLEARANCE:	N	87.6	(72) APPROACH ALIGN	MENT:	8
(71) WATERWAY ADEQUACY:	7	07.0			
(55)	NGS: 0	Does NOT me	eet Standards		
FEATURES TRANSIT	ONS: 0	Does NOT me	eet Standards		
APPROACH BAR	RIER: 0	Does NOT me	eet Standards		
APPROACH BARRIER I	ENDS: 0	Does NOT me	eet Standards		
(113) SCOUR EVALUATION:	8P	Bridge is a cu	lvert-type structure with paved bottom.		
(DT) DEDUCT CODE:	Z				
(STAT) STATUS:	0	Not Deficie	ent		
NAVIGATION					FORM 9 OF 13
(38) NAVIGATION CONTROL:	0		(39) NAV VERT (CLEARANCE:	000
(40) NAV HORIZONTAL CLEARANC	E: 000	00			
(111) PIER/ABUTMENT PROTECTIO	N:				
(116) MIN NAV VERT CLEARANCE,	VERT LIFT	BRIDGE:			
(247) DESIGN YEAR STORM:	N		(248) RUN-OFF (Q: N	
(249) DRAINAGE AREA:	N		(250) STRUCTUF	RE IN TIDAL AREA	A: N No
(251) HIGH WATER ELEVATION:	N				
(252) YEAR HIGH WATER ELEVATION	ON - LATES	T: N			
HISTORY AND PROPOS	ED IMPF	ROVEME	NTS		FORM 10 OF 13
(201) CONTRACT NUMBERS:					
(203) SHA SPEC- YEAR:	1957	N 1	N N		
(204) AASHTO SPEC-YEAR:	1957	N N	N N		
(75) TYPE OF PROPOSED WORK:	35	(76) LENGTH OF IMPROVEMENT:	000024	
(94) BRIDGE IMPROVE COST:	000204	(95) ROADWAY IMPROVE COST:	000021	
(96) TOTAL PROJECT COST:	000225	(97) YEAR OF IMPROVEMENT:	05	

MISCELLANEOUS	FORM 11 OF 13
(244) SIGNS ON STRUCTURE: N No	(245) BRIDGE ROADWY LIGHTING: N No
(246) PROVISION FOR ROADWAY LIGHTING: No	
(260) UTILITIES - ON:	(261) UTILITIES - UNDER:
0 Not Applicable	G Gas
Not Applicable	0 Not Applicable
T Telephone	0 Not Applicable
0 Not Applicable	0 Not Applicable
G Gas	0 Not Applicable
REMARKS:	
<pre> </pre>	
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:

Structure Inventory and Appraisal Sheet

NATIONAL BRIDGE INVENTORY -----STRUCTURE INVENTORY AND APPRAISAL **IDENTIFICATION** SUFFICIENCY RATING = 87.6 (1) STATE NAME:..... Maryland CODE...... STRUCTURE NO:..... 2-00000-P--BL03-04-0 (8)STATUS = 0 INV RTE (ON/UNDER):..... 1-5-1-00120-0 (5)**CLASSIFICATION** (2)STATE HIGHWAY DEPARTMENT DISTRICT:......... 03 (112) NBIS BRIDGE LENGTH:..... (3)COUNTY CODE:...... 033 (4) STATE CODE:. 07850 FTR INTRS:..... STREAM (6)FACILITY CARRIED:..... TAYLOR STREET (7) LOCATION:..... 0.06 MI W OF 54TH PLACE (9)(11)BASE HIGHWAY NETWORK: 0 (103) TEMPORARY STRUCTURE:..... LATITUD 38562649. (17) LONGITUDE:... 076533299 BORDER BRIDGE STATE % Share..... BORDER BRIDGE STRUCT NO...... MAINTENANCE:04 STRUCTURE TYPE AND MATERIAL OWNER:......04 (43)STRUCTURE TYPE MAIN: MATERIAL HISTORICAL SIGNIFICANCE:..... 5 TYPE..... В 07 (44) STRUCTURE TYPE APPR: MATERIAL **CONDITION** TYPE..... 00 (58) DECK:.... (45) NUMBER OF SPANS IN MAIN UNIT:..... SUPERSTRUCTURE:.... SUBSTRUCTURE:.... (107) DECK STRUCTURE TYPE...... 1 CHANNEL AND CHANNEL PROTECTION:..... 5 (108) WEARING SURFACE/PROTECTIVE SYSTEM: A) TYPE WEARING SURFACE: CODE:..... 6 LOAD RATING AND POSTING CODE:.... B) TYPE MEMBRANE: (31) DESIGN LOAD:..... C) TYPE DECK PROTECTION: CODE:.... (64) OPERATING RATING: 500 AGE AND SERVICE (27) YEAR BUILT:..... INVENTORY RATING: 300 (66)(106) YEAR RECONSTRUCTED..... BRIDGE POSTING:.... (42) TYPE OF SERVICE: ON: (41) STRUCTURE OPEN, POSTED, OR CLOSED:..... P 5 UNDER...... CODE..... APPRAISAL (28) LANES: ON STRUCT 02 UNDER STRUCT: იი (67) STRUCTURAL EVALUATION:.... DECK GEOMETRY:.... (30) YEAR OF ADT:..... **2019** (109) TRUCK ADT:..... (69) UNDERCLEARANCES, VERT AND HOR:..... N BYPASS, DETOUR LENGTH:.... (71) WATERWAY ADEQUACY:..... GEOMETRIC DATA (72) APPROACH ROADWAY ALIGNMENT:..... LENGTH OF MAXIMUM SPAN:.... (48)TRAFFIC SAFETY FEATURES:...... 0 0 0 0 (113) SCOUR CRITICAL BRIDGES:...... 8P CURB/SIDEWALK: LFT 040 FT RGT: 000 (51) BRDG RDWY WIDTH CURB TO CURB....... 0260 . FT PROPOSED IMPROVEMENTS (52) DECK WIDTH OUT TO OUT..... 0355 FT (75) TYPE OF WORK:.... 1 (32) APPR RDWY WIDTH: 00 026 00 FT (76) LENGTH OF IMPROVEMENT:..... 000024 (33) BRIDGE MEDIAN:.... 0 (94) BRIDGE IMPROVEMENT COST:..... 204,000 26 DEG (35) STRUCT FLARED (34)SKEW: Ν (95) ROADWAY IMPROVEMENT COST:.... 21,000 (10) INV RTE MIN VERTICAL CLEAR:...... FT (96) TOTAL PROJECT COST:.... 225,000 (97) YEAR OF IMPROVEMENT COST EST:.... INV RTE TOT HORIZONTAL CLEAR:.. 260 FT MIN VERT CLEAR OVER BRDG RDW 9999 FT (54) MIN VERT UNDERCLEAR N Α FT (115) YEAR OF FUTURE ADT:.....

Bridge Inspection Report Element Form

Bridge No: P-BL03001							Inspectio	on Date: 0	3/25/2021
TAYLOR STREET OVER	STREAM						Milepoin	t : 0	000200
(58) Deck	6	(59) Superstruct	ure	6	(6	0) Substru	cture 6	;
(61) Channel	5	(62) Culvert		N				
					T		T	Γ	
Element			Environment	Total Quantit	y Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
38 - Reinforced Con	crete Slab		1 - Ben.	698	sq. ft.	673	25	0	0
☐Eng Req	□FYI	□D	istrict]Inacces	sible?		Eng Com	ments
There are up to 1/2"	ˈ wide longitudinal, trans	verse	and man crad	cks thro	uahout th	ie asnhalt v	wearing su	rface	
·			·			·			-h
	reas of delaminating cor cracks throughout the to				ab expo	sing the rei	ntorcemen	t chairs.	nere
Span 1: There is a	7" diameter x 1/2" deep	spall v	with exposed	reinforc	ement at	the northw	est corner	. There ar	e areas
of moderate honeyo	combing at the north end	. The	re are severa	l areas	of delam	nation up t	o 2'-0" long	g x 1'-3" w	ide at
	top slab. There is a 6" of length. There is a small								
ten spalls up to 7" lo	ong x 1'-1" wide x 3/4" de	ep wi	th exposed re	einforcei	ment and	associated	d delamina	ition betwe	en the
spalls adjacent to the of the top slab.	e pier at the south end o	т Spa	n 1. There is	water s	taining a	round the d	drain throug	gn tne sou	tn ena
Snan 2: There is m	inor to moderate abrasio	n at tl	he etorm draii	ne in the	ton elah	There is	a 4'-0" wid	e v 2'-0" la	na v un
to 3/4" deep spalled	and delaminated area v	vith ex	cposed reinfor	cement	at the no	orth end of	Span 2 ad	jacent to tl	ne storm
	are six small surface spa : Abutment. There is a 7								pan 2
approximately 10' from	om the north end of Spa	n 2. ⁻	There is a 1'-0)" diame	ter area	of delamina	ation in the	top slab o	
	ent approximately 15' froust south of mid-width of								
spalls up to 1'-8" lon	ng x 8" wide x 1" deep wi	th exp	oosed and co						
_	ears exhibit minor section	ı loss.					1	Г	
210 - Reinforced Co	ncrete Pier Wall		1 - Ben.	39	ft.	31	8	0	0
☐Eng Req	□FYI		istrict]Inacces	sible?		Eng Com	ments
There are isolated h	nairline vertical cracks the	rough	out both faces	s of the	pier walls	s. There is	hairline ma	ap crackin	g with
	north end of the pier. T								
	ical cracks between 0.0´ce in both faces of the pic			iii bolii i	aces or t	ne pier. Ti	iere are ve	rtical crac	KS WILLI
215 - Reinforced Co	ncrete Abutment		1 - Ben.	78	ft.	70	8	0	0
☐Eng Req	□FYI	□D	istrict]Inacces	sible?		Eng Com	ments
Both abutments hav Abutment.	ve a few isolated hairline	vertic	al cracks. Th	iere is a	small ed	lge spall at	the north	end of the	East
330 - Metal Bridge R	ailing		1 - Ben.	44	ft.	41	0	3	0
☐Eng Req	□FYI	□D	istrict		Inacces	sible?		Eng Com	ments

Bridge Inspection Report Element Form

Bridge No: P-BL03001							Inspection	on Date: 0	3/25/2021
TAYLOR STREET OVER	RSTREAM						Milepoin	t : 0	000200
(58) Deck	6	(59)	Superstructu	re 6		(6	0) Substru	cture 6	i
(61) Channel	5	(62)	Culvert	N					
1" diameter. There	ace corrosion througl are two 4" wide x full f the South Rail post	depth hol							
331 - Reinforced Co	ncrete Bridge Ra	iling	1 - Ben.	46	ft.	43	3	0	0
☐Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	ments
There are small areas of isolated efflorescence in the exterior face of the parapets. There are hairline cracks around the base of the railing posts. There is a 1/16" wide vertical crack with light efflorescence in the North Parapet above the pier. There is a hairline vertical crack with light efflorescence in the South Parapet.									
8062 - Sidewalk, Re	inforced Concrete	• [1 - Ben.	29	Ft.	12	14	3	0
☐Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	ments
	The North Sidewalk has moderate scaling throughout. The South Sidewalk is 3/4" lower than the storm drain inlet. There is a full-width x 1/8" wide crack with an adjacent 6" long x 1 1/2" wide x 1" deep spall at the east end of the South Sidewalk.								
	-2" long x 8" wide x 3 bs. There are isolat								ing
8251 - Wingwalls, R	einforced Concre	te	1 - Ben.	13	Ft.	11	2	0	0
☐Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	ments
Southwest Wingwa	growth, minor pop-o ll joints at the abutme The joint filler materia	ents are op	oen up to 2" at	the top.	The No	orthwest a	nd Southe		all joints
8260 - Slope, Protec	eted		1 - Ben.	2	Each	2	0	0	0
☐Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	ments
There are hairline vertical and diagonal cracks in the slope protection under the bridge. There is a vertical hairline crack with built-up efflorescence at the south end of the East Slope Protection. The bottom edge of the slope protection under the bridge has heavy abrasion in both spans. There is a 1'-8" long x 8" high x 2 1/2" deep spall in the East Slope Protection near the north end of the bridge.									
8322 - Roadway Ap _l	proach Transition		1 - Ben.	2	Each	2	0	0	0
□Eng Req	□FYI	□Di	istrict	□lr	naccess	sible?		Eng Com	ments
Pavement: There a	are up to 1/2" wide m	ap cracks	throughout the	e asphalt	wearing	g surface	on both ap	proaches.	
	ninor isolated cracks ar the transition to the nent.								
Traffic Barrier: The	re are no approach t	raffic barri	ers.						

Signs: There are no object markers at the bridge. The previously noted posting sign at the East Approach has been

P-BL03001

45 03/25/2021

Bridge Inspection Report Element Form

Bridge No: P-BL03001							Inspection	on Date: 0	3/25/2021
TAYLOR STREET OVER	STREAM						Milepoin	t : 0	000200
(58) Deck	6	(59)) Superstructı	ıre 6		(6	0) Substru	cture 6	i
(61) Channel	5	(62)) Culvert	N					
load posting signs at Place. The posting s unit vehicles and 60,	017 inspection. There the following location signs have been chan 000 lbs for combination ciates, LLP on Februa	is: Eastb ged sind on-unit v	oound Taylor oc the 2017 in ehicles, as pe	Street at a spection.	54th Str The sig	eet, Westk gns are po	oound Taylosted at 65	lor Street a ,000 lbs fo	at 54th or single-
8342 - Fencing			1 - Ben.	78	Ft.	58	20	0	0
☐Eng Req	□FYI	□Di	istrict	□ lı	naccess	sible?		Eng Com	ments
The top fence rail is protection.	not connected to the p	oost at th	he northwest,	northeas	t and sc	outheast co	orners on t	op of the s	slope
8344 - Drainage Devi	ces		1 - Ben.	1	Entire Bridge	1	0	0	0
☐Eng Req	□FYI	□ Di	istrict		naccess	sible?		Eng Com	ments
	at the northeast and so There are a few 1/16 Ills.								
8345 - Stream Chann	el		1 - Ben.	1	Entire Bridge	1	0	0	0
☐Eng Req	□FYI	□Di	istrict		naccess	sible?		Eng Com	ments
downstream channe inverts. There is heat Slope Protection: The protection of the pro	m south to north under curves to the west. The avy debris accumulation are are 1/16" wide credition is worse at the agrowing in the joints. The cracks in the repair wide vertical fracture	There is on at the acks and construction A few opatch or	moderate to e upstream er d up to 8" high tion joints and of the drains in the Northwe	heavy ab ad of the p n x 8" deed d along the n the slope est Slope	rasion u pier. ep spalls le base le protection	p to 2" ded s along the of the slop ction are c on adjacer	e base of the period by the protection to the brother to the broth	ne concrete ne concrete on where the h debris. The	e slope here is There re is a
slope protection. Th	yy vegetation, modera e top rail of the fence ure. The top rail of the	is not co	onnected to th	ne post at	the nor	thwest, no			
8359 - Soffit (undersi and slabs	de) of concrete de	cks	1 - Ben.	1	Entire Bridge	0	0	1	0
☐Eng Req	□FYI	□Di	istrict	□lı	naccess	sible?		Eng Com	ments
	reas of delaminating o cracks throughout the				b expos	ing the rei	nforcemen	t chairs. T	There

Span 1: There is a 7" diameter x 1/2" deep spall with exposed reinforcement at the northwest corner. There are areas of moderate honeycombing at the north end. There are several areas of delamination up to 2'-0" long x 1'-3" wide at the north end of the top slab. There is a 6" diameter x 1/2" deep spall with exposed reinforcement adjacent to the West Abutment near mid-length. There is a small surface spall with exposed reinforcement south of mid-length. There are ten spalls up to 7" long x 1'-1" wide x 3/4" deep with exposed reinforcement and associated delamination between the 03/25/2021

Bridge Inspection Report Element Form

Bridge No: P-BL03001				Inspection Date:	03/25/2021
TAYLOR STREET OVER	STREAM			Milepoint:	0000200
(58) Deck	6	(59) Superstructure	6 (60) Substructure [6
(61) Channel	5	(62) Culvert	N		

spalls adjacent to the pier at the south end of Span 1. There is water staining around the drain through the south end of the top slab.

Span 2: There is minor to moderate abrasion at the storm drains in the top slab. There is a 4'-0" wide x 2'-0" long x up to 3/4" deep spalled and delaminated area with exposed reinforcement at the north end of Span 2 adjacent to the storm drain outlet. There are six small surface spalls with exposed reinforcement in the top slab at the north end of Span 2 adjacent to the East Abutment. There is a 7" long x 1'-1" wide x 3/4" deep spall with exposed reinforcement approximately 10' from the north end of Span 2. There is a 1'-0" diameter area of delamination in the top slab of Span 2 at the East Abutment approximately 15' from the north end. There is a 1'-0" long x 6" wide area of delamination in the top slab at the pier just south of mid-width of the bridge. There are several areas of moderate honeycombing and spalls up to 1'-8" long x 8" wide x 1" deep with exposed and corroded reinforcement within 10' of the south end in Span 2. The reinforcing bars exhibit minor section loss.

APPROACH TRAFFIC BARRIER FORM 2021 BRIDGE INSPECTION REPORT

								Transition				App	Approach Traffic Barrier	larrier	Exist. End Treatment	Proposed End Treatment
Corners	Bridge Railings Meet MDSHA Standard		Approach Traffic Barrier Present	Traffic	Attached to Bridge	5 et	Thrie Beam Present	aam nt	Gradually Stiffened		Post Spacing	Rail Type	Post Type	Post Spacing	Туре	Туре
	>	z	>	z	>	z	>	z	>	z						
1		×		×											None	Flared, Turned-Down
2		×		×											None	Flared, Turned-Down
3		×		×											None	Flared, Turned-Down
4		×		×											None	Flared, Turned-Down

P-BL03R Bridge No.:

Prince George's County: TAYLOR STREET Road Carried:

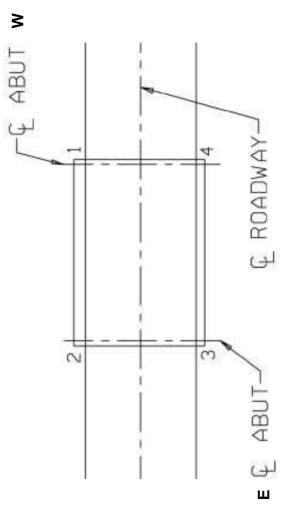
STREAM Crossing:

03/25/2021 Date Inspected:

C. Percy, D. Ross Inspector:

Comments:

No approach traffic barriers are present.



Load Rating Standard Summary Sheet

Bridge No.: PBL03001 on TAYLOR STREET over STREAM
Date of Rating: 12/30/2013 LARS Program: Yes No No Program Used: BOX5
Rating Method: LRFR LFR ASR Ingineering Load HMA Wearing N/A Surface (in.)
Rating Type: As-Built As Inspected Condition Report Date: 03/05/2013
Comments/Defects/Assumptions: This Load Rating is based on the latest inspection report as noted above
as well as a previous load rating dated 1996. Defects of exposed reinforcement at top slab leads to lower
rating factors than previous load rating.

materials.	LRFR Design/Load Rating Vehicle (Lin Service II for Steel only, or Service III for prestressed cond		
	Rating Details	<u>Inventory</u>	Operating
Truck/ Axle/ Tons	Controlling Member	Limit State	Limit State
	Controlling Stress (Moment, Shear, Service)	Rating Factor	Rating Factor
III 02/2/26 Toma	enter controlling member (i.e. Sp. 1, Ext. Beam)	Limit State	Limit State
HL-93/3/36 Tons	Select the Controlling Stress	X.XX	X.XX

Legal Loads (F	For LRFR the Limit States are Strength I for all materials	or Service II for s	steel only)
Truck/ Axle/ Tons	Controlling Member	Inventory or Limit State	Operating
	Controlling Stress	Tons (XX.X)	Tons (XX.X)
H-15 / 2 / 15	Top slab	16.5	28.0
П-15/2/15	Moment		28.0
T-3 / 3 / 33	Top slab	28.5	47.5
1-3/3/33	Shear		47.3
T-4 / 4/ 35	Top slab	32.5	54.5
1-4 / 4/ 33	Shear		34.3
HS-20 / 3 / 36	Top slab	30.0	50.0
HS-20/3/30	Moment		30.0
382 / 5 / 40	Top slab	52.5	88.0
384 / 5 / 40	Shear		86.0

	Permit Loads - (For LRFR the Limit State is Strengt	th II)	
Truck/ Axle/ Tons	Controlling Member	Inventory	Operating
Truck/ Axie/ Tolls	Controlling Stress (Moment, Shear, Service)	Tons (XX.X)	Tons (XX.X)
150K / 8 / 75	Top slab	18.0	30.0
150K/6//5	Moment	18.0	30.0
90K Comb./ 4 / 45	Top slab	37.5	62.5
90K Comb./ 4 / 45	Shear	37.3	02.3
90K Crane / 4 / 45	Top slab	40.5	67.5
90K Crane / 4 / 45	Shear	40.5	07.5
90K Cargo/ 5 / 45	Top slab	46.0	76.5
90K Cargo/ 5 / 45	Shear	40.0	70.3
80K Cargo/ 5 / 40	Top slab	52.5	88.0
60K Cargo/ 3 / 40	Shear	32.3	88.0
120K Spec./ 5 / 60	Top slab	49.5	83.0
120K Spec./ 5 / 00	Shear	49.3	65.0
108K Crane/ 4/ 54	Top slab	47.5	79.5
100K Crane/ 4/ 34	Shear	47.5	19.3
120K Crane/ 5 / 60	Top slab	59.5	99.5
120K Clane/ 5/00	Shear	39.3	99 . J

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                        BOX CULVERT DESIGN AND RATING
                                                                    335529
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******************
                        BOX CULVERT DESIGN AND RATING
                                                                      335529
PROGRAM P4356010
                                                            02/16/2014 21:38
VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\Yang\Desktop\box\PBL01001\PBL010~1.DAT
P-BL01 SINGLE CELL FRAME WITHOUT BOTTOM SLAB.
  STRUCTURE IDENTIFICATION
                               SPAN
CNTY
       SR
              SEGMENT OFFSET
                               ID
                                           STRUCTURE DESCRIPTION
       0000
                                    1001
 01
               0000
                        0000
                               PBL0
          RUN
                 BOTTOM
                                  FISH
                                         LIVE
                                                NO OF
                                                        TOP
                                                               NO OF
                  SLAB
                         HAUNCH
                                                        SLAB
  METHOD
          TYPE
                                 CHANNEL
                                         LOAD
                                                CELLS
                                                               LANES
                                           9
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                                     Page 1
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LOAD FACTORS UNIT EQUIV f'c TOP BETA E BETA E WEIGHT FLUID SLAB AT REBAR	
GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.	
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 5 0	
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 21.76 2.79 20.00 0.00 10.00 0.00 10.00 0.8 3.20	
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00	
SPECIAL LIVE LOADING 1	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 2 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 6.00 14.0 2 24.00 0.0	-
SPECIAL LIVE LOADING 2	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 26.00 4.0 3 26.00 0.0	-
SPECIAL LIVE LOADING 3	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 10.00 4.0 3 23.00 4.0 4 23.00 0.0	
SPECIAL LIVE LOADING 4	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00 Page 2	

Page 2

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AXLE **DXIF** AXLE AXLE NO. LOAD DIST NO. DIST NO. LOAD LOAD DIST NO. LOAD DTST 8.00 14.0 2 32.00 14.0 3 32.00 0.0

SPECIAL LIVE LOADING 5

BOTTOM SIZE SPAC

0.000 4 9.0

AS

NUMBER

OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 5 6.00 4.00

AXLE AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 31.0 4 17.00 4.0

5 17.00 0.0

WALL REINFORCEMENT

WALL 1

1 WALL 2
TOP BOTTOM TOP
AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 7 9.0 0.000 4 9.0 0.000 7 9.0

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC 0.00 F DL+EPH 6.076 5.945 10.205 LL+I 5.869 4.566 IR OR REINF REINF 0.70 1.18 4@ 9.0 RATING TONS 10.55 17.63 2.79 F DL+EPH -8.355 5.491 25.581 2.24 3.74 7@ 9.0 LL+I -7.688 4.566 RATING TONS 33.61 56.13

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR
DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF
0.00 F DL+EPH -6.240 6.399 10.250 0.68 1.14 4@ 9.0
LL+I -5.869 4.566

RATING TONS 10.25 17.12
Page 3

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2.79 F DL+EPH 8.570 5.945 25.591 2.21 3.70 7@ 9.0 LL+I 7.688 4.566

RATING TONS 33.21 55.46

SLAB 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC DIST IR OR REINF REINF 61.234 4.98 0.00 F DL+EPD-10.962 0.847 8.32 7@ 9.0 LL+I -10.090RATING TONS 74.73 124.81 1.46 V DL+EPF -3.590 4.637 23.226 2.90 4.84 7@ 9.0 0.000 LL+I 5.381 6.420 RATING TONS 43.44 72.54 10.88 F DL+EPH 19.068 0.387 61.165 1.68 2.80 7@ 9.0 LL+I 25.073 RATING TONS 25.18 42.06 -4.896 23.226 20.30 V DL+EPF -3.254 2.86 4.77 7@ 9.0 0.000 -6.4205.381 $\mathsf{LL} + \mathsf{I}$ RATING TONS 42.83 71.53 21.76 F DL+EPD-11.111 0.847 4.97 61.234 8.30 7@ 9.0 LL+I -10.090RATING TONS 74.51 124.44

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 10.25 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 17.12 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 10.158 0.34 0.56 0.00 F DL+EPH 6.076 5.945 4@ 9.0 LL+I 12.158 8.443 RATING TONS 11.08 18.51 7@ 9.0 2.79 F DL+EPH -8.355 25.548 1.08 5.491 1.80 LL+I -15.927 8.443 RATING TONS 35.62 59.49

WALL 2

ECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF **FACTORED EFFECTS** MOMENT THRUST 0.00 F DL+EPH -6.240 6.399 10.205 0.33 0.54 4@ 9.0 LL+I -12.158 8.443 RATING TONS 10.76 17.97 2.79 F DL+EPH 8.570 5.945 25.558 1.07 1.78 7@ 9.0 Page 4

PBL01001_LFR_121013_Legal.OUT LL+I 15.927 8.443

RATING TONS 35.20 58.78

SLAB 1

ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS REINF REINF MOMENT THRUST SHEAR CAPAC DIST IR OR 0.00 F DL+EPD-10.962 61.234 2.42 4.04 7@ 9.0 0.847 LL+I -20.797 RATING TONS 79.77 133.22 1.46 V DL+EPF -3.590 4.637 23.226 1.49 2.49 7@ 9.0 0.000 3.842 12.471 LL+I 49.19 82.15 RATING TONS 10.88 F DL+EPH 19.068 0.387 61.165 1.00 1.67 7@ 9.0 42.045 RATING TONS 33.04 55.18 20.30 V DL+EPF -3.254 -4.896 23.226 1.47 2.45 7@ 9.0 0.000 LL+I 3.842 -12.47148.50 81.00 RATING TONS 21.76 F DL+EPD-11.111 0.847 61.234 2.41 4.02 7@ 9.0 LL+I -20.797 RATING TONS 79.53 132.82

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 10.76 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 17.97 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR IR MOMENT THRUST SHEAR CAPAC OR REINF REINF DTST 0.55 0.00 F DL+EPH 6.076 5.945 10.177 0.33 4@ 9.0 12.432 9.057 LL+I RATING TONS 11.55 19.28 2.79 F DL+EPH -8.355 5.491 25.561 1.06 1.76 7@ 9.0 9.057 LL+I -16.286RATING TONS 36.98 61.75

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH -6.240 6.399 CAPAC SHEAR IR OR REINF REINF 10.223 0.32 0.54 4@ 9.0 LL+I -12.432 9.057RATING TONS 11.21 18.73 2.79 F DL+EPH 8.570 5.945 25.572 1.04 1.747@ 9.0 9.057 LL+I 16.286 RATING TONS 36.54 61.02 Page 5

SLAB 1

			MOMENT -10.962	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	82.51	137.79		
1.46	٧		-3.590 2.695		4.637 12.060	23.226	1.54	2.57	7@ 9.0	0.000
		LLTI	2.093			IG TONS	53.95	90.09		
10.88	F	DL+EPH LL+I		0.387		61.165	0.98	1.64	7@ 9.0	
		LLII	72.510		RATIN	IG TONS	34.33	57.33		
20.30	٧		-3.254 2.695		-4.896 -12.060	23.226	1.52	2.54	7@ 9.0	0.000
		LLTI	2.093	_		IG TONS	53.20	88.84		
21.76	F	DL+EPD-		0.847		61.234	2.35	3.93	7@ 9.0	
		LLII	21.323		RATIN	IG TONS	82.26	137.38		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 11.21 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 18.73 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00 F DL+EPH LL+I	MOMENT	THRUST 5.945	SHEAR	CAPAC	IR	OR	ACTUAL REINF 4@ 9.0	
			RATIN	IG TONS	16.94	28.29		
2.79 F DL+EPH	-8.355 -11.752			25.646	1.47	2.46	7@ 9.0	
2211	111752	0.100	RATIN	IG TONS	52.96	88.45		

WALL 2

	FACT	ORED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+	-EPH -6.240	6.399		10.340	0.46	0.76	4@ 9.0	
LL+	-8.971	8.400						
			RATIN	IG TONS	16.45	27.48		
2.79 F DL+	-EPH 8.570	5.945		25.655	1.45	2.43	7@ 9.0	
LL+	-I 11.752	8.400						
			RATTN	IG TONS	52.33	87.40		

Page 6

PBL01001_LFR_121013_Legal.OUT SLAB 1

		DL+EPD-	MOMENT	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	NG TONS	124.35	207.67		
1.46	٧		-3.590 3.322		4.637 10.274	23.226	1.81	3.02	7@ 9.0	0.000
		LLII	3.322			NG TONS	65.14	108.78		
10.88	F		19.068 33.430	0.387		61.165	1.26	2.10	7@ 9.0	
			331130		RATIN	NG TONS	45.33	75.71		
20.30	٧		-3.254 3.322		-4.896 -10.274	23.226	1.78	2.98	7@ 9.0	0.000
		LLTI	3.322			NG TONS	64.23	107.26		
21.76	F	DL+EPD-	-11.111 -14.554	0.847		61.234	3.44	5.75	7@ 9.0	
			± 1.55 1		RATIN	NG TONS	123.98	207.05		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 16.45 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 27.48 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH 6.076 5.945 LL+I 8.025 6.563 RATING TONS 20.70 34.56

2.79 F DL+EPH -8.355 5.491 LL+I -10.513 6.563 RATING TONS 65.60 109.55

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 10.272 0.50 0.84 0.00 F DL+EPH -6.240 6.399 4@ 9.0 LL+I -8.025 6.563 RATING TONS 20.10 33.57 2.79 F DL+EPH 8.570 5.945 25.607 1.62 2.71 7@ 9.0 10.513 6.563 LL+I RATING TONS 64.82 108.25

SLAB 1

Page 7

		DL+EPD-	MOMENT	RED EFF	FECTS SHEAR	ULT CAPAC	RATING IR	gal.OUT FACTOR OR 6.17	REINF	
					RATIN	NG TONS	147.88	246.96		
1.46	٧		-3.590 2.184		4.637 8.287	23.226	2.24	3.75	7@ 9.0	0.000
			2.104			NG TONS	89.73	149.84		
10.88	F		19.068 27.491	0.387		61.165	1.53	2.56	7@ 9.0	
					RATIN	IG TONS	61.25	102.29		
20.30	٧		-3.254 2.184		-4.896 -8.287	23.226	2.21	3.69	7@ 9.0	0.000
		LLTI	2.104			NG TONS	88.47	147.75		
21.76	F		-11.111 -13.598	0.847		61.234	3.69	6.16	7@ 9.0	
			13.330		RATIN	NG TONS	147.44	246.23		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 20.10 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 33.57 TONS AT DISTANCE 0.00 IN WALL 2.

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VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\Yang\Desktop\box\PBL01001\PBL010~2.DAT
P-BL01 SINGLE CELL FRAME WITHOUT BOTTOM SLAB.
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LOAD FACTORS BETA E BETA E WEIGHT FLUID SLAB AT REBAI GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADI 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60	Ε
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 8 0	
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 21.76 2.79 20.00 0.00 10.00 0.00 10.00 0.8 3.20	
BAR COVERS TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 0.00	
SPECIAL LIVE LOADING 1	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 8 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 8.00 11.0 2 26.00 4.0 3 26.00 30.0 4 18.00 4.0 5 18.00 4.0 6 18.00 4.0 7 18.00 4.0 8 18.00 0.0	0
SPECIAL LIVE LOADING 2	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 12.00 12.0 2 24.00 35.0 3 27.00 4.0 4 27.00 0.0	
SPECIAL LIVE LOADING 3	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 18.00 5.4 2 18.00 6.9 3 27.00 5.4 4 27.00 0.0	
SPECIAL LIVE LOADING 4	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE Page 2	

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Page 2

PBL01001_LFR_121013_permit.OUT 6.00 4.00 AXLE AXLE AXLE
DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 12.0 2 17.00 4.0 3 17.00 28.0 4 22.00 4.0 AXIF NO. LOAD 1 12.00 5 22.00 LOAD 0.0 SPECIAL LIVE LOADING 5 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 14.0 4 17.00 4.0

5 17.00 0.0 SPECIAL LIVE LOADING 6 NUMBER 3% GAGE PASSING OF AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 27.00 4.0 3 27.00 31.0 4 27.00 4.0

5 27.00 0.0 AXLE SPECIAL LIVE LOADING 7 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 XLE AXLE AXLE AXLE
NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST
1 27.00 5.4 2 27.00 6.8 3 27.00 5.4 4 27.00 0.0 AXLE NO. LOAD SPECIAL LIVE LOADING 8 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 WALL REINFORCEMENT WALL 1 WALL 2

BOTTOM TOP BOTTOM TOP

AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 4 9.0 0.000 7 9.0 0.000 4 9.0 0.000 7 9.0 Page 3

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SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-8

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

DIST 0.00 F DL+EPH	MOMENT	THRUST 5.945	SHEAR	CAPAC	IR	FACTOR OR 0.45	REINF	
	23.303		RATIN	G TONS	20.19	33.72		
2.79 F DL+EPH	-8.355 -20.134			25.587	0.86	1.43	7@ 9.0	
LLTI	20.134	12.100	RATIN	G TONS	64.19	107.19		

WALL 2

	FACTO	ORED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH	-6.240	6.399		10.258	0.26	0.44	4@ 9.0	
	-15.369							
			RATTN	IG TONS	19.61	32.74		
			10 (1 2)	10 10115	13.01	32171		
2.79 F DL+EPH	8 570	5 945		25 597	0.85	1.41	70 9 N	
	20.134			23.331	0.05	1.71	76 5.0	
LL+1	20.134	12.100	DATTA	IC TONC	62 42	10E 02		
			KAIII	NG TONS	63.42	103.92		

SLAB 1

				THRUST	SHEAR	CAPAC	IR	FACTOR OR 3.27	REINF	
					RATI	NG TONS	146.89	245.30		
1.46	٧	DL+EPF	-3.590 -5.207		4.637 13.525	23.226	1.37	2.30	7@ 9.0	0.000
		LLII	3.207			NG TONS	103.08	172.15		
10.88	F	DL+EPH LL+I	19.068 47.117	0.387		61.165	0.89	1.49	7@ 9.0	
					RATIN	NG TONS	67.01	111.91		
20.30	٧	DL+EPF	-3.254		-4.896	23.226 Page	_	2.26	7@ 9.0	0.000

PBL01001_LFR_121013_permit.OUT LL+I -5.207 -13.525RATING TONS 101.64 169.75 21.76 F DL+EPD-11.111 0.847 61.234 1.95 3.26 7@ 9.0 LL+I -25.669RATING TONS 146.45 244.57 THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 19.61 TONS AT DISTANCE 0.00 IN WALL 2. THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 32.74 TONS AT DISTANCE 0.00 IN WALL 2. ********* * LIVE LOAD RATING - SP-2 LOADING * ********** WALL 1 CTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF FACTORED EFFECTS DIST MOMENT THRUST 0.00 F DL+EPH 6.076 5.945 0.32 10.158 0.54 4@ 9.0 12.625 8.768 LL+I RATING TONS 14.55 24.30 2.79 F DL+EPH -8.355 5.491 25.548 1.04 1.74 7@ 9.0 LL+I -16.539 8.768 RATING TONS 46.78 78.12 WALL 2 **FACTORED EFFECTS** ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 0.00 F DL+EPH -6.240 6.399 10.205 0.31 0.52 4@ 9.0 LL+I -12.625 8.768 RATING TONS 14.13 23.60 2.79 F DL+EPH 8.570 5.945 25.558 1.03 1.72 7@ 9.0 16.539 8.768 LL+IRATING TONS 46.22 77.19 SLAB 1 PACIORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR PETNIS 500.00 F DL+EPD-10.962 0.847 LL+I -21.597 RATING TONS 104.75 174.93 1.46 V DL+EPF -3.590 4.637 23.226 1.51 2.53 7@ 9.0 0.000 LL+I 5.668 12.271 RATING TONS 68.17 113.85 10.88 F DL+EPH 19.068 0.387 61.165 0.96 1.61 7@ 9.0 LL+I43.663 RATING TONS 43.39 72.46 20.30 V DL+EPF -3.254 -4.896 23.226 1.49 2.49 7@ 9.0 0.000 LL+I 5.668 -12.271RATING TONS 67.22 112.26 Page 5

PBL01001_LFR_121013_permit.OUT

21.76 F DL+EPD-11.111 0.847 61.234 2.32 3.88 7@ 9.0 LL+I -21.597

RATING TONS 104.44 174.41

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 14.13 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 23.60 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF
0.00 F DL+EPH	6.076	5.945		10.247	0.29	0.49	4@ 9.0	
LL+I	14.156	12.045						
			RATIN	IG TONS	13.26	22.15		
2.79 F DL+EPH				25.611	0.93	1.55	7@ 9.0	
LL+I ·	-18.544	12.045						
			RATIN	IG TONS	41.87	69.93		

WALL 2

0.00 F DL+EPH	FACTORED EFF MOMENT THRUST -6.240 6.399 -14.156 12.045		IR		REINF REINF
		RATING TONS	12.88	21.51	
	8.570 5.945 18.544 12.045	25.621	0.92	1.54	7@ 9.0
22.1		RATING TONS	41.37	69.10	

SLAB 1

DIST 0.00			MOMENT -10.962	THRUST	FECTS SHEAR	CAPAC	IR		REINF	
			231 137		RATIN	IG TONS	96.28	160.78		
1.46	٧	DL+EPF LL+I	-3.590 -0.902		4.637 13.988	23.226	1.33	2.22	7@ 9.0	0.000
		LLII	0.302			IG TONS	59.81	99.87		
10.88	F		19.068 45.366	0.387		61.165	0.93	1.55	7@ 9.0	
			131300		RATIN	IG TONS	41.76	69.74		
20.30	٧		-3.254 -0.902		-4.896 -13.988	23.226	1.31	2.19	7@ 9.0	0.000
		LLII	0.302			IG TONS	58.97	98.48		
21.76	F	DL+EPD-	-11.111	0.847		61.234 Page		3.56	7@ 9.0	

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LL+I -23.497

RATING TONS 95.99 160.31

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 12.88 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 21.51 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

	DL+EPH	MOMENT	THRUST 5.945	SHEAR	CAPAC	IR		ACTUAL REINF 4@ 9.0	
		101207	7.11	RATIN	NG TONS	17.86	29.82		
2.79 F		-8.355 -13.477	5.491		25.548	1.28	2.13	7@ 9.0	
	LLTI	-13.477	7.177	RATIN	IG TONS	57.41	95.87		

WALL 2

	FACTO	ORED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH	-6.240	6.399		10.205	0.39	0.64	4@ 9.0	
LL+I	-10.287	7.144						
			RATIN	NG TONS	17.34	28.96		
2.79 F DL+EPH	8.570	5.945		25.558	1.26	2.11	7@ 9.0	
LL+I	13.477	7.144						
			RATIN	NG TONS	56.73	94.73		
			KAITI	NG TONS	30.73	JT.13		

SLAB 1

			MOMENT	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
			17.1330		RATIN	IG TONS	128.55	214.69		
1.46	٧		-3.590 4.619		4.637 9.998	23.226	1.86	3.10	7@ 9.0	0.000
		LLII	4.013			IG TONS	83.67	139.72		
10.88	F	DL+EPH LL+I	19.068 35.577	0.387		61.165	1.18	1.98	7@ 9.0	
		LLII	33.377		RATIN	IG TONS	53.25	88.92		
20.30	٧		-3.254 4.619		-4.896 -9.998	23.226	1.83	3.06	7@ 9.0	0.000
		LLII	4.013			IG TONS	82.50	137.78		
21.76	F		-11.111 -17.598	0.847		61.234	2.85	4.76	7@ 9.0	
			17.330		RATIN	IG TONS	128.17	214.05		

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THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 17.34 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 28.96 TONS AT DISTANCE 0.00 IN WALL 2.

********** * LIVE LOAD RATING - SP-5 LOADING *

WALL 1

DIST 0.00 F DL+EPH LL+I	MOMENT	THRUST 5.945	SHEAR	CAPAC 10.228	IR	OR 0.86		
2.79 F DL+EPH LL+I	-8.355 -10.513			25.597		2.74	7@ 9.0	

WALL 2

HEAR
EINF

SLAB 1

			MOMENT -10.962	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	147.88	246.96		
1.46	٧	DL+EPF LL+I			4.637 8.287	23.226	2.24	3.75	7@ 9.0	0.000
		LLTI	2.104			IG TONS	89.73	149.84		
10.88	F	DL+EPH LL+I		0.387		61.165	1.53	2.56	7@ 9.0	
			27.131		RATIN	IG TONS	61.25	102.29		
20.30	٧	DL+EPF LL+I			-4.896 -8.287	23.226	2.21	3.69	7@ 9.0	0.000
		LLTI	2.104		0.20.	IG TONS	88.47	147.75		
21.76	F		-11.111 -13.598	0.847		61.234	3.69	6.16	7@ 9.0	
			13.330		RATIN	IG TONS	147.44	246.23		

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THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 20.10 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.
THE MINIMUM OPERATING RATING IS 33.57 TONS AT DISTANCE 0.00 IN WALL 2.

* LIVE LOAD RATING - SP-6 LOADING *

WALL 1

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF
0.00 F DL+EPH	6.076	5.945		10.158	0.32	0.54	4@ 9.0	
LL+I	12.625	8.768						
			RATIN	IG TONS	19.40	32.40		
2.79 F DL+EPH	-8.355	5.491		25.548	1.04	1.74	7@ 9.0	
LL+I	-16.539	8.768						
			RATIN	IG TONS	62.37	104.16		

WALL 2

			FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
				THRUST						REINF
0.00	F			6.399		10.205	0.31	0.52	4@ 9.0	
		LL+I -	-12.625	8.768			40.04	24 47		
					RATIN	NG TONS	18.84	31.4/		
2 70	_	DI . EDII	0 570	5.945		25 550	1 02	1.72	70 0 0	
2.79	-		16.539			23.330	1.03	1.72	76 9.0	
		LLTI	10.339	0.700	RATIN	NG TONS	61.63	102.92		

SLAB 1

			MOMENT -10.962	THRUST	SHEAR	CAPAC	IR	FACTOR OR 3.89	REINF	
		LLII	21.337		RATIN	IG TONS	139.66	233.24		
1.46	٧		-3.590 4.283			23.226	1.45	2.42	7@ 9.0	0.000
		LLTI	4.203			IG TONS	86.92	145.16		
10.88	F			0.387		61.165	0.96	1.61	7@ 9.0	
		LLII	131003		RATIN	IG TONS	57.85	96.61		
20.30	٧		-3.254 4.283			23.226	1.43	2.39	7@ 9.0	0.000
		LLTI	4.203			IG TONS	85.71	143.13		
21.76	F	DL+EPD-		0.847		61.234	2.32	3.88	7@ 9.0	
			22.337		RATIN	IG TONS	139.25	232.55		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 18.84 TONS AT DISTANCE 0.00 IN WALL 2. Page 9

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THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 31.47 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

						<u> </u>			
DIST 0.00 F	DL+EPH LL+I	FACTO MOMENT 6.076 15.865	ORED EFF THRUST 5.945 13.399	FECTS SHEAR	ULT CAPAC 10.244	RATING IR 0.26	FACTOR OR 0.44	ACTUAL REINF 4@ 9.0	SHEAR REINF
				RATIN	NG TONS	14.19	23.69		
2.79 F	DL+EPH	-8.355 -20.783	5.491 13.399		25.608	0.83	1.39	7@ 9.0	
				RATIN	NG TONS	44.83	74.86		
					WALL 2	2			
		FACTO	DRED EFF	FECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST 0.00 F	DL+EPH	MOMENT -6.240	THRUST 6.399	SHEAR	CAPAC 10.287	IR 0.26	OR 0.43	REINF 4@ 9.0	REINF
	LLTI	13.003	13.333	RATIN	NG TONS	13.78	23.01		
2.79 F	DL+EPH	8.570 20.783	5.945 13 399		25.618	0.82	1.37	7@ 9.0	
		20.705	13.333			44.29			
					SLAB 1	L			
		FACTO	ORED EFF	ECTS	ULT	RATTNG	FACTOR	ACTUAL	SHEAR
DIST 0.00 F	DL+EPD-	MOMENT	THRUST	SHEAR	ULT CAPAC	RATING IR	OR	ACTUAL REINF 7@ 9.0	SHEAR REINF
DIST 0.00 F	DL+EPD- LL+I -	MOMENT	THRUST	SHEAR	ULT CAPAC	RATING IR	OR	ACTUAL REINF 7@ 9.0	SHEAR REINF
	LL+I -	MOMENT -10.962 -26.210	THRUST 0.847	SHEAR RATIN	ULT CAPAC 61.234 NG TONS	RATING IR 1.92 103.58	OR 3.20 172.97	REINF 7@ 9.0	REINF
	LL+I -	MOMENT -10.962 -26.210	THRUST 0.847	SHEAR RATIN	ULT CAPAC 61.234 NG TONS 23.226	RATING IR 1.92 103.58 1.23	OR 3.20 172.97 2.05	ACTUAL REINF 7@ 9.0	REINF
1.46 V 10.88 F	DL+EPF LL+I DL+EPH	MOMENT -10.962 -26.210 -3.590 -3.355 19.068	THRUST 0.847 0.387	RATIN 4.637 15.149 RATIN	ULT CAPAC 61.234 NG TONS 23.226	RATING IR 1.92 103.58 1.23 66.26	OR 3.20 172.97 2.05 110.66	REINF 7@ 9.0	REINF
1.46 V 10.88 F	DL+EPF LL+I	MOMENT -10.962 -26.210 -3.590 -3.355 19.068	0.847 0.387	RATIN 4.637 15.149 RATIN	ULT CAPAC 61.234 NG TONS 23.226 NG TONS 61.165	RATING IR 1.92 103.58 1.23 66.26 0.87	OR 3.20 172.97 2.05 110.66	REINF 7@ 9.0 7@ 9.0	REINF
1.46 V 10.88 F	DL+EPF LL+I DL+EPH LL+I	MOMENT -10.962 -26.210 -3.590 -3.355 19.068 48.280	0.847 0.387	RATIN 4.637 15.149 RATIN	ULT CAPAC 61.234 NG TONS 23.226 NG TONS 61.165	RATING IR 1.92 103.58 1.23 66.26 0.87 47.09	OR 3.20 172.97 2.05 110.66 1.46 78.63	REINF 7@ 9.0 7@ 9.0 7@ 9.0	0.000
1.46 V 10.88 F	DL+EPF LL+I DL+EPH LL+I	MOMENT -10.962 -26.210 -3.590 -3.355 19.068 48.280	0.847 0.387	RATIN 4.637 15.149 RATIN -4.896 -15.149	ULT CAPAC 61.234 NG TONS 23.226 NG TONS 61.165 NG TONS 23.226	RATING IR 1.92 103.58 1.23 66.26 0.87 47.09	OR 3.20 172.97 2.05 110.66 1.46 78.63 2.02	REINF 7@ 9.0 7@ 9.0	0.000
1.46 V 10.88 F 20.30 V 21.76 F	DL+EPF LL+I DL+EPH LL+I DL+EPF LL+I	MOMENT -10.962 -26.210 -3.590 -3.355 19.068 48.280 -3.254 -3.355	0.847 0.387	RATIN 4.637 15.149 RATIN -4.896 -15.149 RATIN	ULT CAPAC 61.234 NG TONS 23.226 NG TONS 61.165 NG TONS 23.226 NG TONS	RATING IR 1.92 103.58 1.23 66.26 0.87 47.09 1.21 65.34	OR 3.20 172.97 2.05 110.66 1.46 78.63 2.02 109.11	REINF 7@ 9.0 7@ 9.0 7@ 9.0	0.000

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 13.78 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. Page 10

$$\operatorname{PBL01001_LFR}_121013_\operatorname{permit.OUT}$$ THE MINIMUM OPERATING RATING IS 23.01 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00	F	DL+EPH	MOMENT	THRUST 5.945	SHEAR	CAPAC	IR 0.29	OR 0.49	ACTUAL REINF 4@ 9.0	SHEAR REINF
2.79	F	DL+EPH LL+I -	-8.355 -18.716	5.491 11.942	RATI	25.605 NG TONS	0.92 55.30	1.54 92.35	7@ 9.0	
						WALL 2	2			
DIST 0.00	F	DL+EPH	FACTO MOMENT -6.240 -14.287	6.399		ULT CAPAC 10.283	RATING IR 0.28	FACTOR OR 0.47	ACTUAL REINF 4@ 9.0	SHEAR REINF
		LLTI	14.207	11.772		NG TONS	16.98	28.35		
2.79	F	DL+EPH LL+I	8.570	5.945		25.615	0.91	1.52	7@ 9.0	
		LL+1	10.710	11.942		NG TONS	54.64	91.25		
						SLAB 1	L			
DIST 0.00	-	DITEDD	10 062	0 0/7	FECTS SHEAR	ULT CAPAC 61.234	RATING IR 2.12	FACTOR OR 3.55	ACTUAL REINF 7@ 9.0	SHEAR REINF
		LL+I -	-23.000		RATI	NG TONS	127.44	212.83		
1.46	٧	DL+EPF	-3.590		4.637	23.226	1.37	2.29	7@ 9.0	0.000
		LL+1	-3.1/8		RATIN	NG TONS	82.12	137.14		
10.88	F	DL+EPH LL+I	19.068 43 291	0.387		61.165	0.97	1.62	7@ 9.0	
		LLII	13.231		RATIN	NG TONS	58.35	97.44		
20.30	٧	DL+EPF LL+I	-3.254 -3.178	-	-4.896 -13.583	23.226	1.35	2.25	7@ 9.0	0.000
					RATIN	NG TONS	80.97	135.22		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

21.76 F DL+EPD-11.111 0.847

LL+I -23.668

THE MINIMUM INVENTORY RATING IS 16.98 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 28.35 TONS AT DISTANCE 0.00 IN WALL 2.

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RATING TONS 127.07 212.20

61.234 2.12 3.54 7@ 9.0

BOX5 data input: Equivalent fill depth:

East: 0.099 / 0.12 = 0.825' West: 0.185/0.12 = 1.55' Grade: (1.55'-0.825')/22.67=3.2%

Box5 Truck list:

Permit rating
SP-1 150K
SP-2 90K COMB.
SP-3 90K CRANE
SP-4 90K CARGO
SP-5 80K CARGO
SP-6 120K
SP-7 108K
SP-8 120K CRANE

Prince George's County



2021 BRIDGE INSPECTION REPORT March 25, 2021



BRIDGE NO. P-BL04001

UPSHUR STREET

OVER

STREAM

Prepared by



Prince George's County

2021 BRIDGE INSPECTION REPORT

BRIDGE NO. P-BL04001

UPSHUR STREET
OVER
STREAM

Prepared by



bell		5/4/2021
Inspection Team	Leader: Caleb Percy, P.E.	Date
80		5/4/2021
Inspector:	Daria Ross	Date
		,

Professional Certification: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 39263, Expiration Date: June 27, 2022.

Caleb Percy, P.E.

Professional Engineer:

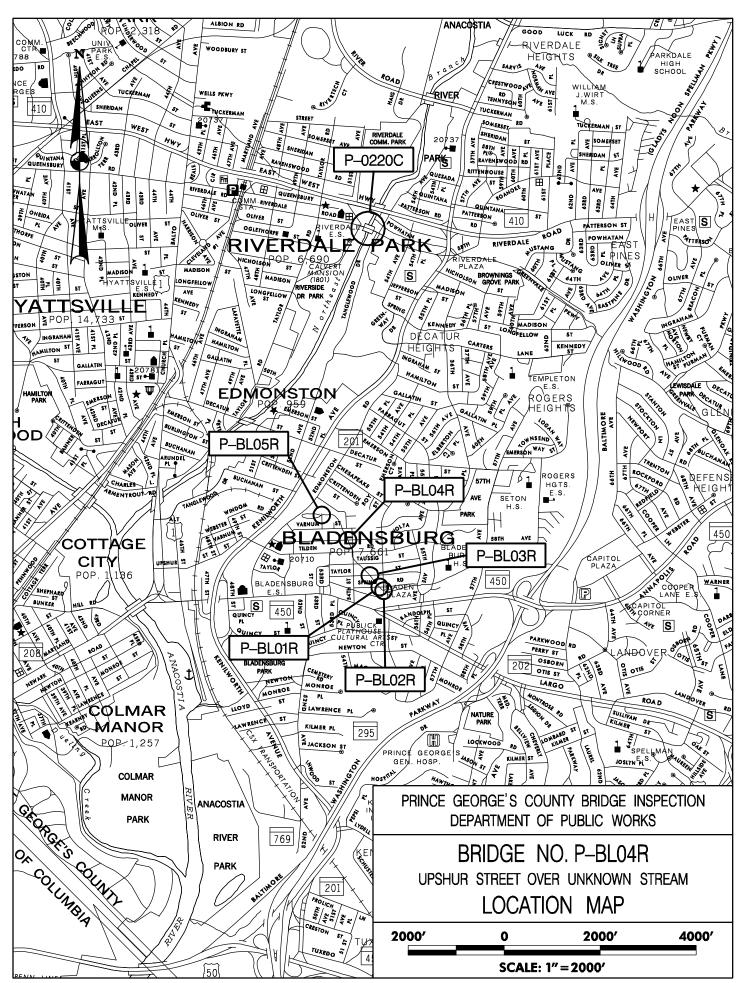
5/4/2021

Date

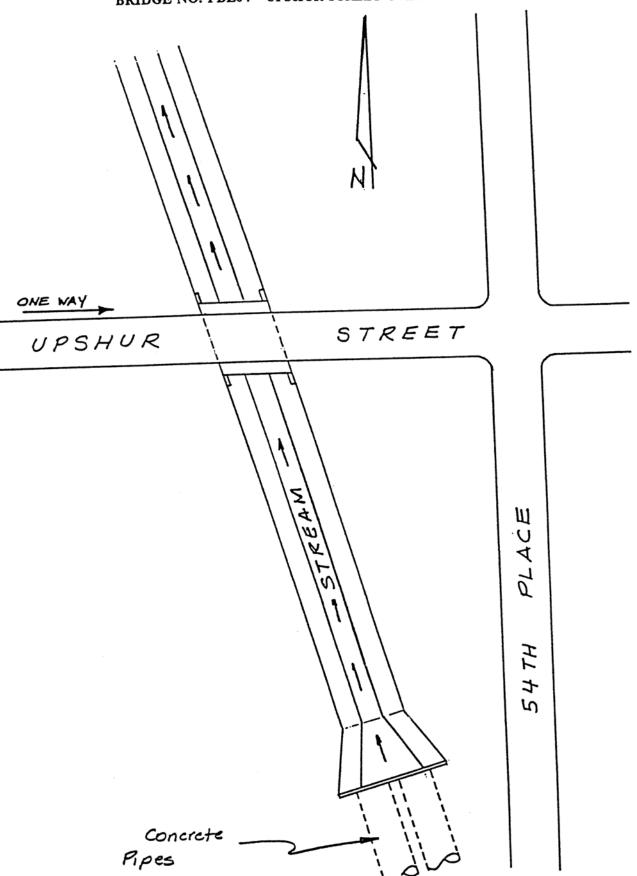
The condition report, load ratings and recommendations presented herein are based on a visual inspection of accessible portions of the existing structure. No responsibility is assumed by Century Engineering, Inc. for the presence of any latent structural defects that cannot be detected by such visual inspection.

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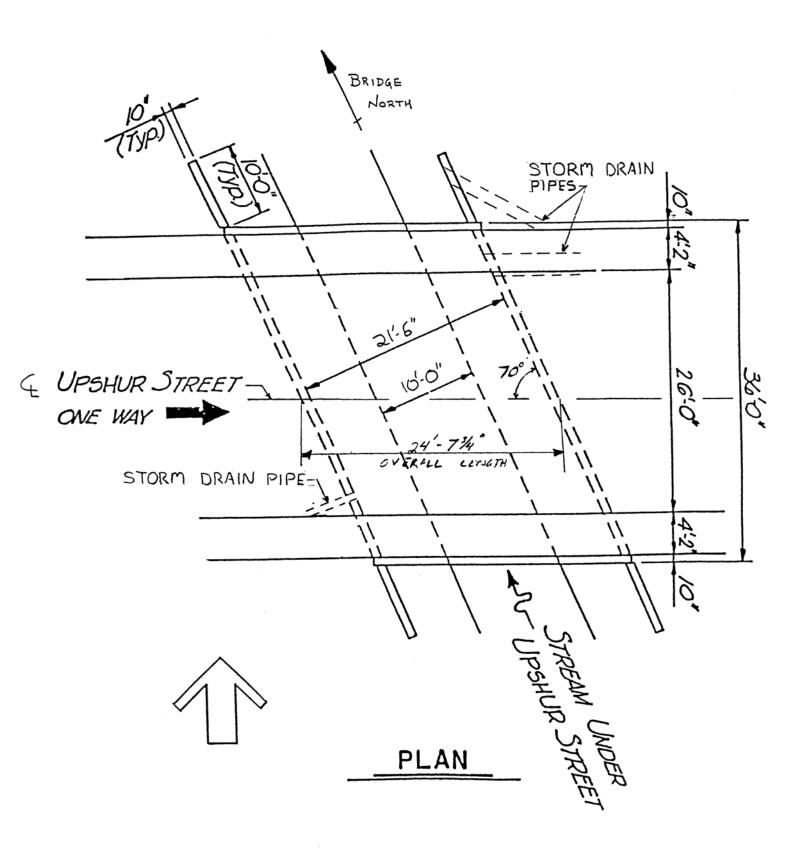
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LOAD RATING SUMMARY	10
BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS	11
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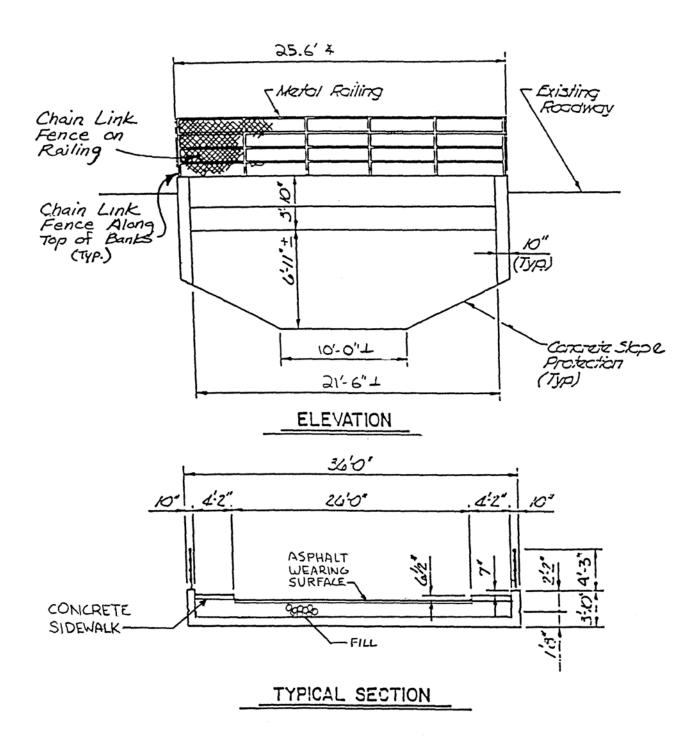
BRIDGE NO. PBL04 - UPSHUR STREET OVER STREAM



BRIDGE NO. PBL04 - UPSHUR STREET OVER STREAM



BRIDGE NO. PBL04 - UPSHUR STREET OVER STREAM



2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME Bridge No. P-BL04R Year Built 1958 Name UPSHUR STREET Crossing STREAM Photos 21 Inspection Date 03/25/2021 Inspection Crew C.Percy, D. Ross **DESCRIPTION:** Single-span concrete rigid-frame bridge with an asphalt wearing surface. Substructure consists of concrete rigid-frame wall abutments with concrete slope and channel protection. The bridge supports a two-lane roadway and two sidewalks. Stream flows from south to north under the bridge. The numbering convention for the bridge is from the north and the west. **OVERALL LENGTH:** 24'-7 1/2" **CLEAR ROADWAY:** 26'-0" YEAR BUILT: **POSTED LOAD:** 1958 YEAR REHABILITATED: 1982 SINGLE, LBS 10,000 lbs. G.V.W. **POSTED SPEED LIMIT:** COMBINATION, LBS 18,000 lbs. G.C.W. **25 MPH BEAM SPACING: MAP COORDINATES:** 12F6 **NUMBER OF BEAMS:** 5410B10 **SIZE OF BEAMS:**

ROADWAY APPROACHES:

Section 26'-0" wide asphalt roadway with two lanes.

Alignment Both approaches are straight.

Profile Downhill grade from west to east. Intersection at East Approach (4-way

stop 50' from structure).

Traffic Barrier No approach traffic barrier.

REVIEW OF ITEM 113 - SCOUR POTENTIAL RATING: 8P

Item 113 was previously rated an 8P, which implies that the bridge is a culvert type structure with a paved bottom. Based on the observed conditions, this rating is still valid and does not require reevaluation.

REVIEW OF PREVIOUS REPORT:

A 2019 bridge inspection report prepared by Sabra & Associates was available and used for comparison purposes. The overall condition of the bridge appeared to be essentially the same as noted in the previous report with the following exceptions:

- 1. The West and East Approaches have both been repaved since the previous inspection.
- 2. A slope protection panel along the Southeast Slope Protection has washed out into the channel due to a recent flood.

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge	No. P-BL04R	Bridge Type SINGLE-S	SPAN CONCRETE RIGID-FRAME	Year Built 1958	
Name	UPSHUR STRE	EET Crossing	STREAM	Photos_	21
Inspec	tion Date 03/25	5/2021	Inspection Crew C.Percy, D. F	Ross	

LIVE LOAD RATINGS:

The load ratings were re-calculated by Wallace, Montgomery & Associates, LLP during the 2013-2014 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The load ratings for the Maryland Legal Load vehicles and Permit Vehicles are as follows:

<u>Truck</u>	Gross Vehicle Weight	<u>Inventory</u>	<u>Operating</u>
H-15	15 tons	21 tons	36 tons
HS-20	36 tons	39 tons	65 tons
Type 3	33 tons	28 tons	46 tons
Type 3S2	40 tons	51 tons	86 tons

The bridge is currently posted for 10,000 lbs. for single-unit vehicles and 18,000 lbs. for combination-unit vehicles. Based on the above previously computed load ratings the postings could be adjusting to 58,000 lbs. for single-unit vehicles and 80,000 lbs. for combination vehicles. However, The Town of Bladensburg has requested to leave the current load posting signs in place.

The recommendation for posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

SI&A CONDITION RATING SUMMARY:

<u>ltem</u>	Current	<u>2019</u>	<u>2017</u>	<u>2015</u>
Deck (Item 58) -	7	7	7	7
Superstructure (Item 59) -	7	7	7	7
Substructure (Item 60) -	7	7	7	7
Channel and Channel Protection (Item 61) -	5	5	5	5
Culvert (Item 62) -	N	N	N	N
Waterway Adequacy (Item 71) -	7	7	7	7
Approach Roadway Alignment (Item 72) -	8	8	8	8
Bridge Sufficiency Rating (BSR) -	77.9	77.9	77.9	77.9
Routine Inspection Frequency -	24 months	24 months	24	24
Date of Inspection -	03/25/2021	03/05/2019	03/20/2017	03/09/2015
Partial Interim Inspection Frequency -	N/A			

Load Rating Summary:

The load ratings were re-calculated by Wallace, Montgomery & Associates, LLP during the 2013-2014 Inspection Cycle for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The load ratings for the Maryland Legal Load vehicles and Permit Vehicles are as follows:

Vehicle	Gross Vehicle Weight	<u>Inventory</u> <u>Rating (Tons)</u>	Operating Rating (Tons)
HL-93	36 tons		
H-15	15 tons	21.5	36.5
T-3	33 tons	28.0	46.5
T-4	35 tons	29.0	48.5
HS-20	36 tons	39.5	65.5
T-3S2	40 tons	51.5	86.5
150K	75 tons	54.5	91.0
90K Permit	45 tons	36.5	61.5
90K Mobile Crane	45 tons	34.5	58.0
90K Cargo	45 tons	45.0	75.5
80K Cargo	40 tons	51.5	86.5
120K Vehicle	60 tons	49.0	82.0
108K Mobile Crane	54 tons	39.0	65.0
120K Mobile Crane	60 tons	48.0	80.0

The bridge is currently posted for 10,000 lbs. for single-unit vehicles and 18,000 lbs. for combination-unit vehicles. Based on the above previously computed load ratings the postings could be adjusting to 58,000 lbs. for single-unit vehicles and 80,000 lbs. for combination vehicles. However, The Town of Bladensburg has requested to leave the current load posting signs in place.

The recommendation for posting is based on inventory values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. Century Engineering, Inc. assumes no responsibility for correctness of these previous load rating calculations.

2021 BRIDGE INSPECTION REPORT

Bridge	No. P-BL04R Brid	dge Type SINGLE-SPAN CONCRETE RIGID-FRAME	Year Built 1958
Name	UPSHUR STREET	Crossing STREAM	Photos 21
Inspec	tion Date 03/25/2021	Inspection Crew C.Percy, D.	Ross

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

	DESCRIPTION	COUNTY ITEM NUMBER	QUANTITY	UNIT COST	TOTAL COST
Imm	nediate:				
1	Install object markers at the corners of the bridge.	81	2 EA	\$200/EA	\$400
2	Install approach traffic barriers that meet current standards at all four corners of the bridge.	21	120 LF	\$100/LF	\$12,000
3	Install bridge rail that meets current standards.	22	52 LF	\$60/LF	\$3,120
4	Install approach traffic barrier end treatments that meet current standards at all four corners of the bridge.	20	4 EA	\$2525/EA	\$10,100
	Subtotal (Immediate Items)				\$25,620
Rou	tine:				
1	Seal the cracks in the concrete channel slope protection.	6	70 LF	\$40/LF	\$2,800
2	Repair the settled sidewalk at the Southeast Approach and the undermined sidewalk at the Northeast Approach.	99	10 LF	\$30/LF	\$300
3	Repair the chain link fence and posts at all four corners of the bridge and channel.	101	40 LF	\$50/LF	\$2,000
4	Replace spalls in the concrete slope protection.	2	25 CF	\$50/CF	\$1,250
5	Replace the washed out Southeast Slope Protection Panel	6	30 CF	60/CF	\$1,800
	Subtotal (Routine Items)				\$8,150
Prev	ventative:				
1	Repair the undermining of the Northeast Sidewalk.	99	1 CF	\$60/CF	\$60
	Subtotal (Preventative Items)				\$60
				Total	¢22.020

Total: \$33,830

Immediate Repairs - Severe Defects that may affect the serviceability of the structure or are missing safety features that present a hazard to the public. Immediate repairs should be scheduled within 12 months of notification.

Routine Repairs - Moderate defects that do not presently affect the serviceability of the structure. Routine repairs should be scheduled, and given priority, within the current maintenance schedule.

Preventative Repairs - Minor defects that do not presently affect the serviceability of the structure. Preventative repairs should be scheduled within the current maintenance schedule.

2021 BRIDGE INSPECTION REPORT GEOMETRY

	Bridge No. P-BL04R		Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	1	Year Built 1958
-	Name UPSHU	UPSHUR STREET	Crossing STREAM		Photos 21
_	Inspection Date	03/25/2021	Inspection Cre	Inspection Crew C.Percy, D. Ross	
		NEW ADC	OLD ADC	ပ	
MAP COORDINATE		5410B10	12F6		
SKEW WITH HORIZONTAL (DEGREES)	. (DEGREES)	20			
STRUCTURE TYPE		ī			
OVERALL LENGTH		24'-7 1/2"			
NO. OF SPAN		0001	NO. OF CELLS		
SPAN LENGTH		S024S			
VERTICAL CLEARANCE		A - < 10'			
OUT-TO-OUT (FEET)		0360			
ROADWAY WIDTH (FEET)		26'-0"			
APPROACH ROADWAY WIDTH	ЮТН	00	036	00	
SHOULDER WIDTH		Z	Z	Z	Z
CURB/SIDEWALK WIDTH		042	042		
NO OF BEAMS		1			
SIZE OF BEAMS		1			
BEAM SPACINGS		1			
ABUTMENT TYPE	MATERIAL	1 - Concrete	TYPE 7	7 - Non-definable	CODE 1 - Predominant Feature
ABUTMENT FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE 0	0 - None	CODE 0 - Entire Structure
PIER TYPE	MATERIAL	N - Not Applicable	TYPE		CODE
PIER FOOTING	MATERIAL	N - Not Applicable	TYPE OF PILE		CODE
WINGWALL TYPE	MATERIAL	1 - Concrete	TYPE		CODE
WINGWALL FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE		CODE
BEARING TYPE	1ST BEARING	G N - None or N/A	2ND BEARING N	N - None or N/A	3RD BEARING N - None or N/A
SPAN OF CULVERT		z			
RISE OF CULVERT		z			
CIII VERT WALL	THICKNESS (IN)	(IN)			

Bridge No. P-BL	.04R Bridge Ty	pe SINGLE-S	PAN CONCRETE RIC	GID-FRAME	Year	Built 1958	
Name UPSHUR	STREET	Crossing	STREAM			Photos_	21
Inspection Date	03/25/2021		Inspection Crew	C.Percy, D.	Ross		
58 DECK		CONDITION	l				

58 DECK	CONDITION RATING	
1. Wearing Surface	7	Type - Asphalt
2. Deck - Topside	-	
3. Deck - Underside	7	Type - Soffit/Top slab of rigid frame
4. Curbs	7	Type - Concrete
5. Median	-	
6. Sidewalks	7	Type - 4'-2" wide concrete
7. Parapets	7	Type - Concrete
8. Railing	7	Type - Four-strand steel pipe
9. Roadway Joints	-	
10. Drainage System	-	
11. Lighting Standards	-	
12. Utilities	-	Type - Overhead lines along the south side of the
13. Other	-	roadway
Inspector's Condition Rating	g (58) 7	

58.1 - The asphalt pavement over the bridge has been repaved since the previous inspection cycle

- 58.3 There are a few isolated hairline diagonal cracks in the top slab.
- 58.4 There are minor spalls in the curbs (see Photo 7).

(refer to Photos 1 and 2).

- 58.6 The sidewalks are in good condition. The South Sidewalk is settled up to 1/2" relative to the curb throughout.
- 58.7 There are a few hairline vertical cracks in the parapets. Two of the cracks in the North Parapet and one crack in the South Parapet have efflorescence.
- 58.8 The steel pipe railing is in good condition with areas of minor corrosion. There is a wire mesh that is connected to the pipe railing. There are a few small areas of minor rust on the wire mesh. The wire mesh is connected to the chain link fence along the wingwalls. The South Railing has vegetation growth throughout.

ame UPSHUR STREET	Crossing	STREAM		Photos 2
spection Date <u>03/25/2021</u>		Inspection Crew	C.Percy, D. Ross	
59 SUPERSTRUCTURE	=			
	_			
Number of Spans	1			
Type of Construction	Con	crete Rigid-Frame		
	CONDITIO RATING	N		
1. Bearing Devices	-			
2. Girders or Beams	-			
3. Stringers	-			
4. Floor Beams	-			
5. Diaphragms/Crossframes	-			
6. Paint	-			
7. Other	7	Type - Rigid fr	rame top slab/Soff	it
8. Rivets or Bolts	-			
9. Welds - Cracks	-			
10. Rust	-			
11. Timber Decay	-			
12. Concrete Cracking	7			
13. Collision Damage	-			
14. Deflection Under Load	8			
15. Alignment of Members	8			
16. Vibrations Under Load	8			
17. Fracture Critical Members				

59.7 - See comments for Item 58.3.

Bridge l	No. P-BL	.04R Bridge T	ype SINGLE-S	PAN CONCRETE RIC	SID-FRAME Y	Year Built 195	8	
Name	UPSHUR	STREET	Crossing	STREAM		Photos	_21_	
Inspect	ion Date	03/25/2021		Inspection Crew	C.Percy, D. R	Ross		

60 SUBSTRUC	TURE	CONDITION RATING	
1. Abutments	-Wingwalls	6	
	-Backwalls	_	
	-Stems	7	
	-Footings	-	
	-Piles	_	
	-Scour/Erosion	8	
	-Settlement	8	
Overall Abutme	ent Rating	7	Abutment Type - Concrete rigid-frame wall
2. Piers or Bents	-Caps	_	
	-Columns/Shaft	_	
	-Footings	_	
	-Piles	-	
	-Scour/Erosion	_	
	-Settlement	-	
Overall Pier Ra	ting	-	Pier Type
3. Pile Bents	-Caps	-	
	-Piles	-	
4. Concrete Crackir	ng or Spalling	6	
5. Steel Corrosion		-	
6. Timber Decay		-	
7. Other	Invert	6	Concrete Invert
8. Debris on Seats		_	
9. Paint		_	
10. Collision Dama	ge	-	
11. Overall Underm	nining/Scour	8	
Inspector's	Condition Rating	(60) 7	

60.1 - There are minor spalls in the wingwalls at the joint between the wingwall and the structure. The joint material between the wingwalls and the abutments is deteriorated or missing (see Photo 8). The Northwest, Southwest and Southeast Wingwalls have vegetation overgrowth. There is a 1"

Bridge	No. P-BL04R	Bridge Type SINGLE-S	PAN CONCRETE RIGID-FRAME Y	ear Built 1958	3
Name	UPSHUR STRE	ET Crossing	STREAM	Photos	21
Inspect	tion Date 03/25	/2021	Inspection Crew C.Percy, D. Ro	ess	

gap at the top and a 2 1/2" gap at the bottom of the joint between the Northwest Wingwall and the abutment. There is a 1" gap at the top and an up to 1 1/2" gap at the bottom of the joint between the Northeast Wingwall and the abutment. There is a 1'-0" diameter drain pipe at the base of the Northeast Wingwall. The Southeast Wingwall has an up to 2" gap between the abutment and the wingwall. The previously reported 2" long x 6" wide x 1/2" deep spall with exposed reinforcing on top of the Southeast Wingwall could not be confirmed due to heavy vegetation growth.

Fence: The top rails are typically loose and disconnected from the posts (see Photo 9). There is vegetation growth on the Northwest, Southwest and Southeast Fence. Post 1 of the Southwest Fence is loose due to 100% section loss at the bottom of the post. The fence on the Northeast Wingwall is leaning due to a broken post at the end of the wingwall. There are missing fence post caps at the Northwest and Southwest Fence.

The abutment stems are in good condition. Both abutments have two full height hairline vertical cracks with light efflorescence.

60.7 - There is a 1'-9" long x 11" wide x up to 2" deep spall in the invert and minor edge spalling along the joint at the north end.

Bridge	No. P-BL04R	Bridge Type SINGLE-S	SPAN CONCRETE RIGID-FRAME Ye	ear Built 1958		
Name	UPSHUR STRE	ET Crossing	STREAM	Photos_	21	
Inspect	tion Date 03/25	/2021	Inspection Crew C.Percy, D. Ro	SS		

61 CHANNEL AND CHANNEL PROTECTION

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

Inspector's Condition Rating (61) 5

- 61.1 The concrete channel invert has heavy abrasion throughout and areas of exposed welded wire fabric approximately 25' north of the bridge.
- 61.5 The stream flows from south to north under the structure. The stream is on a tangent alignment in the vicinity of the bridge.
- 61.8 There are vertical, horizontal and diagonal cracks up to 1" wide throughout the concrete slope protection (see Photo 10). There is heavy abrasion and minor spalls along the base of the concrete slope protection. There are areas of differential settlement between the panels of the concrete slope protection (see Photo 11). There is vegetation growth throughout the Southeast, Southwest and Northeast Slope Protections (see Photo 12). There is an up to 1" wide fracture emanating from the joint between the Northeast Wingwall and concrete slope protection (see Photo 13) and 1/4" wide cracks emanating from the joint between the Northwest, Southeast, and Southwest Wingwalls and the concrete slope protection. The Northwest Slope Protection is cracked, spalled, and undermined up to 8" deep for a 30'-0" length (see Photo 14). There is a 1'-6" long x 5" wide x 2" deep spall in the Northeast Slope Protection below the storm drain outfall in the Northeast Wingwall (refer to Photo 13). The third panel along the Southeast Slope Protection has washed out into the channel (see Photos 15 and 16).

Abutment Slope Protection: There is moderate to severe abrasion with exposed reinforcement at the bottom of the slope protection along both abutments. There are two cracks with efflorescence in the East and West Slope Protection under the bridge (see Photo 17). There is an 18" diameter drain pipe in the north end of the East Slope Protection under the bridge.

Fence: The fence along the channel slope protection has minor to moderate rust throughout. There is a missing section of the top rail in the fence along the Northwest Slope Protection at the end of the Northwest Wingwall. The fence along the Northeast Slope Protection is damaged, disconnected, and has a missing section of top rail. Post 3 foundation of the Northwest Fence is exposed due to settlement of the slope protection panel (see Photo 18). There are misalignments and heavy vegetation

Bridge	No. P-BL04R	Bridge Type SINGLE-S	PAN CONCRETE RIGID-FRAME Y	ear Built 1958
Name	UPSHUR STRE	ET Crossing	STREAM	Photos21
Inspect	tion Date <u>03/25</u>	/2021	Inspection Crew C.Percy, D. Ro	oss

throughout the fence along the Southwest and Southeast Slope Protection. The top rail of the fence along the Southeast Slope Protection is disconnected at Posts 3 and 5. The top rail of the fence along the Southwest Slope Protection is disconnected at Post 2.

Bridge I	No. F	P-BL	04R Bridge	Type SINGLE-S	PAN CONCRETE RI	GID-FRAME	Year	Built 1958
Name	UPSF	HUR	STREET	Crossing	STREAM			Photos 21
nspecti	ion Da	ate	03/25/2021		Inspection Crew	C.Percy, D.	Ross	
71 W	ATE	RW	AY ADEQU	ACY				
Openi	ing			Good	Fair	Poor		
Alignn	nent			Good	Fair	Poor		
Frequ	ency (of O	vertopping	Remote	Slight	Occasio	onal	Frequent
Ins	spect	or's	Condition Rat	ing (71) 7	·			

Bridge	No. P-BL	04R Bri					E RIGID-FR	AME Year I	Built 1958	3
Name	UPSHUR		Crossing STREAM					Photos		
Inspect	tion Date	03/25/202	1		Inspe	ection Cr	ew C.Pe	rcy, D. Ross	_	
					_			-		
72	ADDDO	ACH ROA	\D\W\A\V	ALIGN	IMENI	r ADDD	ΛΙΟΛΙ	DATING		
12	AFFRO	ACII KOA	ADVVAI	ALIGI	AIVILIAI	AFFIN	MIJAL	KATING		
1. Ve	rtical Align	ment	w	Good	Fair	Poor	- Downo	grade from we	st to east	
	· ·		E	Good	Fair	Poor				
2. Ho	rizontal Ali	gnment	w	Good	Fair	Poor	- Interse	ection 50' East	t of the bri	idge
			E	Good	Fair	Poor				•
3. Sp	eed Limit F	Reduction	Noi	ne Mir	nor Su	bstantial				
4. Sig	ght Distanc	e	Adec	uate	Not Ade	equate				
Inspe	ector's Co	ndition Rat	ing (72)	8						
AP	PROAC	H ROAD	NAY							
				CONDIT RATIN						
5. Ap	proach Tra	affic Barrier		_						
6. Ap	proach Pa	vement		6		ype - As	hpalt			
7. Ap	proach Em	nbankments		6						
8. Ap	proach Sla	ıbs		_						
9. Re	lief Joints			-						
10. S	igning - Le	gibility and	Visibility	Good	Fair	Poor	Type - F	Posting Signs		
11a. I	Roadway S	Speed Limit		25 M	IPH	11b. Pos	ted Bridge	Speed Limit		
12. P	osted Load	d Limits	10	,000 lbs.	G.V.W.		18	8,000 lbs. G.0	C.W.	
13. Tı	raffic Safet	y Features								
a. E	Bridge Rail	ing		0	1 N	Туре	e - Four-st	rand steel pip	е	
b. T	Fransitions			0	1 N	Туре	e - No app	roach traffic b	arrier	
c. A	Approach T	raffic Barrie	er	0	1 N	Туре	e - No app	roach traffic b	arrier	
d. A	Approach T	raffic Barrie	er Ends	0	1 N	Туре	e - No app	roach traffic b	arrier	

72.5 - There are no approach traffic barriers in place.

72.6 - The approach pavement has been repaved since the previous inspection cycle (refer to Photos 1 and 2). There is an up to 1/2" wide x full-width transverse crack adjacent to a manhole in the West Approach roadway.

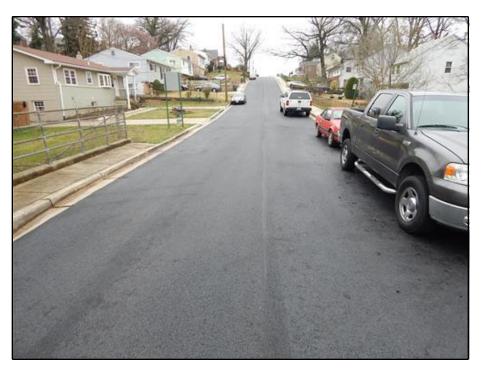
Sidewalks: The Southeast Sidewalk has settled approximately 2 1/2" and is sloping adjacent to the Southeast Storm Drain (see Photo 19). There is a 2 1/2" gap adjacent to the sloping slab and the adjacent storm drain. The Southeast Sidewalk does not continue past the storm drain inlet. The Northeast Approach Sidewalk is undermined 4'-0" long x 2" high with up to 8" penetration (see Photo

Bridge No	P-BL	04R	Bridge Type	SINGLE-S	PAN CONCRETE RIC	SID-FRAME	Year	Built 1958	3	
Name UPSHUR		STRE	STREET Crossing STREAM					Photos	21	_
		03/25/2021		Inspection Crew C.Percy, D). Ross			
20).										

72.10 - The posting and advanced posting signs are in place on the West Approach (see Photo 21). Upshur Street is a one-way street from west to east. There are no object markers in place. The bridge is currently posted at 10,000 lbs for single-unit vehicle and 18,000 lbs for combination-unit vehicles.



1. West Approach (Looking East)



2. East Approach (Looking West)



3. North (Downstream) Elevation



4. South (Upstream) Elevation



5. Looking North (Downstream)



6. Looking South (Upstream)



7. Curb - Spall at South Curb



8. Wingwall - Bulging Joint Material at Northeast Wingwall



9. Fence - Missing Top Rail at Northwest Fence



10. Slope Protection - Full-width Transverse Crack in Slope Protection Panels



11. Slope Protection - Differential Settlement Between Northwest Slope Protection Panels



12. Slope Protection - Vegetation Growth along Southeast Slope Protection



13. Slope Protection - Vertical Crack and Spall at Storm Drain Inlet in Northeast Slope Protection



14. Slope Protection - Abrasion along Bottom of Northwest Slope Protection



15. Slope Protection - Washed Out Southwest Slope Protection Panel



16. Slope Protection - Exposed Groundline Due to Washed Out Slope Protection Panel

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL04R - UPSHUR STREET OVER STREAM



17. Slope Protection - Vertical Crack with Efflorescence in East Slope Protection



18. Fence - Exposed Fence Post Foundation at Northwest Fence

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL04R - UPSHUR STREET OVER STREAM



19. Sidewalk - Settled Sidewalk Panel adjacent to Southeast Storm Drain Inlet



20. Sidewalk - Undermining of Northeast Sidewalk

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL04R - UPSHUR STREET OVER STREAM



21. Signage - Load Posting Sign at West Approach

STRUCTURE INVENTORY AND APPRAISAL REPORT

BRIDGE NUMBER: P-BL04001

IDENTIFICATION			FORM 1 OF 13
(8) STRUCTURE NUMBER:	2 00000 Major Structure P	- BL04 01 Major Str	ucture > 20' 0" 0 Single Structure
(8) FHWA NUMBER:			
(7) FACILITY CARRIED:	UPSHUR STREET		
(6) FEATURE INTERSECTED:	STREAM		
(255) FEDERAL SUBMITTAL INDICA	TOR: Y Yes		
(262) NAME OF STRUCTURE:	UPSHUR ROAD		
(27) YEAR BUILT:	1958 (106) YE	EAR RECONSTRUCTED:	1982
(263) ADDITIONAL RECONSTRUCTI	ON YEARS: N		
(1) STATE CODE:	243 Maryland (2) DIST	RICT CODE:	03
(3) COUNTY CODE:	033 GEORGE'S (4) PLA	CE CODE:	07850
(5) INVENTORY ROUTE:	Route carried "on" 5 City Structure (Route Prefix		00152 0 Always Number) (Direction)
(9) LOCATION:	AT 53RD PLACE	(2010) 01 001 1100)	(ensured)
(11) MILEPOINT:	0000300		
(12) BASE HIGHWAY NETWORK:	0 Inv. Route is NOT on the Base Net	work	
(266) GIS ROUTE ID:			
(267) GIS MILEPOINT:			
(268) SCENIC ROUTE: N			
(13) LRS INVENTORY ROUTE, SUBF	ROUTE NUMBER: 601520110	0000	
(16) LATITUDE: (A)	38563376 (B) 38563	3345 (C) 38563347	(D) 38563377
(17) LONGITUDE: (A)	076553861 (B) 0765	53842 (C) 07655381	6 (D) 076553830
(28) LANES ON: 02 LANES U	NDER: 00		
(42) TYPE OF SERVICE ON: 5	Highway-Pedestrian		
TYPE OF SERVICE UNDER: 5	Waterway		
(98) BORDER STATE:	ВС	RDER STATE'S SHARE %:	
(99) BORDER STATE'S NUMBER:			
CLASSIFICATION			FORM 2 OF 13
(104) HWY SYSTEM:	No, Inventory Route is not on the NHS	(103) TEMPORARY STRUCT	JRE:
(105) FEDERAL LANDS HWYS:	0 Not applicable	(110) NATIONAL NETWORK:	No, the inventory route is not part of the national network for trucks.
(26) FUNCTIONAL CLASS:	Urban Local	(20) TOLL:	3 On free road
(100) DEFENSE HWY:	The inventory route is not a STRAHNET route	(21) MAINTENANCE:	City or Municipal Highway Agency
(101) PARALLEL STRUCTURE:	No parallel structure	(22) OWNER:	City or Municipal Highway Agency
(102) DIRECTION:	1 1-way traffic	(37) HISTORICAL SIGNIFICA	NCE: 5 Not eligible

(344) PAINT COLOR/NUMBER:

(345) YEARS PAINTED:

FORM 3 OF 13 TRAFFIC (19) **DETOUR**: (109) TRUCK ADT %: 01 01 (30) ADT YEAR: (29) ADT: 001192 2019 (114) FUTURE ADT: (115) FUTURE ADT YEAR: 001777 2039 STRUCTURE TYPE AND MATERIAL **FORM 4 OF 13** (43) STRUCT TYPE: Concrete Α 07 Rigid Frame (44) STRUCT TYPE - APPR: Not Applicable Other 0 00 (232) BOX CULVERT ON PILES: None Entire Structure 0 0 | (208) STRUCT TYPE -Ν Ν Ν WIDENED/EXTENDED: (219) SLOPE PROTECTION: Concrete 1 (228) FOOTING - ABUTMENT: Concrete 0 None Entire Structure 1 0 (229) SUBSTRUCT ABUTMENT: Concrete 7 Non-definable Predominant Feature 1 1 (230) FOOTING - PIER: Ν Not Applicable (231) PIER TYPE: Not Applicable Ν None or N/A None or N/A (242) BEARING TYPE: Ν None or N/A Ν Ν (108) WEARING SURFACE: 6 Bituminous 0 None 0 None (243) JOINT TYPE: None Ν Ν None (206) STRUCT SUBTYPE - MAIN: Not Applicable (207) STRUCT SUBTYPE - APPR: Not Applicable Ν Ν (257) SCOUR PROTECTION: (270) CONC. DECK SPECIAL TYPE: 4 Not Applicable (221) STRUCTURAL STEEL: Not Applicable (233) DECK - COMP/NON-COMP: Non-Composite Ν 0 Concrete Cast-in-(107) DECK STRUCTURE TYPE: (259) STAY-IN-PLACE FORMS: Ν 1 (235) PARAPET: 02 Concrete-Rectangular Steel Other - None (236) RAILING: 3 0 None (237) **FENCING**: Straight Fence Steel 1 1 (278) PAINT SYSTEM: Not Applicable N

Not Applicable

Ν

Ν

Ν

GEOMETRICS							FOR	M 5 OF 13
(112) NBIS BRIDGE LENGTH:	Υ			(49) STRUCTU	JRE LENGTH:	0000250	D	
(210) NUMBER OF SPANS:	0001			(45) # SPANS	IN MAIN UNIT:	001	_	
(46) # APPROACH SPANS:	0000			(209) CONTIN	UOUS SPANS:	N		
(48) LENGTH MAX SPAN:	0024			(238) # STRIN	GERS - ORIGINAL:	00		
(240) SPACING - ORIGINAL:	N			(239) # STRIN	GERS - WIDENED:	00		
(241) SPACING - WIDENED:	N			(33) BRIDGE	MEDIAN:	0		
(50) CURB/SIDEWALK WIDTHS:	042	042		(205) MEDIAN	WIDTH:	000		
(51) DECK CURB-CURB WIDTH:	0260			(32) APPROAG	CH ROAD WIDTH:	00	36 00	
(52) DECK OUT-OUT WIDTH:	0360			(10) INVENT R	OUTE, MIN VERT C	LEAR:	9999	
(53) BRIDGE ROADWAY, MIN VE	RTCLEAR:	9999		(47) INVENT R	OUTE, TOTAL HOR	IZ CLEAR	260	
(54) MIN. VERT. UNDERCLEARA	NCE:	N	Feature r	not a highway	or a railroad	Α	< 10'	
(55) MIN. LAT. CLEARANCE (RIG	HT):	N	Feature r	not a highway	or a railroad	999		
(56) MIN. LAT. CLEARANCE (LEI	T):	000)	(342) HORIZ C	LEARANCE (ON):		02600	
(34) SKEW, IN DEGREES: 2	0			(280) HORIZ C	LEARANCE (UNDE	R):	N	
(35) STRUCTURE FLARED:	1			(253) NUMBER	R OF CELLS:		N	
(256) SPAN OF CELLS:	N			(254) RISE:			N	
				(258) EARTH I	FILL:		N	
				(343) CENTER	LINE LENGTH (Cul	verts/Pipe	s): N	
(223) SHOULDER WIDTHS:	N	N	N	N				
(264) TYPE AND SPAN:	RF 21'-6" x	7'-0"			•			

LOAD RATINGS AND POSTINGS

FORM 6 OF 13

(41) STATUS:	Р	Posted for load	(224) WEIGHT POSTED:	10 18
(31) DESIGN LOAD:	5	HS 20		(New Split)
(398) PEDESTRIAN LOADING:	N		(66) INVENTORY RATING:	395

(399) RAILROAD LOADING: (64) OPERATING RATING: 655 (70) POSTING: Equal to or above legal loads (400) DATE OF RATING: 02 2014

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

	INVENT	ORY RATING	OPERAT	ING RATING
HL-93 Vehicle	(402)		(401)	
H-15 Vehicle	(404)	215	(403)	365
T3 (Dump Truck) Vehicle	(406)	280	(405)	465
T4 Reduced Lift Axle Vehicle	(408)	290	(407)	485
HS Vehicle	(410)	395	(409)	655
3S2 Vehicle	(412)	515	(411)	865
150K Vehicle	(414)	545	(413)	910
90K Permit Combination Vehicle	(416)	365	(415)	615
90K Mobile Crane Vehicle	(418)	345	(417)	580
90K Cargo Vehicle	(420)	450	(419)	755
80K Cargo Vehicle	(422)	515	(421)	865
120K Vehicle	(424)	490	(423)	820
108K Mobile Crane Vehicle	(426)	390	(425)	650
120K Mobile Crane Vehicle	(428)	480	(427)	800

(225) SPEED LIMIT ON STRUCTURE: Ν

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

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

CONDITION INSPECTION

FORM 7 OF 13

	Inspection Month	(91) Frequency	Due Date	(90) Inspection Date	(290) Inspection Report Completion Date
Routine Inspection	03	24	03/25/2023	03/25/2021	07/30/2019
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) S	SUPERSTRUCT	TURE: 7 Go	od Condition
(60) SUBSTRUCTURE:	7 Good Condition	(61) C	HANNEL/PRO	TECTION: 5 Ba	nk eroded major damage
(62) CULVERTS:	Not Applicable				
(310) INSPECTION DATA UPDATE I	DATE: 02/18/2015	(312)	LEAD INSPEC	TOR: Caleb Perc	y, P.E.
(311) INSPECTION TEAM:	YCE	(313)	BRIDGE INSPE	ECTOR: Daria Ross	
(314) HOURS TO INSPECT: 002	(316) DECK P	LANKING %:	00 (31	15) DECK PUNCTURE	E s %: 00
(317) DECK PATCHING %: 00	(318) BLOCK	ING:	00 (31	9) POWER WASHIN	G: N
(320) IDENTIFICATION NO.: N	(321) INVENT	ORY DIRECTION:	SOUT (32	23) PERMIT:	N
] , , ,		Н	,	
(324) NIGHT WORK:	(325) WEEKE	ND WORK:	N		
(322) LOOKING TOWARD: US F	ROUTE 50				
(326) MAINTENANCE OF TRAFFIC S	STANDARDS:				
(327) MOT COMMENTS:					
(328) LOCATION OF MIN. VERT. UNDERCLEARANCE:					

(329A) CRITICAL FINDINGS: N (329B) CRITIC	AL FINDINGS DATE:
(330) CRITICAL FINDINGS COMMENTS:	
(331) CAUTION COMMENTS:	
(332) UNDERCLEARANCE POSTING SIGNS: X Postin	g signs not required
(340) INSPECTION EQUIPMENT:	
W Waders	
(333) MHOI: N (334) MHOI LOCATIONS:	
(335) ADVANCED NOTIFICATION: N	
(336) ADVANCED NOTIFICATION COMMENTS:	

APPRAISAL					FORM 8 OF 13
(67) STRUCTURAL EVALUATION:	7	BSR	(68) DECK GEOMETR	Y:	2
(69) UNDERCLEARANCE:	N	77.9	(72) APPROACH ALIG	NMENT:	8
(71) WATERWAY ADEQUACY:	7				
(00) 110 1110 0711 211	NGS: 0	Does NOT me	eet Standards		
FEATURES TRANSIT	ONS: 0	Does NOT mo	eet Standards		
APPROACH BAR	RIER: 0	Does NOT me	eet Standards		
APPROACH BARRIER E	NDS: 0	Does NOT me	eet Standards		
(113) SCOUR EVALUATION:	8P	Bridge is a cu	livert-type structure with paved bottom		
(DT) DEDUCT CODE:	Α				
(STAT) STATUS:	2	Functional	lly Obsolete		
NAVIGATION					FORM 9 OF 13
(38) NAVIGATION CONTROL:	0		(39) NAV VERT	CLEARANCE:	000
(40) NAV HORIZONTAL CLEARANC	E : 000	00			
(111) PIER/ABUTMENT PROTECTIO	N:				
(116) MIN NAV VERT CLEARANCE,	VERT LIFT	BRIDGE:			
(247) DESIGN YEAR STORM:	00	00	(248) RUN-OFF	Q : 000000	
(249) DRAINAGE AREA:	00	00000	(250) STRUCTI	JRE IN TIDAL ARE	EA: N No
(251) HIGH WATER ELEVATION:	00	000			
(252) YEAR HIGH WATER ELEVATION	ON - LATES	T : 000	00		
HISTORY AND PROPOS	ED IMPF	ROVEME	INTS		FORM 10 OF 13
(201) CONTRACT NUMBERS:					
(203) SHA SPEC- YEAR:	0000	N 1	N N		
(204) AASHTO SPEC-YEAR:	0000	N N	N N		
(75) TYPE OF PROPOSED WORK:	35	1 (76) LENGTH OF IMPROVEMEN	T : 000025	
(94) BRIDGE IMPROVE COST:	000153	(95) ROADWAY IMPROVE COST	: 000021	
(96) TOTAL PROJECT COST:	000174	(97) YEAR OF IMPROVEMENT:	2007	

(558) WITH NOISE BARRIER:

MISCELLANEOUS			FORM 11 OF 13
(244) SIGNS ON STRUCTURE:	N No	(245) BRIDGE ROADWY LIGHTING:	N No
(246) PROVISION FOR ROADWAY LIGHTING:	N No		
(260) UTILITIES - ON:		(261) UTILITIES - UNDER:	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
REMARKS:			
NOISE BARRIER (501) TYPE:	AXIMUM HEIGHT:	(502) ALIGNMENT:	FORM 12 OF 13
(513) FEDERAL COLOR:		(514) STACKED PANELS:	
(515) NOISE BARRIER POST MATERIAL:		(516) ACCESS DOORS:	
(517) FIRE HYDRANTS:		(518) RETROFITS:	
(011,11121111111111111111111111111111111		(616)	
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:	

(559) PURPOSE:

Structure Inventory and Appraisal Sheet

NATIONAL BRIDGE INVENTORY -----STRUCTURE INVENTORY AND APPRAISAL **IDENTIFICATION** SUFFICIENCY RATING = 77.9 (1) STATE NAME:..... Maryland CODE...... STRUCTURE NO:..... 2-00000-P--BL04-01-0 (8)STATUS = 2 INV RTE (ON/UNDER):..... 1-5-1-00152-0 (5)**CLASSIFICATION** (2)STATE HIGHWAY DEPARTMENT DISTRICT:......... 03 (112) NBIS BRIDGE LENGTH:..... (3)COUNTY CODE:....... 033 (4) STATE CODE:. 07850 FTR INTRS:..... STREAM (6)FACILITY CARRIED:...... UPSHUR STREET (7) LOCATION:..... AT 53RD PLACE (9)(11)(102) DIRECTION OF TRAFFIC:...... 1 BASE HIGHWAY NETWORK: (103) TEMPORARY STRUCTURE:..... LATITUD 38563376.. (17) LONGITUDE:... 076553861 BORDER BRIDGE STATE % Share..... BORDER BRIDGE STRUCT NO..... MAINTENANCE:04 STRUCTURE TYPE AND MATERIAL OWNER:......04 (43)STRUCTURE TYPE MAIN: MATERIAL HISTORICAL SIGNIFICANCE:..... 5 TYPE..... Α 07 (44) STRUCTURE TYPE APPR: MATERIAL **CONDITION** TYPE..... 00 (58) DECK:.... (45) NUMBER OF SPANS IN MAIN UNIT:..... SUPERSTRUCTURE: 7 (107) DECK STRUCTURE TYPE...... 1 CHANNEL AND CHANNEL PROTECTION:..... 5 (108) WEARING SURFACE/PROTECTIVE SYSTEM: A) TYPE WEARING SURFACE: CODE:..... 6 LOAD RATING AND POSTING CODE:.... B) TYPE MEMBRANE: (31) DESIGN LOAD:..... C) TYPE DECK PROTECTION: CODE:.... (64) OPERATING RATING: 655 AGE AND SERVICE (27) YEAR BUILT:..... INVENTORY RATING: 395 (66)(106) YEAR RECONSTRUCTED..... BRIDGE POSTING:.... (42) TYPE OF SERVICE: ON: (41) STRUCTURE OPEN, POSTED, OR CLOSED:..... P 5 UNDER...... CODE..... APPRAISAL (28) LANES: ON STRUCT 02 UNDER STRUCT: იი (67) STRUCTURAL EVALUATION:.... DECK GEOMETRY:......2 (68) (30) YEAR OF ADT:..... **2019** (109) TRUCK ADT:..... (69) UNDERCLEARANCES, VERT AND HOR:..... N BYPASS, DETOUR LENGTH:.... (71) WATERWAY ADEQUACY:..... GEOMETRIC DATA (72) APPROACH ROADWAY ALIGNMENT:..... LENGTH OF MAXIMUM SPAN:.... (48)TRAFFIC SAFETY FEATURES:...... 0 0 0 0 (113) SCOUR CRITICAL BRIDGES:...... 8P CURB/SIDEWALK: LFT 042 FT RGT: 042 (51) BRDG RDWY WIDTH CURB TO CURB....... 0260 . FT PROPOSED IMPROVEMENTS (52) DECK WIDTH OUT TO OUT..... 0360 FT (75) TYPE OF WORK:.... 1 (32) APPR RDWY WIDTH: 00 036 00 FT (76) LENGTH OF IMPROVEMENT:..... 000025 (33) BRIDGE MEDIAN:.... 0 (94) BRIDGE IMPROVEMENT COST:..... 153,000 20 DEG (35) STRUCT FLARED (34)SKEW: Ν (95) ROADWAY IMPROVEMENT COST:.... 21,000 (10) INV RTE MIN VERTICAL CLEAR:...... FT (96) TOTAL PROJECT COST:.... 174,000 (97) YEAR OF IMPROVEMENT COST EST:.... INV RTE TOT HORIZONTAL CLEAR:.. 260 FT MIN VERT CLEAR OVER BRDG RDW 9999 FT (54) MIN VERT UNDERCLEAR N Α FT (115) YEAR OF FUTURE ADT:.....

Bridge Inspection Report Element Form

Bridge No: P-BL04001							Inspection	on Date: 0	3/25/2021
JPSHUR STREET OVER	R STREAM						Milepoin	t : 0	000300
(58) Deck	7	(59) Superstruct	ure 7		(6	0) Substru	cture 7	
(61) Channel	5	(62) Culvert	N					
					_				
Element			Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
38 - Reinforced Con	icrete Slab		1 - Ben.	827	sq. ft.	827	0	0	0
☐Eng Req	∏FYI	□р	istrict	□Ir	nacces	sible?		Eng Com	ments
	_	_		_				,g ==	
	ent over the bridge has	been r	epaved since	the previo	ous insp	pection cyc	ele 	T	
215 - Reinforced Co	ncrete Abutment		1 - Ben.	72	ft.	68	4	0	0
☐Eng Req	□FYI	□D	istrict	□lr	nacces	sible?		Eng Com	ments
The abutment stem efflorescence.	s are in good condition.	. Both	abutments ha	ive two ful	l height	t hairline ve	ertical crac	ks with ligl	nt
330 - Metal Bridge F	Railing		1 - Ben.	65	ft.	50	15	0	0
☐Eng Req	□FYI	□D	istrict	□ lr	nacces	sible?		Eng Com	ments
pipe railing. There a	ng is in good condition ware a few small areas of gwalls. The South Raili	minor	rust on the w	ire mesh.	The wir	e mesh is			
331 - Reinforced Co	ncrete Bridge Railir	ng	1 - Ben.	50	ft.	48	2	0	0
☐Eng Req	□FYI	□D	istrict	□ lr	nacces	sible?		Eng Com	ments
There are a few ha	irline vertical cracks in the efflorescence.	he para	apets. Two of	the cracks	s in the	North Para	apet and o	ne crack ir	n the
3062 - Sidewalk, Re	inforced Concrete		1 - Ben.	50	Ft.	50	0	0	0
☐Eng Req	□FYI	□D	istrict	□ lr	nacces	sible?		Eng Com	ments
The sidewalks are i south side.	n good condition. The S	South S	idewalk is se	ttled up to	1/2" re	lative to the	e curb thro	oughout on	the
3251 - Wingwalls, R	einforced Concrete		1 - Ben.	28	Ft.	20	8	0	0
☐Eng Req	□FYI	□D	istrict	☐ Ir	nacces	sible?		Eng Com	ments
There are minor sp	alls in the wingwalls at t	he join	t between the	wingwall	and the	e structure.	The joint	material b	etween

There are minor spalls in the wingwalls at the joint between the wingwall and the structure. The joint material between the wingwalls and the abutments is deteriorated or missing. The Northwest, Southwest and Southeast Wingwalls have vegetation overgrowth. There is a 1" gap at the top and a 2 1/2" gap at the bottom of the joint between the Northwest Wingwall and the abutment. There is a 1" gap at the top and an up to 1 1/2" gap at the bottom of the joint between the Northeast Wingwall and the abutment. There is a 1'-0" diameter drain pipe at the base of the Northeast Wingwall. The Southeast Wingwall has an up to 2" gap between the abutment and the wingwall. The previously reported 2" long x 6" wide x 1/2" deep spall with exposed reinforcing on top of the Southeast Wingwall could not be confirmed due to heavy

Bridge Inspection Report Element Form

Bridge No: P-BL04001							Inspecti	on Date: (13/25/2021
UPSHUR STREET OVER	STREAM						Milepoir	nt: C	000300
(58) Deck	7	(59) Superstructı	ure 7	7	(6	i0) Substrເ	ucture	7
(61) Channel	5	(62) Culvert	N	Ī				
					_				
vegetation growth.							1	1	
8260 - Slope, Protect	ed		1 - Ben.	2	Each	0	2	0	0
☐Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	nments
There is moderate to abutments. There ar an 18" diameter drair	e two cracks with effl	orescer	ice in the Eas	t and We	st Slope	Protection			
8322 - Roadway Appı	oach Transition		1 - Ben.	2	Each	2	0	0	0
☐Eng Req	□FYI	□D	istrict		naccess	sible?		∃Eng Com	nments
Pavement: The approx full-width transverse Traffic Barrier: There Sidewalks: The South Drain. There is a 2 1 not continue past the 8" penetration. Signs: The posting and from west to east. The vehicle and 18,000 lb.	e crack adjacent to a are no approach traff neast Sidewalk has s /2" gap adjacent to the storm drain inlet. The and advanced posting nere are no object ma	manhol fic barrio ettled a ne slopir ne North signs a arkers ir	e in the West ers in place. pproximately 2 and slab and the east Approache in place on place. The bes.	Approach 2 1/2" and e adjacer h Sidewa the West	d is slop nt Storm lk is und Approa	ing adjace Drain. The dermined 4 Inch. Upshiposted at	ent to the S ne Southe. 1'-0" long o ur Street is 10,000 lbs	Southeast sast Sidewa c 2" high w s a one-was for single	Storm alk does ith up to ay street -unit
8342 - Fencing			1 - Ben.	78	Ft.	0	39	39	0
☐ Eng Req The top rails are typic Southwest and South Post 1 of the Southw Wingwall is leaning d Northwest and South	neast Fence. Post 3 c est Fence is loose du ue to a broken post a	nnected of the No ue to 100	orthwest is exp 0% section los	s. There posed duess at the b	e to sett oottom o	tation grov lement of of the post	the slope . The fend	protection ce on the N	t, panel.
8345 - Stream Chann	el		1 - Ben.	1	Entire Bridge	0	1	0	0
☐Eng Req	□FYI	□D	istrict		naccess	sible?		Eng Com	nments
The stream flows from bridge. The concrete approximately 25' no spalling along the join	channel invert has her th of the bridge. The	eavy ab	rasion througl	hout and	areas of	fexposed	welded wi	re fabric	

Slope Protection: There are vertical, horizontal and diagonal cracks up to 1" wide throughout the concrete slope protection. There is heavy abrasion and minor spalls along the base of the concrete slope protection. There are areas of differential settlement between the panels of the concrete slope protection. There is vegetation growth throughout the Southeast, Southwest and Northeast Slope Protections. There is an up to 1" wide fracture emanating from the joint between the Northeast Wingwall and concrete slope protection and 1/4" wide cracks emanating from the joint

Bridge Inspection Report Element Form

Bridge No: P-BL04001					Inspection	on Date: 0	3/25/2021
UPSHUR STREET OVER S	STREAM				Milepoin	t : 0	000300
(58) Deck	7 (59	9) Superstructu	ire 7] (6	60) Substru	cture 7	•
(61) Channel	5 (62	2) Culvert	N				
Protection is cracked, deep spall in the Nort along the Southeast S Fence: The fence alor section of the top rail fence along the North misalignments and he top rail of the fence along the Southwest S	st, Southeast, and Southwe spalled, and undermined u heast Slope Protection belo slope Protection has washed in the channel slope protection the fence along the Northeast Slope Protection is daily vegetation throughout slope the Southeast Slope Protection is disconnected in the slope protection in the slope protection is disconnected in the slope protection in the slope protection is disconnected in the slope protection in the slope protection is disconnected in the slope protection in the slope protectio	p to 8" deep forw the storm drug dout into the continuous deep formula to the continuous deep formula to the fence along to the fence along to the fence at Post 2 decreted at Post 2	r a 30'-0" ain outfall hannel. to moder otection a nected, a g the Sout connected	length. There is I in the Northeast atte rust throughout the end of the Northeast and South at Posts 3 and 8	a 1'-6" long Wingwall. ut. There i lorthwest V section of the sec	g x 5" wide The third p s a missin Vingwall. 1 top rail. T Protection	e x 2" coanel g The here are n. The fence
8359 - Soffit (undersid and slabs	de) of concrete decks	1 - Ben.	1	Entire Bridge	0	0	0
☐Eng Req	□FYI □□	District	——— ∏Ir	naccessible?		Eng Com	ıments

There are a few isolated hairline diagonal cracks in the top slab.

2021 BRIDGE INSPECTION REPORT APPROACH TRAFFIC BARRIER FORM

						-	Transition				Appr	Approach Traffic Barrier	arrier	Exist. End Treatment	Proposed End Treatment
Bridge Railings Meet MDSHA Standard	AA _	Approach Traffic Barrier Present	h Traffic Present	Attached to Bridge	ed to	Thrie Beam Present	aam ut	Gradually Stiffened		Post R	Rail Type	Post Type	Post Spacing	Туре	Туре
	z	>	z	>	z	>	z	 ≻	z						
	×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)
	×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)
	×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)
	×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)

Bridge No.: P-BL04R

County: Prince George's

Road Carried: UPSHUR STREET

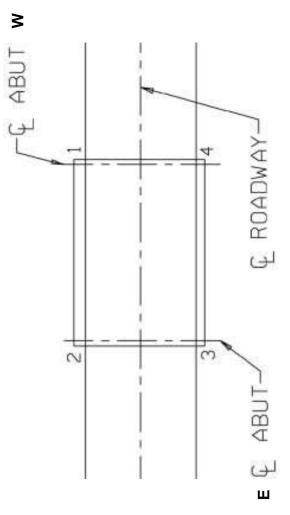
Crossing: STREAM

Date Inspected: 03/25/2021

Inspector: C.Percy, D. Ross

Comments:

No approach traffic barriers are present.





Load Rating Standard Summary Sheet

Bridge No.: PBL04001 on UPSHUR STREET over STREAM
Date of Rating: 12/16/2013 LARS Program: Yes No No Program Used: BOX5
Rating Method: LRFR LFR ASR Ingineering Load Surface (in.)
Rating Type: As-Built ☐ As Inspected ☑ Condition Report Date: 03/05/2013
Comments/Defects/Assumptions: This Load Rating is based on the latest inspection report as noted above, as well as a previous load rating dated 1996. Rating factors for the top slab have been listed.

LRFR Design/Load Rating Vehicle (Limit States are Strength I for all materials, Service II for Steel only, or Service III for prestressed concrete Inventory only)								
	Rating Details	<u>Inventory</u>	Operating					
Truck/ Axle/ Tons	Controlling Member	Limit State	Limit State					
	Controlling Stress (Moment, Shear, Service)	Rating Factor	Rating Factor					
III 02/2/26 Terra	enter controlling member (i.e. Sp. 1, Ext. Beam)	Limit State	Limit State					
HL-93/3/36 Tons	Select the Controlling Stress	X.XX	X.XX					

Legal Loads (F	Legal Loads (For LRFR the Limit States are Strength I for all materials or Service II for steel only)								
Truck/ Axle/ Tons	Controlling Member	Inventory or Limit State	Operating						
	Controlling Stress	Tons (XX.X)	Tons (XX.X)						
H-15 / 2 / 15	Top slab	21.5	36.5						
H-15/2/15	Moment		30.3						
T. 2 / 2 / 22	Top slab	28.0							
T-3 / 3 / 33	Moment		46.5						
T-4 / 4/ 35	Top slab	29.0	48.5						
1-4/4/33	Moment		40.5						
HS-20 / 3 / 36	Top slab	39.5	65.5						
HS-20 / 3 / 30	Moment		05.5						
382 / 5 / 40	Top slab	51.5	86.5						
332 / 3 / 40	Moment		86.5						

	Permit Loads - (For LRFR the Limit State is Stren	gth II)	
Truck/ Axle/ Tons	Controlling Member	Inventory	Operating
Truck/ Axie/ Tons	Controlling Stress (Moment, Shear, Service)	Tons (XX.X)	Tons (XX.X)
150K / 8 / 75	Top slab	54.5	91.0
150K/6//5	Moment	34.3	91.0
00V Comb / 4 / 45	Top slab	26.5	61.5
90K Comb./ 4 / 45	Moment	36.5	61.5
90K Crane / 4 / 45	Top slab	34.5	58.0
90K Crane / 4 / 45	Moment	34.3	38.0
90K Cargo/ 5 / 45	Top slab	45.0	75.5
90K Cargo/ 5 / 45	Moment	45.0	73.3
80K Cargo/ 5 / 40	Top slab	51.5	86.5
our Cargo/ 3 / 40	Moment	31.3	80.3
120K Spec./ 5 / 60	Top slab	49.0	82.0
120K Spec./ 5 / 00	Moment	47.0	02.0
108K Crane/ 4/ 54	Top slab	39.0	65.0
100K Clane/ 4/ 54	Moment	39.0	03.0
120K Crane/ 5 / 60	Top slab	48.0	80.0
1201X Clane 3 / 00	Moment	70.0	00.0

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******************
*
                        BOX CULVERT DESIGN AND RATING
                                                                    335529
                                                                          *
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*******************
                        BOX CULVERT DESIGN AND RATING
                                                                      335529
PROGRAM P4356010
                                                            09/04/2014 14:38
VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\jyang\Desktop\NEWFOL~1\PBL040~1.DAT
PBL04001 SINGLE SPAN RIGID FRAME WITHOUT BOTTOM SLAB.
THE LOAD RATING IS BASED ON PREVIOUS LOAD RATING DATED 1996.
  STRUCTURE IDENTIFICATION
                               SPAN
CNTY
       SR
              SEGMENT OFFSET
                               ID
                                           STRUCTURE DESCRIPTION
      0000
                                    4001
00
               0000
                        0000
                               PBL0
          RUN
                 BOTTOM
                                 FISH
                                         LIVE
                                                NO OF
                                                        TOP
                                                               NO OF
                  SLAB
                         HAUNCH
                                                        SLAB
 METHOD
          TYPE
                                CHANNEL
                                         LOAD
                                                CELLS
                                                               LANES
                                           9
   LFD
                    Ν
                            Ν
                                                         М
                                     Page 1
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LOAD FACTORS BETA E BETA E WEIGHT FLUID GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 20.00 Y 1.0000 5 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 23.60 3.40 20.00 0.00 10.00 0.00 10.00 1.5 1.06
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 2 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 6.00 14.0 2 24.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 26.00 4.0 3 26.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 10.00 4.0 3 23.00 4.0 4 23.00 0.0
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00 Page 2

Page 2

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AXLE **DXIF** AXLE AXLE DIST NO. NO. LOAD DIST NO. LOAD LOAD DIST NO. LOAD DTST 8.00 14.0 2 32.00 14.0 3 32.00 0.0

SPECIAL LIVE LOADING 5

BOTTOM SIZE SPAC

0.000 4 9.0

AS

NUMBER

OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 5 6.00 4.00

AXLE AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 31.0 4 17.00 4.0

5 17.00 0.0

WALL REINFORCEMENT

WALL 1

1 WALL 2
TOP BOTTOM TOP
AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 7 9.0 0.000 4 9.0 0.000 7 9.0

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS DIST MOMENT THRUST SHEAR CAPAC 0.00 F DL+EPH 5.255 7.541 10.474 LL+I 5.664 4.096 OR IR REINF REINF 0.92 1.54 4@ 9.0 RATING TONS 13.82 23.08 3.40 F DL+EPH-11.058 6.988 25.542 1.81 3.03 7@ 9.0 LL+I -7.984 4.096 RATING TONS 27.21 45.44

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH -5.320 7.716 10.492 0.91 1.52 4@ 9.0 LL+I -5.664 4.096 RATING TONS 13.70 22.87 Page 3

PBL04001_LFR_121613_Legal.OUT

3.40 F DL+EPH 11.150 7.164 25.546 1.80 3.01 7@ 9.0 LL+I 7.984 4.096

RATING TONS 27.05 45.17

SLAB 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPD-15.330 3.550 61.639 4.76 7.95 7@ 9.0 LL+I -9.724RATING TONS 71.44 119.30 5.934 23.226 1.46 V DL+EPF -5.889 2.92 4.88 7@ 9.0 0.000 5.915 LL+I 4.820 RATING TONS 43.85 73.23 11.80 F DL+EPH 25.196 2.944 61.549 1.46 2.44 7@ 9.0 LL+I 24.846 RATING TONS 21.95 36.65 -6.039 23.226 22.14 V DL+EPF -5.758 2.91 4.85 7@ 9.0 0.000 4.820 -5.915 $\mathsf{LL} + \mathsf{I}$ RATING TONS 43.59 72.79 23.60 F DL+EPD-15.391 3.550 7.94 61.639 4.76 7@ 9.0 LL+I -9.724RATING TONS 71.34 119.14

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 13.70 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 22.87 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH 5.255 7.541 10.502 0.44 0.74 4@ 9.0 LL+I 11.864 9.040 RATING TONS 14.60 24.37 7@ 9.0 3.40 F DL+EPH-11.058 6.988 25.554 0.87 1.45 LL+I -16.721 9.040 RATING TONS 28.61 47.78

WALL 2

CTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF **FACTORED EFFECTS** MOMENT THRUST 0.73 0.00 F DL+EPH -5.320 7.716 10.519 0.44 4@ 9.0 LL+I -11.8649.040 RATING TONS 14.46 24.15 3.40 F DL+EPH 11.150 7.164 25.558 0.86 1.44 7@ 9.0 Page 4

PBL04001_LFR_121613_Legal.OUT LL+I 16.721 9.040

RATING TONS 28.43 47.49

SLAB 1

RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS ULT REINF REINF MOMENT THRUST SHEAR CAPAC DIST IR OR 2.28 3.81 0.00 F DL+EPD-15.330 3.550 61.639 70 9.0 LL+I -20.275 RATING TONS 75.37 125.87 1.46 V DL+EPF -5.889 5.934 23.226 1.49 2.48 7@ 9.0 0.000 11.636 LL+I 3.208 49.04 81.90 RATING TONS 11.80 F DL+EPH 25.196 2.944 61.549 0.85 1.42 7@ 9.0 42.778 RATING TONS 28.04 46.83 22.14 V DL+EPF -5.758 -6.039 23.226 1.48 2.47 7@ 9.0 0.000 LL+I 3.208 -11.63648.74 81.40 RATING TONS 23.60 F DL+EPD-15.391 3.550 61.639 2.28 3.81 7@ 9.0 LL+I -20.275 RATING TONS 75.27 125.71

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 14.46 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 24.15 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC MOMENT THRUST OR REINF REINF DTST IR 0.00 F DL+EPH 5.255 7.541 10.444 0.43 0.73 4@ 9.0 11.930 8.123 LL+I RATING TONS 15.22 25.42 3.40 F DL+EPH-11.058 6.988 25.529 0.86 1.44 7@ 9.0 LL+I -16.815 8.123 RATING TONS 30.12 50.30

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH -5.320 7.716 SHEAR CAPAC IR OR REINF REINF 0.72 10.462 0.43 4@ 9.0 LL+I -11.930 8.123 RATING TONS 15.08 25.19 3.40 F DL+EPH 11.150 7.164 25.533 0.86 1.43 7@ 9.0 LL+I 16.815 8.123 RATING TONS 29.94 49.99 Page 5

SLAB 1

		DL+EPD-	MOMENT	THRUST	ECTS SHEAR	CAPAC	IR	FACTOR OR 3.75	REINF	
			20.032		RATIN	NG TONS	78.56	131.19		
1.46	٧		-5.889 1.996		5.934 11.319	23.226	1.53	2.55	7@ 9.0	0.000
		LLTI	1.990			NG TONS	53.47	89.29		
11.80	F		25.196 43.748	2.944		61.549	0.83	1.39	7@ 9.0	
		LLII	1317 10		RATIN	NG TONS	29.08	48.57		
22.14	٧		-5.758 1.996		-6.039 -11.319	23.226	1.52	2.54	7@ 9.0	0.000
		LLTI	1.990			NG TONS	53.14	88.75		
23.60	F		-15.391 -20.632	3.550		61.639	2.24	3.74	7@ 9.0	
			20.032		RATIN	NG TONS	78.46	131.02		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 15.08 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 25.19 TONS AT DISTANCE 0.00 IN WALL 2.

********* * LIVE LOAD RATING - SP-4 LOADING *

WALL 1

DIST 0.00 F DL+EPH LL+I	MOMENT	THRUST 7.541	SHEAR	CAPAC 10.550	IR 0.57	OR 0.95	ACTUAL REINF 4@ 9.0	
			RATIN	NG TONS	20.47	34.18		
3.40 F DL+EPH LL+I	-11.058 -13.127			25.575	1.11	1.85	7@ 9.0	
			RATIN	NG TONS	39.81	66.49		

WALL 2

	FACTO	DRED EFFI	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH	-5.320	7.716		10.567	0.56	0.94	4@ 9.0	
LL+I	-9.313	7.714						
			RATIN	IG TONS	20.28	33.87		
3.40 F DL+EPH	11.150	7.164		25.579	1.10	1.84	7@ 9.0	
LL+I								
			RATTN	IG TONS	39.57	66.08		
			10 (1 =1		55.5.	00.00		

Page 6

PBL04001_LFR_121613_Legal.OUT SLAB 1

			FACTO	RED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
			MOMENT						REINF	REINF
0.00	F			3.550		61.639	3.00	5.02	7@ 9.0	
		LL+I -	-15.413							
					RATIN	NG TONS	108.17	180.64		
1.46	٧					23.226	1.77	2.95	7@ 9.0	0.000
		LL+I	2.128		9.783					
					RATIN	NG TONS	63.63	106.27		
11.80	F	DL+EPH		2.944		61.549	1.10	1.83	7@ 9.0	
		LL+I	33.128				20 50	CE 07		
					RATIN	NG TONS	39.50	65.97		
22 14			F 7F0		6 020	22 226	1 76	2 02	70 0 0	0 000
22.14	V					23.226	1./6	2.93	7@ 9.0	0.000
		LL+1	2.129		-9.783		62.25	105 63		
					KAIIN	NG TONS	63.25	105.62		
22 60	_	DI EDD	15 201	2 550		C1 C20	2 00	г 01	70 0 0	
23.60	F	DL+EPD-		3.550		61.639	3.00	5.01	7@ 9.0	
		LL+I -	-13.413		DATT	IC TONC	100 02	100 40		
					KAIIN	NG TONS	108.02	100.40		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 20.28 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 33.87 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH 5.255 7.541 LL+I 7.889 5.967 CAPAC REINF REINF SHEAR IR OR 0.66 10.498 1.11 4@ 9.0 RATING TONS 26.58 44.40 3.40 F DL+EPH-11.058 6.988 25.553 1.30 2.18 7@ 9.0 LL+I -11.119 5.967 RATING TONS 52.14 87.07

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC MOMENT THRUST REINF REINF DIST IR OR 10.515 0.66 1.10 0.00 F DL+EPH -5.320 7.716 4@ 9.0 LL+I -7.889 5.967 RATING TONS 26.34 43.99 3.40 F DL+EPH 11.150 7.164 25.556 1.30 2.16 7@ 9.0 5.967 11.119LL+I RATING TONS 51.82 86.54

SLAB 1

Page 7

	PBL04001_LFR_121613_Legal.OUT										
				DRED EFF	FECTS	ULT	RATING		ACTUAL	SHEAR	
					SHEAR				REINF	REINF	
0.00	F	DL+EPD- LL+I -		3.550		61.639	3.47	5.80	7@ 9.0		
					RATIN	NG TONS	138.81	231.82			
1.46	٧		-5.889 1.686		5.934 7.772	23.226	2.22	3.72	7@ 9.0	0.000	
			1.000			NG TONS	88.99	148.62			
11.80	F	DL+EPH LL+I		2.944		61.549	1.30	2.17	7@ 9.0		
		LLTI	20.001		RATIN	NG TONS	51.93	86.72			
22.14	٧	DL+EPF	-5.758 1.686		-6.039 -7.772	23.226	2.21	3.69	7@ 9.0	0.000	
		LLTI	1.000			NG TONS	88.45	147.72			
23.60	F	DL+EPD-	-15.391	3.550		61.639	3.47	5.79	7@ 9.0		
		LLTI -	13.344		RATTN	IG TONS	138.63	231.51			

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                        BOX CULVERT DESIGN AND RATING
                                                                      335529
PROGRAM P4356010
                                                            02/16/2014 23:21
VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\Yang\Desktop\box\PBL04001\PBL040~2.DAT
PBL04001 SINGLE SPAN RIGID FRAME WITHOUT BOTTOM SLAB.
THE LOAD RATING IS BASED ON PREVIOUS LOAD RATING DATED 1996.
  STRUCTURE IDENTIFICATION
                               SPAN
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              SEGMENT OFFSET
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                                           STRUCTURE DESCRIPTION
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 METHOD
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P-BL04001 53 03/25/2021

PBL04001_LFR_121613_Permit.OUT
LOAD FACTORS BETA E BETA E WEIGHT FLUID GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 20.00 Y 1.0000 8 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 23.60 3.40 20.00 0.00 10.00 0.00 1.5 1.06
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 8 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 8.00 11.0 2 26.00 4.0 3 26.00 30.0 4 18.00 4.0 5 18.00 4.0 6 18.00 4.0 7 18.00 4.0 8 18.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 12.00 12.0 2 24.00 35.0 3 27.00 4.0 4 27.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 18.00 5.4 2 18.00 6.9 3 27.00 5.4 4 27.00 0.0
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE Page 2

Page 2

PBL04001_LFR_121613_Permit.OUT 6.00 4.00 AXLE AXLE AXLE
DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 12.0 2 17.00 4.0 3 17.00 28.0 4 22.00 4.0 AXIF NO. LOAD 1 12.00 5 22.00 0.0 SPECIAL LIVE LOADING 5 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 14.0 4 17.00 4.0

5 17.00 0.0 SPECIAL LIVE LOADING 6 NUMBER 3% GAGE PASSING OF AXLES INCR DISTANCE DISTANCE 6.00 4.00 SPECIAL LIVE LOADING 7 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 27.00 5.4 2 27.00 6.8 3 27.00 5.4 4 27.00 0.0 SPECIAL LIVE LOADING 8 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 WALL REINFORCEMENT WALL 1 WALL 2

BOTTOM TOP BOTTOM TOP

AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 4 9.0 0.000 7 9.0 0.000 4 9.0 0.000 7 9.0 Page 3

PBL04001_LFR_121613_Permit.OUT

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-8

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

		FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST			THRUST						REINF
0.00 F					10.517	0.34	0.57	4@ 9.0	
	LL+I	15.391	12.039			25 64	40.00		
				RATIN	IG TONS	25.64	42.82		
3.40 F	DI (EDII	11 050	6 000		25 561	0.67	1.12	70 0 0	
		-21.692			23.301	0.07	1.12	76 9.0	
	LLTI -	-21.092	12.039	RATIN	IG TONS	50.14	83.73		

WALL 2

0.00 F DL+EPH	MOMENT THRUST		IR		REINF REINF
		RATING TONS	25.41	42.43	
3.40 F DL+EPH	11.150 7.164 21.692 12.039		0.66	1.11	7@ 9.0
LLTI	21.032 12.033	RATING TONS	49.84	83.23	

SLAB 1

		DL+EPD-		THRUST	SHEAR	CAPAC	IR	FACTOR OR 2.98	REINF	
					RATIN	IG TONS	133.86	223.55		
1.46	٧	DL+EPF	-5.889 -5.934		5.934 13.002	23.226	1.33	2.22	7@ 9.0	0.000
			3.33.			IG TONS	99.75	166.58		
11.80	F		25.196 49.856	2.944		61.549	0.73	1.22	7@ 9.0	
					RATIN	IG TONS	54.69	91.33		
22.14	٧	DL+EPF	-5.758		-6.039	23.226 Page		2.21	7@ 9.0	0.000

PBL04001_LFR_121613_Permit.OUT LL+I -5.934-13.002RATING TONS 99.14 165.57 23.60 F DL+EPD-15.391 3.550 61.639 1.78 2.98 7@ 9.0 LL+I -25.947 RATING TONS 133.68 223.25 THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 25.41 TONS AT DISTANCE 0.00 IN WALL 2. THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 42.43 TONS AT DISTANCE 0.00 IN WALL 2. ********* * LIVE LOAD RATING - SP-2 LOADING * ********** WALL 1 CTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF FACTORED EFFECTS DIST MOMENT THRUST 0.00 F DL+EPH 5.255 7.541 LL+I 11.987 7.925 0.72 10.430 0.43 4@ 9.0 RATING TONS 19.43 32.45 3.40 F DL+EPH-11.058 6.988 0.86 25.523 1.43 7@ 9.0 LL+I -16.894 7.925 RATING TONS 38.53 64.34 WALL 2 **FACTORED EFFECTS** ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST IR OR 0.00 F DL+EPH -5.320 7.716 10.448 0.43 0.71 4@ 9.0 LL+I -11.987 7.925 RATING TONS 19.25 32.15 3.40 F DL+EPH 11.150 7.164 25.527 0.85 1.42 7@ 9.0 16.894 7.925 LL+I RATING TONS 38.29 63.95 SLAB 1 DIST MOMENT THRUST SHEAR CAPAC IR OR DETNIC SHEAR 0.00 F DL+EPD-15.330 3.550 LL+I -20.671 RATING TONS 100.81 168.36 5.934 23.226 1.46 V DL+EPF -5.889 1.54 2.57 7@ 9.0 0.000 LL+I 5.433 11.245 RATING TONS 69.20 115.56 11.80 F DL+EPH 25.196 2.944 61.549 0.82 1.37 7@ 9.0 44.264 LL+IRATING TONS 36.96 61.72 22.14 V DL+EPF -5.758 -6.039 23.226 1.53 2.55 7@ 9.0 0.000 LL+I 5.433 -11.245RATING TONS 68.78 114.86 Page 5

	PBL04001_LFR_121613_Permit.OUT	
23.60 F DL+EPD-15.391 3 LL+I -20.671	.550 61.639 2.24 3.74 7@ 9.	0
LL+1 -20.071	RATING TONS 100.68 168.14	
THE INVENTORY RATING I	S GOVERNED BY MOMENT.	
THE MINIMUM INVENTORY	RATING IS 19.25 TONS AT DISTANCE 0.00	IN WALL 2.
THE OPERATING RATING I THE MINIMUM OPERATING	S GOVERNED BY MOMENT. RATING IS 32.15 TONS AT DISTANCE 0.00	IN WALL 2.

**	*********	
	WALL 1	
FACTORE DIST MOMENT TH	D EFFECTS ULT RATING FACTOR ACTUA RUST SHEAR CAPAC IR OR REIN .541 10.510 0.37 0.62 4@ 9.	L SHEAR F REINF
0.00 F DL+EPH 5.255 / LL+I 14.262 11	.341 10.510 0.37 0.62 4@ 9. .030 RATING TONS 16.58 27.69	U
2 40 F DI (FDI) 11 050 - 6	.988 25.558 0.72 1.20 7@ 9.	0
LL+I -20.102 11		U
	RAILING TONS SZ. TO ST. ZI	
	WALL 2	
DIST MOMENT TH	D EFFECTS ULT RATING FACTOR ACTUA RUST SHEAR CAPAC IR OR REIN	F REINF
0.00 F DL+EPH -5.320 7 LL+I -14.262 11	.716 10.527 0.37 0.61 4@ 9. .030	0
	RATING TONS 16.43 27.44	
3.40 F DL+EPH 11.150 7 LL+I 20.102 11	.030	0
	RATING TONS 32.26 53.88	
	SLAB 1	
		L SHEAR F REINF
0.00 F DL+EPD-15.330 3 LL+I -23.985		
251303	RATING TONS 86.88 145.10	
1.46 V DL+EPF -5.889 LL+I -1.929	5.934 23.226 1.30 2.16 7@ 9. 13.346	0 0.000
11.80 F DL+EPH 25.196 2	RATING TONS 58.31 97.37	

-6.039 23.226

-13.346

22.14 V DL+EPF -5.758 LL+I -1.929

23.60 F DL+EPD-15.391 3.550

RATING TONS 34.84 58.18

RATING TONS 57.95 96.78

61.639 1.93

Page 6

58

1.29

2.15 7@ 9.0 0.000

3.22 7@ 9.0

PBL04001_LFR_121613_Permit.OUT

LL+I -23.985

RATING TONS 86.77 144.91

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 16.43 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 27.44 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

		FACTO	RED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST								REINF	REINF
0.00 F	DL+EPH	5.255	7.541		10.430	0.53	0.88	4@ 9.0	
L	_L+I	9.767	6.457						
				RATI	NG TONS	23.85	39.82		
3.40 F D					25.523	1.05	1.75	7@ 9.0	
L	_L+I -	-13.766	6.457						
				RATI	NG TONS	47.28	78.96		

WALL 2

			FACTO	DRED EFFI	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST			MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00	F	DL+EPH	-5.320	7.716		10.448	0.53	0.88	4@ 9.0	
	LL+1	LL+I	-9.767	6.457						
					RATIN	NG TONS	23.63	39.46		
3.40	F	DL+EPH	11.150	7.164		25.527	1.04	1.74	7@ 9.0	
	LL+I	13.766	6.457							
					RATIN	NG TONS	47.00	78.48		

SLAB 1

			MOMENT -15.330		SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
			101013		RATIN	NG TONS	123.73	206.62		
1.46	٧		-5.889 4.427		5.934 9.163	23.226	1.89	3.15	7@ 9.0	0.000
		LLII	7.727			NG TONS	84.92	141.82		
11.80	F	DL+EPH LL+I	25.196 36.067	2.944		61.549	1.01	1.68	7@ 9.0	
			301007		RATIN	NG TONS	45.36	75.74		
22.14	٧	DL+EPF LL+I			-6.039 -9.163	23.226	1.88	3.13	7@ 9.0	0.000
		LLII	7.727			NG TONS	84.41	140.96		
23.60	F	DL+EPD-		3.550		61.639	2.75	4.59	7@ 9.0	
			10.013		RATIN	NG TONS	123.56	206.35		

Page 7

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 23.63 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 39.46 TONS AT DISTANCE 0.00 IN WALL 2.

******* * LIVE LOAD RATING - SP-5 LOADING * *********

WALL 1

DIST 0.00 F	DL+EPH	MOMENT	THRUST 7.541	SHEAR	CAPAC	IR	FACTOR OR 1.11		
				RATIN	NG TONS	26.58	44.40		
3.40 F	DL+EPH	-11.058 -11.119			25.553	1.30	2.18	7@ 9.0	
		11.113	3.307	RATIN	NG TONS	52.14	87.07		

WALL 2

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL SHEAR
DIST							
0.00 F DL+EPH	-5.320	7.716		10.515	0.66	1.10	4@ 9.0
LL+I	-7.889	5.967					
			RATIN	IG TONS	26.34	43.99	
3.40 F DL+EPH	11.150	7.164		25.556	1.30	2.16	7@ 9.0
	11.119						
			RATIN	IG TONS	51.82	86.54	

SLAB 1

DICT									ACTUAL	
			-15.330		SHEAR			5.80	REINF 7@ 9.0	KEINF
			13.3		RATIN	IG TONS	138.81	231.82		
1.46	٧	DL+EPF LL+T			5.934 7.786	23.226	2.22	3.71	7@ 9.0	0.000
		LLTI	1.430			IG TONS	88.83	148.35		
11.80	F	DL+EPH LL+I		2.944		61.549	1.30	2.17	7@ 9.0	
		LLTI	20.001		RATIN	IG TONS	51.93	86.72		
22.14	٧		-5.758 1.498		-6.039 -7.786	23.226	2.21	3.69	7@ 9.0	0.000
		LL+I	1.430			IG TONS	88.29	147.45		
23.60	F	DL+EPD-		3.550		61.639	3.47	5.79	7@ 9.0	
		LL+1 -	-13.344		RATIN	IG TONS	138.63	231.51		

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THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 26.34 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 43.99 TONS AT DISTANCE 0.00 IN WALL 2.

* LIVE LOAD RATING - SP-6 LOADING *

WALL 1

DIST 0.00 F	DL+EPH	MOMENT	ORED EFF THRUST 7.541		CAPAC	IR		ACTUAL REINF 4@ 9.0	
	LL+I	12.202	9.338	RATIN	NG TONS	25.81	43.11		
3.40 F	DL+EPH-				25.555	0.84	1.41	7@ 9.0	
	LL+1 -	-17.198	9.338	RATIN	NG TONS	50.58	84.46		
					WALL 2	2			

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F DL+EPH	-5.320	7.716		10.522	0.43	0.71	4@ 9.0	
LL+I	-12.202	9.338						
			RATIN	IG TONS	25.58	42.71		
3.40 F DL+EPH	11.150	7.164		25.559	0.84	1.40	70 9.0	
	17.198				0.0.	2		
22.1		3.330	RATTN	IG TONS	50.27	83.95		

SLAB 1

		DL+EPD-	MOMENT -15.330	THRUST	SHEAR	CAPAC	IR	FACTOR OR 3.69	REINF	
		LL+I -	-20.977		RATIN	IG TONS	132.46	221.20		
1.46	٧					23.226	1.45	2.42	7@ 9.0	0.000
		LL+1	3.698			IG TONS	86.92	145.15		
11.80	F	DL+EPH		2.944		61.549	0.82	1.37	7@ 9.0	
		LLTI	44.333		RATIN	IG TONS	49.13	82.05		
22.14	٧		-5.758 3.698			23.226	1.44	2.40	7@ 9.0	0.000
		LL+I	3.096	_		IG TONS	86.39	144.27		
23.60	F	DL+EPD-		3.550		61.639	2.20	3.68	7@ 9.0	
		LLTI -	-20.977		RATIN	IG TONS	132.28	220.91		

THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 25.58 TONS AT DISTANCE 0.00 IN WALL 2. Page 9

PBL04001_LFR_121613_Permit.OUT

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 42.71 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

DIST 0.00	F	DL+EPH LL+I	FACTO MOMENT 5.255 16.275	THRUST 7.541	SHEAR	ULT CAPAC 10.592	RATING IR 0.33	FACTOR OR 0.55	ACTUAL REINF 4@ 9.0	SHEAR REINF
					RATIN	NG TONS	17.71	29.57		
3.40			-11.058 -22.939			25.593	0.63	1.06	7@ 9.0	
		LLTI		11.330		NG TONS	34.22	57.14		
	WALL 2									
	FACTORED EFFECTS ULT RATING FACTOR ACTUAL S DIST MOMENT THRUST SHEAR CAPAC IR OR REINF F 0.00 F DL+EPH -5.320 7.716 10.608 0.32 0.54 4@ 9.0 LL+I -16.275 14.398									SHEAR
DIST			MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00	F	DL+EPH	-5.320	7.716		10.608	0.32	0.54	4@ 9.0	
			-10.273	14.330	RATIN	NG TONS	17.55	29.30		
3.40	F	DL+EPH	11.150	7.164		25.597	0.63	1.05	7@ 9.0	
		LL+1	22.939	14.398		NG TONS	34.01	56.79		
		SLAB 1								
						SLAB 1	L			
			FACTO				_	FACTOR	A CTUAL	CHEAD
DIST			FACT(ORED EFI	FECTS SHFAR	ULT	RATING	FACTOR OR	ACTUAL RETNE	SHEAR RETNE
DIST 0.00	F	DL+EPD-	MOMENT	THRUST	SHEAR	ULT CAPAC	RATING IR	OR 2 84	ACTUAL REINF 7@ 9.0	SHEAR REINF
DIST 0.00	F	DL+EPD- LL+I -	MOMENT	THRUST	SHEAR	ULT CAPAC	RATING IR	OR 2 84	ACTUAL REINF 7@ 9.0	SHEAR REINF
		LL+I -	MOMENT -15.330 -27.185	THRUST 3.550	SHEAR RATIN	ULT CAPAC 61.639 NG TONS	RATING IR 1.70 91.99	OR 2.84 153.62	REINF 7@ 9.0	REINF
		LL+I -	MOMENT -15.330 -27.185	THRUST 3.550	SHEAR RATIN 5.934 14.646	ULT CAPAC 61.639 NG TONS 23.226	RATING IR 1.70 91.99 1.18	OR 2.84 153.62 1.97	ACTUAL REINF 7@ 9.0	REINF
1.46	V	LL+I - DL+EPF LL+I	MOMENT -15.330 -27.185 -5.889 -4.777	THRUST 3.550	RATIN 5.934 14.646 RATIN	ULT CAPAC 61.639 NG TONS 23.226	RATING IR 1.70 91.99 1.18 63.75	OR 2.84 153.62 1.97 106.47	REINF 7@ 9.0 7@ 9.0	REINF
1.46	V	DL+EPF LL+I DL+EPH	MOMENT -15.330 -27.185 -5.889 -4.777	THRUST 3.550	RATIN 5.934 14.646 RATIN	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549	RATING IR 1.70 91.99 1.18 63.75 0.72	OR 2.84 153.62 1.97 106.47 1.21	REINF 7@ 9.0 7@ 9.0	REINF
1.46	V	DL+EPF LL+I DL+EPH	MOMENT -15.330 -27.185 -5.889 -4.777 25.196	THRUST 3.550	RATIN 5.934 14.646 RATIN	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549	RATING IR 1.70 91.99 1.18 63.75 0.72	OR 2.84 153.62 1.97 106.47	REINF 7@ 9.0 7@ 9.0	REINF
1.46 11.80	V F	DL+EPF LL+I DL+EPH LL+I	MOMENT -15.330 -27.185 -5.889 -4.777 25.196 50.319	THRUST 3.550	RATIN 5.934 14.646 RATIN	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549 NG TONS	RATING IR 1.70 91.99 1.18 63.75 0.72 39.01	OR 2.84 153.62 1.97 106.47 1.21 65.15	REINF 7@ 9.0 7@ 9.0	0.000
1.46 11.80	V F	DL+EPF LL+I DL+EPH LL+I	MOMENT -15.330 -27.185 -5.889 -4.777 25.196 50.319	THRUST 3.550	SHEAR RATIN 5.934 14.646 RATIN RATIN -6.039 -14.646	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549 NG TONS	RATING IR 1.70 91.99 1.18 63.75 0.72 39.01 1.17	OR 2.84 153.62 1.97 106.47 1.21 65.15 1.96	REINF 7@ 9.0 7@ 9.0 7@ 9.0	0.000
1.46 11.80 22.14	V F V	DL+EPF LL+I DL+EPH LL+I DL+EPF LL+I	MOMENT -15.330 -27.185 -5.889 -4.777 25.196 50.319 -5.758 -4.777 -15.391	THRUST 3.550	SHEAR RATIN 5.934 14.646 RATIN -6.039 -14.646 RATIN	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549 NG TONS 23.226 NG TONS	RATING 1R 1.70 91.99 1.18 63.75 0.72 39.01 1.17 63.37	OR 2.84 153.62 1.97 106.47 1.21 65.15 1.96	REINF 7@ 9.0 7@ 9.0 7@ 9.0	0.000

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 17.55 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. Page 10

$$\operatorname{PBL04001_LFR}_121613_\operatorname{Permit.OUT}$$ THE MINIMUM OPERATING RATING IS 29.30 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

					WALL 1	L			
DIST 0.00 F	DL+EPH	MOMENT	THRUST 7.541					ACTUAL REINF 4@ 9.0	
		11.015	12.001	RATIN	IG TONS	21.83	36.46		
3.40 F	DL+EPH-				25.590	0.70	1.18	7@ 9.0	
	LL+1 -	-20.642	12.601	RATIN	IG TONS	42.24	70.54		
					WALL 2	2			
DIST 0.00 F	DL+EPH LL+I -	MOMENT -5.320	7.716	SHEAR	CAPAC	IR	OR	ACTUAL REINF 4@ 9.0	SHEAR REINF
	LLTI	-14.043	12.001	RATIN	IG TONS	21.63	36.13		
3.40 F	DL+EPH	11.150	7.164 12.801		25.593	0.70	1.17	7@ 9.0	
	LL+I	20.042	12.001		IG TONS	41.98	70.11		
					SLAB 1	L			
DIST 0.00 F	DL+EPD-	-15.330	ORED EFF THRUST 3.550	FECTS SHEAR	ULT CAPAC	RATING IR	FACTOR OR 3.16	ACTUAL REINF 7@ 9.0	SHEAR REINF
DIST 0.00 F	DL+EPD-	FACT0 MOMENT -15.330 -24.479	ORED EFF THRUST 3.550	FECTS SHEAR RATIN	ULT CAPAC 61.639	RATING IR 1.89	3.16	ACTUAL REINF 7@ 9.0	SHEAR REINF
0.00 F	DL+EPD- LL+I -	-15.330 -24.479	3.550	RATIN	ULT CAPAC 61.639	RATING IR 1.89 113.51	3.16 189.56	ACTUAL REINF 7@ 9.0	
0.00 F	DL+EPD-	-15.330 -24.479	3.550	RATIN 5.934 13.118	ULT CAPAC 61.639 NG TONS 23.226	RATING IR 1.89 113.51	3.16 189.56 2.20	7@ 9.0	
0.00 F 1.46 V 11.80 F	DL+EPF LL+I DL+EPF LL+I	-15.330 -24.479 -5.889 -4.377 25.196	3.550	RATIN 5.934 13.118 RATIN	ULT CAPAC 61.639 NG TONS 23.226	RATING IR 1.89 113.51 1.32 79.09	3.16 189.56 2.20 132.08	7@ 9.0	
0.00 F 1.46 V 11.80 F	DL+EPF LL+I	-15.330 -24.479 -5.889 -4.377 25.196	3.550	RATIN 5.934 13.118 RATIN	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549	RATING IR 1.89 113.51 1.32 79.09	3.16 189.56 2.20 132.08 1.34	7@ 9.0 7@ 9.0	
0.00 F 1.46 V 11.80 F	DL+EPF LL+I DL+EPF LL+I DL+EPH LL+I	-15.330 -24.479 -5.889 -4.377 25.196 45.383	3.550 2.944	RATIN 5.934 13.118 RATIN RATIN -6.039	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549	RATING IR 1.89 113.51 1.32 79.09 0.80 48.06	3.16 189.56 2.20 132.08 1.34 80.26	7@ 9.0 7@ 9.0	0.000
0.00 F 1.46 V 11.80 F	DL+EPF LL+I DL+EPF LL+I DL+EPH LL+I	-15.330 -24.479 -5.889 -4.377 25.196 45.383	3.550 2.944	RATIN 5.934 13.118 RATIN RATIN -6.039 -13.118	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549 NG TONS 23.226	RATING IR 1.89 113.51 1.32 79.09 0.80 48.06	3.16 189.56 2.20 132.08 1.34 80.26 2.19	7@ 9.0 7@ 9.0 7@ 9.0	0.000
0.00 F 1.46 V 11.80 F	DL+EPF LL+I DL+EPH LL+I DL+EPF LL+I DL+EPF	-15.330 -24.479 -5.889 -4.377 25.196 45.383 -5.758 -4.377	3.550 2.944	RATIN 5.934 13.118 RATIN -6.039 -13.118 RATIN	ULT CAPAC 61.639 NG TONS 23.226 NG TONS 61.549 NG TONS 23.226 NG TONS	RATING IR 1.89 113.51 1.32 79.09 0.80 48.06 1.31 78.61	3.16 189.56 2.20 132.08 1.34 80.26 2.19 131.28	7@ 9.0 7@ 9.0 7@ 9.0	0.000

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Dead load

asphalt wearing surface, parapets, curbs = (4x6.5/12x2+0.75x12.5/12x2+2/12x26x)0.15 = 1.53 k/ft Equivalent overlay thickness:

1.53/35.5/0.15=0.29'=3.48"

Box5 Truck list:

Legal rating	Permit rating
SP-1 H 15	SP-1 150K
SP-2 T-3	SP-2 90K COMB.
SP-3 T-4	SP-3 90K CRANE
SP-4 HS20	SP-4 90K CARGO
SP-5 3S2	SP-5 80K CARGO
	SP-6 120K
	SP-7 108K
	SP-8 120K CRANE

Prince George's County



2021 ANNUAL BRIDGE INSPECTION REPORT March 25, 2021



BRIDGE NO. P-BL05001

VARNUM STREET

OVER

STREAM

Prepared by



Prince George's County

2021 ANNUAL BRIDGE INSPECTION REPORT

BRIDGE NO. P-BL05001

VARNUM STREET

OVER

STREAM

Prepared by



Inspection Team Leader: Dominick DeJohn. P.E.

Date

04/22/2021

Inspector: Jean C. Kubwayo, E.I.T.

Date

Professional Certification: I hereby certify that this document was prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 32608, Expiration Date: January 15, 2022.

Date

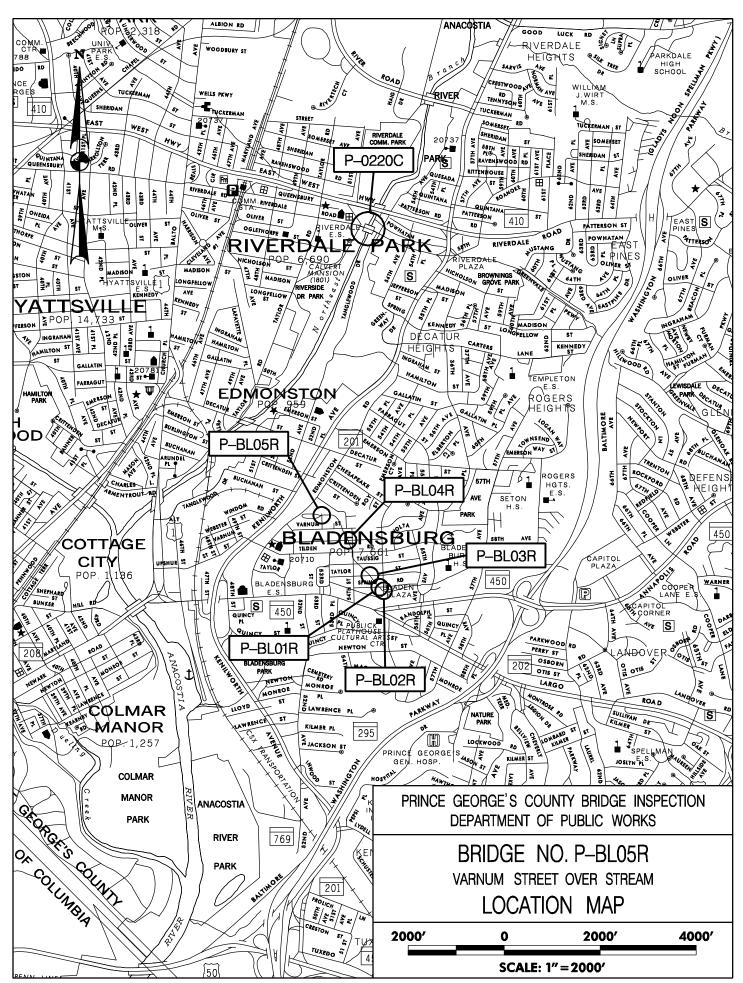
Robert A. Weaver, P.E.

Professional Engineer:

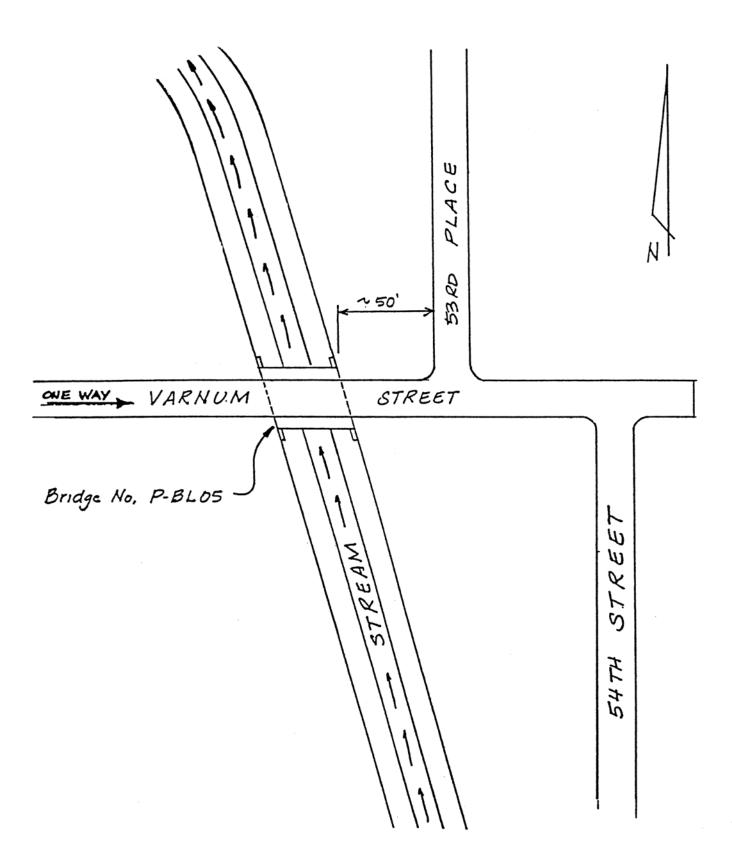
The condition report, load ratings and recommendations presented herein are based upon a visual inspection of accessible portions of the existing structure. No responsibility is assumed by KCI Technologies, Inc. for the presence of any latent structural defects that cannot be detected by such visual inspection.

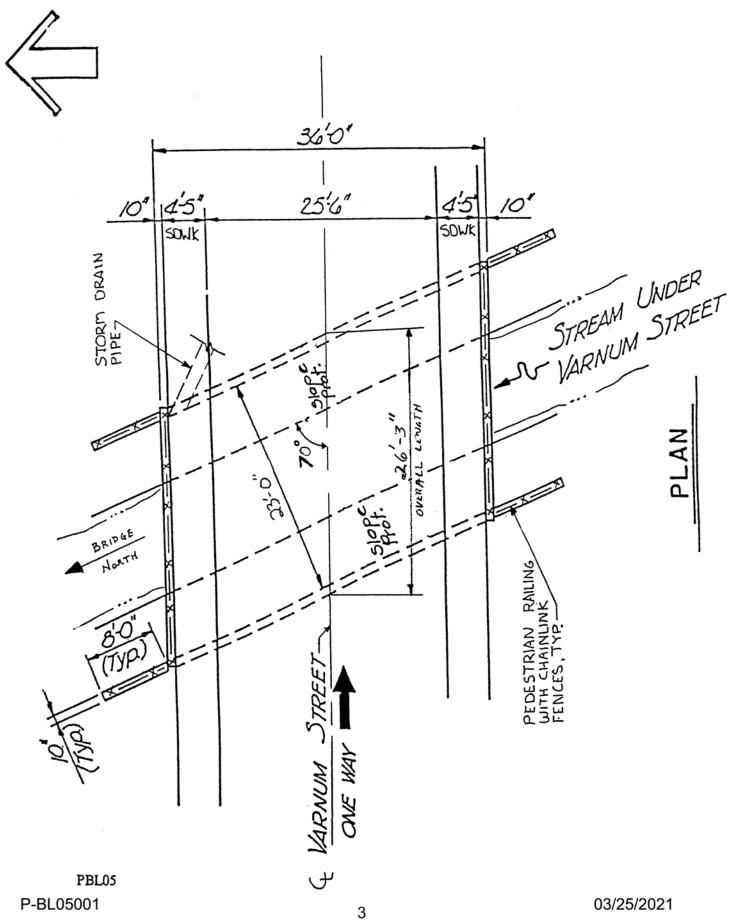
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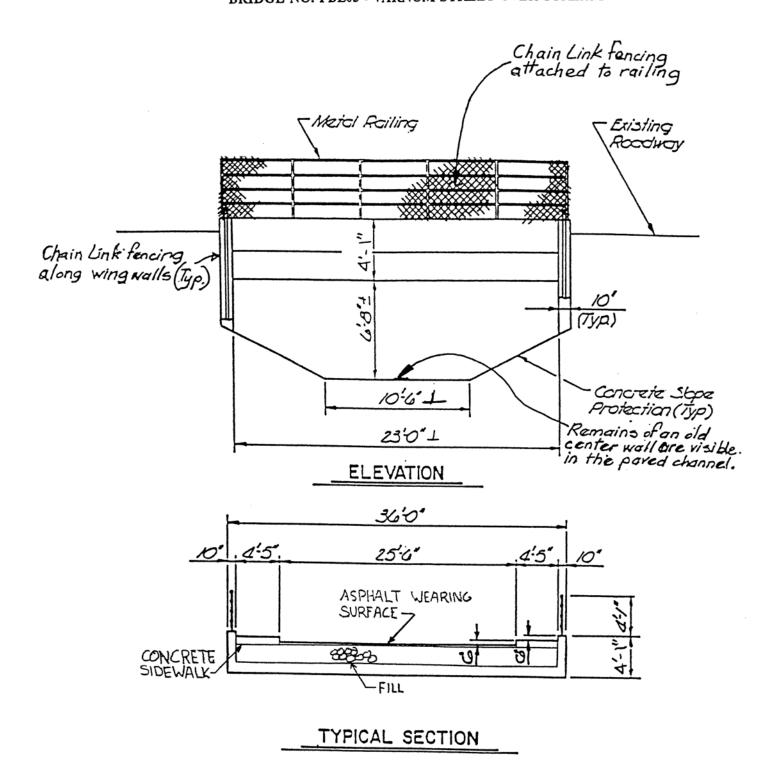


BRIDGE NO. PBL05 - VARNUM STREET OVER STREAM





BRIDGE NO. PBL05 - VARNUM STREET OVER STREAM



2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL05R **Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME** Year Built 1958 Name VARNUM STREET Crossing STREAM Photos 12 Inspection Date 03/12/2020 Inspection Crew D.DeJohn/J.Kubwayo **DESCRIPTION:** Single-span concrete rigid-frame bridge with an asphalt wearing surface. The substructure consists of concrete rigid frame wall abutments with concrete slope and channel protection. The bridge carries a two-lane roadway and two sidewalks. Stream flows from south to north under the bridge. The numbering convention for the bridge is from the north and the west. **OVERALL LENGTH:** 26'-3" **CLEAR ROADWAY:** 25'-6" YEAR BUILT: 1958 **POSTED LOAD:** YEAR REHABILITATED: SINGLE, LBS 6.000 lbs. G.V.W. and 6.000 lbs. G.C.W. **POSTED SPEED LIMIT:** COMBINATION, LBS -**25 MPH BEAM SPACING: MAP COORDINATES:** 12F6 **NUMBER OF BEAMS:** 5410B9 **SIZE OF BEAMS: ROADWAY APPROACHES:** Section 25'-6" wide asphalt roadway with two lanes. Alignment Both approaches are straight with a "T" intersection located 50' east of the bridge. **Profile** Down grade from west to east across the structure. **Traffic Barrier** There are no approach traffic barriers.

REVIEW OF ITEM 113 - SCOUR POTENTIAL RATING: 8P

Item 113 was originally rated an 8P, which indicates that the structure is a culvert type structure with a paved bottom. Based on the observed conditions, this rating is still valid and does not require reevaluation.

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge	No. P-BL05R	Bridge Type SINGLE-S	PAN CONCRETE RIG	SID-FRAME Year	Built 1958	
Name	VARNUM STRE	EET Crossing	STREAM		Photos	12
Inspec	tion Date 03/12	/2020	Inspection Crew	D.DeJohn/J.Kubwa	ayo	

REVIEW OF PREVIOUS REPORT:

A 2020 bridge inspection report prepared by KCI Technologies, Inc. was available and used for comparison purposes. The overall condition of the bridge appeared to be essentially the same as noted in the previous report (see "County Project Manager Notes).

PG COUNTY PROJECT MANAGER NOTES:

2020 Inspectors Note: The bridge posting of 6,000 lbs should be enforced. Several over-weight vehicles were observed parked on the one-way street, with no way out except to cross over the bridge.

2021: The bridge is to stay on a 12 Month Inspection Cycle; however, every other year (beginning in the current year) only the superstructure is to be inspected (per MDSHA) (i.e. In odd number years, only the superstructure is to be inspected vs. in even number years the inspection is to be of the full structure). Per this directive, only the superstructure was inspected during the 2021 Inspection.

LIVE LOAD RATINGS:

The load ratings were calculated in 2014 for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The load ratings for the Maryland Legal Load Vehicles are as follows:

<u>Truck</u>	Gross Vehicle Weight	<u>Inventory</u>	<u>Operating</u>
H-15	15 tons	03 tons	05 tons
HS-20	36 tons	04 tons	07 tons
Type 3	33 tons	03 tons	05 tons
Type 3S2	40 tons	06 tons	10 tons

The structure is currently posted for 6,000 lbs. for single-unit vehicles and 6,000 lbs. for combination-unit vehicles. Based on an SHA email dated 6/8/2015 the structure could be posted for 10,000 lbs. for single-unit vehicles and 15,000 lbs. for combination-unit vehicles; however, the Town of Bladensburg desires to retain the current posting. The inspection frequency shall remain on a 12-month cycle.

The recommendation for posting is based on operating values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. KCI Technologies, Inc. assumes no responsibility for correctness of these previous load rating calculations.

SI&A CONDITION RATING SUMMARY:

	<u>ltem</u>	<u>Current</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
Deck (Item 58) -		7	7	7	7

2021 BRIDGE INSPECTION REPORT INSPECTION AND RATING SUMMARY

Bridge No. P-BL05R Bridge Type SINGLE-	Year Buil	Year Built 1958						
Name VARNUM STREET Crossing STREAM Photos 12								
Inspection Date 03/12/2020 Inspection Crew D.DeJohn/J.Kubwayo								
Superstructure (Item 59) -	7	7	7	7				
Substructure (Item 60) -	7	7	7	7				
Channel and Channel Protection (Item 61) -	5	5	5	5				
Culvert (Item 62) -	N	N	N	N				
Waterway Adequacy (Item 71) -	7	7	7	7				
Approach Roadway Alignment (Item 72) -	8	8	8	8				
Bridge Sufficiency Rating (BSR) -	41.4	41.4	41.4	41.4				
Routine Inspection Frequency -	12 months	24 months	12	12				
Date of Inspection -	03/25/2021	03/12/2020	03/19/2019	03/12/2018				
Partial Interim Inspection Frequency -								

Load Rating Summary:

The load ratings were calculated in 2014 for the Maryland Legal Load and Permit Vehicles. The computations are included in this report. The load ratings for the Maryland Legal Load Vehicles and Permit Vehicles are as follows:

Vehicle	Gross Vehicle Weight	Inventory Rating (Tons)	Operating Rating (Tons)
HL-93	36 tons		
H-15	15 tons	03.0	05.0
T-3	33 tons	03.0	05.5
T-4	35 tons	03.5	05.5
HS-20	36 tons	04.5	07.5
T-3S2	40 tons	06.0	10.0
150K	75 tons	05.5	09.5
90K Permit	45 tons	04.0	07.0
90K Mobile Crane	45 tons	03.5	06.0
90K Cargo	45 tons	05.0	09.0
80K Cargo	40 tons	06.0	10.0
120K Vehicle	60 tons	05.5	09.5
108K Mobile Crane	54 tons	04.0	06.5
120K Mobile Crane	60 tons	05.0	08.0

The culvert is currently posted for 6,000 lbs. for single-unit vehicles and 6,000 lbs. for combination-unit vehicles. Based on an SHA email dated 6/8/2015 the culvert could be posted for 10,000 lbs. for single-unit vehicles and 15,000 lbs. for combination-unit vehicles; however, the Town of Bladensburg desires to retain the current posting. The inspection frequency shall remain on a 12-month cycle.

The recommendation for posting is based on operating values from previously computed load ratings. After reviewing the existing bridge condition, we have determined that no significant changes have occurred since the last rating was performed. Our review of current ratings is not a check of the methods used but is a comparison of present-day to previous bridge condition. KCI Technologies, Inc. assumes no responsibility for correctness of these previous load rating calculations.

2021 BRIDGE INSPECTION REPORT

Bridge	No. P-BL05	5R Bridge Type	e SINGLE-S	PAN CONCRETE RIGID-FRAME	Year Built 1958	
Name	VARNUM S	STREET	Crossing	STREAM	Photos	12
Inspec	tion Date 0	03/12/2020		Inspection Crew D.DeJohn/J	.Kubwayo	

BRIDGE INSPECTOR'S RECOMMENDATIONS FOR MAINTENANCE REPAIRS

	DESCRIPTION	COUNTY ITEM NUMBER	QUANTITY	UNIT COST	TOTAL COST
Imm	nediate:				
1	Install object markers at the northwest and southwest corners of the bridge.	81	2 EA	\$200/EA	\$400
2	Install bridge railings that meet current standards.	22	54 LF	\$100/LF	\$5,400
3	Install approach traffic barrier that meet current standards at all four corners of the bridge.	21	120 LF	\$100/LF	\$12,000
4		20	4 EA	·	
4	Install MDSHA Type-G end treatments. Subtotal (Immediate Items)	20	4 EA	\$1150/EA	\$4,600 \$22,400
Rou	tine:				
1	Repair the spall in the Northwest Wingwall.	3	1 CF	\$350/CF	\$350
2	Seal the cracks in the concrete slope protection.	6	16 LF	\$40/LF	\$640
3	Repair the undermined and settled areas of the Northwest and Northeast Sidewalks.	99	12 CF	\$60/CF	\$720
4	Repair the chain link fence and posts at the northwest, southwest, and northeast corners of the bridge.	101	15 LF	\$50/LF	\$750
5	Repair the differential settlement between panels of the sidewalk.	7	8 LF	\$30/LF	\$240
6	Seal the cracks in the asphalt wearing surface.	13	3 LF	\$25/LF	\$75
7	Repair the spalls and undermined areas in the concrete slope protection and wingwalls.	6	12 SF	\$35/SF	\$420
	Subtotal (Routine Items)				\$3,195
Pre	ventative:				
1	Enforce the bridge posting limit.		0	/	\$0
	Subtotal (Preventative Items)				\$0
				Totalı	¢05 505

Total: \$25,595

Immediate Repairs - Severe Defects that may affect the serviceability of the structure or are missing safety features that present a hazard to the public. Immediate repairs should be scheduled within 12 months of notification.

Routine Repairs - Moderate defects that do not presently affect the serviceability of the structure. Routine repairs should be scheduled, and given priority, within the current maintenance schedule.

Preventative Repairs - Minor defects that do not presently affect the serviceability of the structure. Preventative repairs should be scheduled within the current maintenance schedule.

2021 BRIDGE INSPECTION REPORT GEOMETRY

			GEOMETRI		
	Bridge No. P-BL05R		Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME	ME Year Built 1958	958
	Name VARNUM STREET		Crossing STREAM	Photos	os 12
	Inspection Date 03/12/2020	e 03/12/2020	Inspection Crew D.DeJohn/J.Kubwayo	hn/J.Kubwayo	
		NEW ADC	OLD ADC		
MAP COORDINATE		5410B9	12F6		
SKEW WITH HORIZONTAL (DEGREES)	AL (DEGREES)	20			
STRUCTURE TYPE		1			
OVERALL LENGTH		26'-3"			
NO. OF SPAN		0001	NO. OF CELLS		
SPAN LENGTH		S024S			
VERTICAL CLEARANCE		A - < 10'			
OUT-TO-OUT (FEET)		0360			
ROADWAY WIDTH (FEET)	_	25'-6"			
APPROACH ROADWAY WIDTH	WIDTH	00	025 00		
SHOULDER WIDTH		z	z		z
CURB/SIDEWALK WIDTH	_	044	044		
NO OF BEAMS		-			
SIZE OF BEAMS					
BEAM SPACINGS		1			
ABUTMENT TYPE	MATERIAL	1 - Concrete	TYPE 7 - Non-definable	nable	CODE 1 - Predominant Feature
ABUTMENT FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE 0 - None		CODE 0 - Entire Structure
PIER TYPE	MATERIAL	MATERIAL N - Not Applicable	TYPE		CODE
PIER FOOTING	MATERIAL	N - Not Applicable	TYPE OF PILE		CODE
WINGWALL TYPE	MATERIAL	MATERIAL 1 - Concrete	TYPE 3 - Cantilever	ər	CODE 0 - Entire Structure
WINGWALL FOOTING	MATERIAL	1 - Concrete	TYPE OF PILE 0 - None		CODE 0 - Entire Structure
BEARING TYPE	1ST BEARIN	1ST BEARING N - None or N/A	2ND BEARING N - None or N/A		3RD BEARING N - None or N/A
SPAN OF CULVERT		z			
RISE OF CULVERT		z			

CIII VEDT WALL

Bridge	No. P-BL	.05R Bridge	Type SINGLE-S	PAN CONCRETE RIC	GID-FRAME	Year Built 1958
Name	VARNUM	1 STREET	Crossing	STREAM		Photos 12
Inspect	ion Date	03/12/2020		Inspection Crew	D.DeJohn/	J.Kubwayo
58	DECK		CONDITION RATING	l		

58 DECK	CONDITION RATING	
1. Wearing Surface	5	Type - Asphalt
2. Deck - Topside	-	
3. Deck - Underside	7	Type - Soffit/Top slab of rigid frame
4. Curbs	7	Type - Concrete
5. Median	-	
6. Sidewalks	6	Type - 4'-5" wide concrete
7. Parapets	7	Type - Concrete
8. Railing	7	Type - Four-strand Steel Pipe
9. Roadway Joints	-	
10. Drainage System	-	
11. Lighting Standards	-	
12. Utilities	-	Type - Overhead lines along the north side of the roadway
13. Other		
Inspector's Condition Rating	g (58) 7	

Elements in Item 58 were not inspected during the 2021 Inspection per MDSHA with the exception of Item 58.3.

- 58.1 There are sealed cracks that have failed and are open up to 1/2" wide. There are longitudinal, transverse and map cracks up to 1/4" wide in the asphalt wearing surface over the structure.
- 58.3 There are isolated hairline diagonal cracks throughout the underside of the slab. There are two hairline cracks that extend into the North Fascia of the slab and seven hairline cracks that extend into the South Fascia (see Photo 8). There is a 1'-0" high x 2'-0" wide area of water staining on the North Fascia (see Photo 9) and a 2'-0" wide x 2'-0" long area of water staining on the underside of the slab near mid-span. There are small areas of rust staining, scaling, and hairline map cracking with efflorescence at the north end of the slab (see Photo 10). There is a sealed full-width longitudinal crack on the underside of the slab near mid-span. There are four, approximately 2' long, hairline cracks with rust staining at the northeast corner of the slab. There is a 2 1/2" wide x 1" long x 1/4" deep spall with exposed reinforcement at the northeast corner and hairline map cracks at the northwest corner of the underside of the slab. There are two 3'-0" long diagonal hairline cracks with light efflorescence at the northwest corner of the slab. There are two approximately 7' long diagonal hairline cracks. One is located at the northwest corner and the other at the southeast corner of the slab. There are minor popout spalls in the south end of the slab.
- 58.4 There is a 1/8" wide vertical crack in the South Curb near the west end.
- 58.6 There is minor wear throughout the sidewalks. There is a full-width x 1/16" wide transverse

lame	VARNUM	STREET	Crossing	STREAM		Photos12
nspecti	ion Date	03/12/2020		Inspection Crew D.	DeJohn/J.Kul	bwayo

58.7 – There are vertical hairline cracks and water staining on the exterior faces of both parapets.

58.8 – The steel pipe railing has minor corrosion throughout. There is a chain link fence attached to both railings, there is minor corrosion throughout the chain link fence. There is vegetation growth at both ends of the North and South Fence.

58.12 – There are telephone poles in the Northwest and Northeast Sidewalks.

ame VARNUM	1 STREET	Crossing	STREAM	Ph	otos 12
spection Date	03/12/2020		Inspection Crew	D.DeJohn/J.Kubwayo	
59 SUPERS	TRUCTURE				
Numbe	r of Spans	1			
Type of	Construction	Con	crete Rigid-Frame		
		CONDITIO RATING	N		
1. Bearing Devi	ces	-			
2. Girders or Be	eams	-			
3. Stringers		-			
4. Floor Beams		-			
5. Diaphragms/0	Crossframes	-			
6. Paint		-			
7. Other		7	Type - Rigid f	rame top slab/Soffit	
8. Rivets or Bolt	ts	-			
9. Welds - Crac	ks	-			
10. Rust		-			
11. Timber Dec	ay	-			
12. Concrete Cr	racking	7			
13. Collision Da	mage	-			
14. Deflection U	Inder Load	8			
15. Alignment o	f Members	8			
16. Vibrations U	Inder Load	8			
17. Fracture Cri	tical Members				

59.7 - See comments for Item 58.3.

Bridge	No. P-BL	.05R Bridge Ty	pe SINGLE-S	PAN CONCRETE RIC	SID-FRAME Y	Year Built 1958	1	
Name	VARNUM	1 STREET	Crossing	STREAM		Photos_	12	
Inspect	tion Date	03/12/2020		Inspection Crew	D.DeJohn/J.K	Kubwayo		

60 SUBSTRUC	TURE	CONDITION	
		RATING	
1. Abutments	-Wingwalls	7	
	-Backwalls	-	
	-Stems	7	
	-Footings	-	
	-Piles	-	
	-Scour/Erosion	8	
	-Settlement	7	
Overall Abutme	ent Rating	7	Abutment Type - Concrete rigid-frame wall
2. Piers or Bents	-Caps	-	
	-Columns/Shaft	_	
	-Footings	-	
	-Piles	-	
	-Scour/Erosion	-	
	-Settlement	-	
Overall Pier Ra	ting	-	Pier Type
3. Pile Bents	-Caps	-	
	-Piles	-	
4. Concrete Crackir	ng or Spalling	7	
5. Steel Corrosion		-	
6. Timber Decay		-	
7. Other		5	Concrete Invert
8. Debris on Seats		_	
9. Paint		-	
10. Collision Dama	ge	-	
11. Overall Underm	nining/Scour	8	
Inspector's	Condition Rating	(60) 7	

Elements in Item 60 were not inspected during the 2021 Inspection per MDSHA.

60.1 – Wingwalls: There is vegetation overgrowth at all four wingwalls. There is an 8 1/2" wide x 7"

Bridge	No. P-BL05R B	ridge Type SINGLE-SI	PAN CONCRETE RIGID-	FRAME Year E	3uilt <u>1958</u>		
Name	VARNUM STREET	Crossing	STREAM		Photos	12	
Inspect	tion Date <u>03/12/20</u>	20	Inspection Crew D.I	DeJohn/J.Kubwa	ıyo		

high x 4" deep spall at the top of the Northwest Wingwall exposing the fence post anchorage. The Northwest Wingwall is undermined 10" long x 2" high x 3 1/2" deep adjacent to the abutment. The Southwest Wingwall joint at the West Abutment is open up to 2" wide and is slightly rotated.

Wingwall Fence: There are broken fence posts on top of all four wingwalls. The broken fence post on top of the Northeast Wingwall is not supporting the main fence. The top rail is disconnected at the Northwest, Southwest, and Southeast Wingwalls. The fence on the Southwest Wingwall has failed.

Abutments: There are minor spalls along the wingwall joints. Only the top 3'-0" of the abutment walls are exposed due to the concrete slope protection. There are isolated hairline vertical cracks in the abutments. There is graffiti throughout both abutments. There is light efflorescence at the weep hole in the West Abutment.

60.7 - The channel is lined with concrete in the vicinity of the bridge. The eastern half of the invert is heavily scaled with uneven concrete up to 4" high.

Bridge	No. P-BL05R	Bridge Type SINGLE-S	PAN CONCRETE RIGID-FRAME	Year Built 1958	
Name	VARNUM STRE	EET Crossing	STREAM	Photos_	12
Inspec	tion Date 03/12	2/2020	Inspection Crew D.DeJohn/J.k	Kubwayo	

61 CHANNEL AND CHANNEL PROTECTION

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

Inspector's Condition Rating (61)

Elements in Item 61 were not inspected during the 2021 Inspection per MDSHA.

- 61.1 There is a vertical differential up to 4 1/2" between sections of the concrete invert at the upstream end of the bridge.
- 61.5 The stream flows from south to north under the bridge. The channel is lined with concrete in the vicinity of the bridge. The eastern half of the invert is heavily scaled with random unsettled concrete portions remaining, causing the stream to flow mainly through the east side of the bridge.
- 61.8 Vegetation is growing in the joints, drains, and cracks throughout the channel and slope protection. There are isolated cracks up to 1/8" wide throughout the slope protection. There are spalls and heavy abrasion along the base of the slope protection, which is typically heavier at the joints.

Abutment Slope Protection: There is a vertical crack with efflorescence near mid-length of the West Abutment Slope Protection and minor efflorescence staining below the drainage pipe. There is a vertical crack with efflorescence at the north end of the East Abutment Slope Protection and patched areas at both ends. The patch at the south end of the East Slope Protection has a spall up to 1'-4" long x 8" high x full-depth.

Northwest Slope Protection: The joint at the Northwest Slope Protection has a 1 1/2" wide gap at the top and the adjacent slab is settled 1/2". There is a 10" long x 4" wide x 1" deep spall at the top of the Northwest Slope Protection, which is undermining the Northwest Wingwall 10" wide x 2" high x 3 1/2" deep. The patch at the Northwest Slope Protection has cracks up to 1/8" wide. There is a small tree growing between the Northwest Slope Protection and the Northwest Wingwall.

Northeast Slope Protection: There is a 1/8" wide diagonal crack with water leaking between the bottom of the Northeast Wingwall and the top of the Northeast Slope Protection. There is a 24" diameter drain outfall in the Northeast Slope Protection below the Northeast Wingwall with a 1'-2" wide x 7" high x 4" deep spall below the pipe, and an up to 1/16" wide diagonal crack and pop-out spalls adjacent to the

Bridge	No. P-BL05R E	Bridge Type SINGLE-S	PAN CONCRETE RIGID-FRAI	MEYear Bu	ilt 1958	i
Name	VARNUM STREE	T Crossing	STREAM	P	hotos_	12
Inspect	tion Date <u>03/12/2</u> 6	020	Inspection Crew D.DeJo	ohn/J.Kubwayo)	

pipe. There is a tree growing between Panels 1 and 2 of the Northeast Slope Protection.

Southwest Slope Protection: There is 2" settlement along the joint between the West Abutment Slope Protection and the Southwest Slope Protection. The top of the Southwest Slope Protection has been patched along the joint with the Southwest Wingwall and has a diagonal crack up to 1/8" wide and minor spalls. The patch is hollow sounding in several areas. There is an intermittent 1/8" wide horizontal crack with minor edge spalling in the mortar between the Southwest Slope Protection and the Southwest Wingwall. The Southwest Slope Protection is covered by heavy vegetation.

Southeast Slope Protection: There is a large tree growing between the Southeast Slope Protection and the Southeast Wingwall. The joint between the East Slope Protection and the Southeast Slope Protection is open up to 1 7/8" wide and settled up to 3". At the top of the slope, there is a 1/2" wide crack with up to 3" wide edge spalling. Approximately 10' from the bridge, there is a full-height x up to 1" wide crack with minor edge spalling in the Southeast Slope Protection and the adjacent concrete is offset up to 1" vertically. At the base of the crack, the slope is spalled and undermined up to 3'-0" wide x 3" high x 1'-10" deep. There is an up to a 1/4" wide horizontal crack in the Southeast Slope Protection.

Fence: There is moderate corrosion throughout the channel fences. There is heavy vegetation growth, and misalignments throughout the Northwest, Northeast and Southwest Fences.

Bridge No. P-BL05R Bridge	Type SINGLE-SF	PAN CONCRETE RIC	GID-FRAME	Year Built	1958
Name VARNUM STREET	Crossing	STREAM		Pho	otos 12
Inspection Date 03/12/2020		Inspection Crew	D.DeJohn/J	I.Kubwayo	
71 WATERWAY ADEQU	IACY				
Opening	Good	Fair	Poor		
Alignment	Good	Fair	Poor		
Frequency of Overtopping	Remote	Slight	Occasi	onal	Frequent
Inspector's Condition Rat	ting (71) 7				

Bridge N	o. P-BL	05R Bri				ONCRETE			Year Buil	t 1958	
lame <u>∨</u>	/ARNUM	STREET		Crossin	g STRE	AM			Ph	otos	12
nspectio	n Date	03/12/2020)		Inspe	ection Cre	ew D.I	DeJohn/J	l.Kubwayo		
					_						
72.4	DDDO	ACH ROA	DIA/A	/ A L I C N	IRAENI	r a ddd	AICA	I DATI	NC		
/2 A	PPRO	ACH KUP	DVAI	ALIGI	AINIEIA	APPR	AISA	LKAIII	NG		
1 Verti	cal Aligni	ment	W	Good	Fair	Poor	-Dow	narada fr	om west to	oast	
ı. veru	cai Aligili	пен	E	Good	Fair	Poor	-DOWI	igrade in	om west to	easi	
2 Horiz	zontal Ali	anment	W	Good	Fair	Poor	_"T" ir	ntarsactio	n 50' east o	of the	hridae
2. 110112	-Orital All	gilliont	E	Good	Fair	Poor	- 1 11	ilersectio	iii oo easi t	טו נוופ	bridge
3 Snee	ed Limit F	Reduction	No			bstantial					
•	t Distance			uate	Not Ad						
Ū					1401710	oquuto					
		ndition Rati		8							
APP	ROAC	H ROADV	VAY	CONDIT	ION						
				RATIN							
5. Appr	oach Tra	ffic Barrier		_							
6. Appr	oach Pav	vement		6							
7. Appr	oach Em	bankments		5							
8. Appr	oach Sla	bs		_							
9. Relie	f Joints			-							
10. Sigi	ning - Le	gibility and \	/isibility	Good	Fair	Poor	Туре	- Posting	Signs		
11a. Ro	oadway S	Speed Limit		25 N	1PH	11b. Post	ted Brid	lge Spee	d Limit		-
12. Pos	sted Load	l Limits		00 lbs. G. 000 lbs.		nd			-		
13. Tra	ffic Safet	y Features									
a. Bri	dge Raili	ng		0	1 N	Туре	- Four	-strand st	teel railing		
b. Tra	ansitions			0	1 N	Type	- No a	pproach	traffic barri	er	
c. Ap	proach T	raffic Barrie	r	0	1 N	Туре	- No a	pproach	traffic barri	er	
d. Ap	proach T	raffic Barrie	r Ends	0	1 N	Туре	- No a	pproach	traffic barri	er	

Elements in Item 72 were not inspected during the 2021 Inspection per MDSHA.

72.5 - There are no approach traffic barriers at the structure.

72.6 - Both roadway transitions are smooth. The West Approach has a full-width pavement joint open up to 1/4" wide at the transition. There are transverse, longitudinal and map cracks up to 1/2" wide in the East Approach roadway.

Northwest Sidewalk: There is embankment erosion at the northwest corner of the bridge that has

 Bridge No. P-BL05R
 Bridge Type SINGLE-SPAN CONCRETE RIGID-FRAME
 Year Built 1958

 Name
 VARNUM STREET
 Crossing STREAM
 Photos 12

 Inspection Date
 03/12/2020
 Inspection Crew D.DeJohn/J.Kubwayo

undermined the Northwest Approach Sidewalk 9'-5" long x up to 5" high x 1'-0" deep. There is 1 1/4" differential settlement between panels at the Northwest Sidewalk at the transition. There is a hairline transverse crack in Panel 3 from the bridge.

Northeast Sidewalk: The Northeast Sidewalk is undermined 2'-6" long x 2" high x up to 1'-6" deep at the transition to the bridge. There is $1 \, 1/4"$ differential settlement between sidewalk panels at the Northeast Sidewalk Transition.

Southwest Sidewalk: There is a drop-off up to 1'-3" high along the Southwest Sidewalk due to erosion adjacent to the bridge. No undermining is present.

Southeast Sidewalk: The Southeast Sidewalk is in good condition.

72.10 - Varnum Street is a one-way street from west to east. There are no object markers in place at the bridge. There is no load posting on the West Approach. The bridge is currently posted for 6,000 lbs for single-unit vehicles and 6,000 lbs for combination vehicles (see Photo 7).

There are advance load posting signs at the following locations. Northbound 51st Street at Varnum Street (see Photo 11) Eastbound Varnum Street at 51st Street (see Photo 12)

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL05R - VARNUM STREET OVER STREAM



1. West Approach (Looking East)



2. East Approach (Looking West)

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL05R - VARNUM STREET OVER STREAM



3. North Elevation (Looking South)



4. South Elevation (Looking North)

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL05R - VARNUM STREET OVER STREAM



5. Upstream (Looking South)



6. Downstream (Looking North)

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL05R - VARNUM STREET OVER STREAM



7. Northeast Load Posting Sign



8. Cracks in South Fascia Near Midspan

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL05R - VARNUM STREET OVER STREAM



9. Water Staining on North Fascia at Midspan



10. Typical Cracking and Efflorescence in Underside of Slab

2021 PRINCE GEORGE'S COUNTY BRIDGE INSPECTION REPORT BRIDGE NO. P-BL05R - VARNUM STREET OVER STREAM



11. Advance Posting Sign: Northbound 51st Street at Varnum Street



12. Advance Posting Sign: Eastbound Varnum Street at 51st Street

STRUCTURE INVENTORY AND APPRAISAL REPORT

BRIDGE NUMBER: P-BL05001

IDENTIFICATION			FORM 1 OF 13
(8) STRUCTURE NUMBER:	2 00000 Major Structure P-	BL05 01 Major Structure > 2	20' 0" 0 Single Structure
(8) FHWA NUMBER:			
(7) FACILITY CARRIED:	VARNUM STREET		
(6) FEATURE INTERSECTED:	STREAM		
(255) FEDERAL SUBMITTAL INDICA	TOR: Y Yes		
(262) NAME OF STRUCTURE:	VARNUM STREET		
(27) YEAR BUILT:	1958 (106) YE	AR RECONSTRUCTED: 1982	
(263) ADDITIONAL RECONSTRUCTION	ON YEARS: N		
(1) STATE CODE:	243 Maryland (2) DIST	RICT CODE: 03	03
(3) COUNTY CODE:	033 GEORGE'S (4) PLAC	CE CODE : 07850	
(5) INVENTORY ROUTE:	Route carried "on" 5 City Str the structure (Route Prefix		0 Always (Direction)
(9) LOCATION:	0.01 MI W OF 53RD PL		
(11) MILEPOINT:	0000050		
(12) BASE HIGHWAY NETWORK:	1 Inv. Route is NOT on the Base Netv	vork	
(266) GIS ROUTE ID:	16011MU0017001WW*******	*****	
(267) GIS MILEPOINT:	0.05		
(268) SCENIC ROUTE: N			
(13) LRS INVENTORY ROUTE, SUBR	OUTE NUMBER: 601700110	0000	
(16) LATITUDE: (A)	38563619 (B) 38563	3589 (C) 38563590	(D) 38563619
(17) LONGITUDE: (A)	076554012 (B) 07655	(c) 076553959	(D) 076553979
(28) LANES ON: 02 LANES UN	NDER: 00		
(42) TYPE OF SERVICE ON: 5	Highway-Pedestrian		
TYPE OF SERVICE UNDER: 5	Waterway		
(98) BORDER STATE:		RDER STATE'S SHARE %:	
(99) BORDER STATE'S NUMBER:			
CLASSIFICATION			FORM 2 OF 13
(104) HWY SYSTEM:	No, Inventory Route is not on the NHS	(103) TEMPORARY STRUCTURE:	
(105) FEDERAL LANDS HWYS:	Not applicable	(110) NATIONAL NETWORK:	No, the inventory route is not part of the national network for trucks.
(26) FUNCTIONAL CLASS:	9 Urban Local	(20) TOLL:	3 On free road
(100) DEFENSE HWY:	The inventory route is not a STRAHNET route	(21) MAINTENANCE:	O4 City or Municipal Highway Agency
(101) PARALLEL STRUCTURE:	No parallel structure	(22) OWNER:	O4 City or Municipal Highway Agency
(102) DIRECTION:	1 1-way traffic	(37) HISTORICAL SIGNIFICANCE:	5 Not eligible

BRIDGE NUMBER: P-BL05001

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(345) YEARS PAINTED:

FORM 3 OF 13 TRAFFIC (19) **DETOUR**: (109) TRUCK ADT %: 01 01 (30) ADT YEAR: (29) ADT: 000249 2018 (114) FUTURE ADT: (115) FUTURE ADT YEAR: 000369 2038 STRUCTURE TYPE AND MATERIAL **FORM 4 OF 13** (43) STRUCT TYPE: Concrete Α 07 Rigid Frame (44) STRUCT TYPE - APPR: Not Applicable Other 0 00 (232) BOX CULVERT ON PILES: None Entire Structure 0 0 | (208) STRUCT TYPE -Ν Ν Ν WIDENED/EXTENDED: (219) SLOPE PROTECTION: Concrete 1 (228) FOOTING - ABUTMENT: Concrete 0 None Entire Structure 1 0 (229) SUBSTRUCT ABUTMENT: Concrete 7 Non-definable Predominant Feature 1 1 (230) FOOTING - PIER: Ν Not Applicable (231) PIER TYPE: Not Applicable Ν None or N/A None or N/A (242) BEARING TYPE: Ν None or N/A Ν Ν (108) WEARING SURFACE: 6 **Bituminous** 0 None 0 None (243) JOINT TYPE: None Ν Ν None (206) STRUCT SUBTYPE - MAIN: Not Applicable (207) STRUCT SUBTYPE - APPR: Not Applicable Ν Ν (257) SCOUR PROTECTION: (270) CONC. DECK SPECIAL TYPE: 4 Not Applicable (221) STRUCTURAL STEEL: Not Applicable (233) DECK - COMP/NON-COMP: Non-Composite Ν 0 (107) DECK STRUCTURE TYPE: Concrete Cast-in-(259) STAY-IN-PLACE FORMS: Ν 1 (235) PARAPET: 02 Concrete-Rectangular Steel Other - None (236) RAILING: 3 0 None (237) **FENCING**: Straight Fence Steel 1 1 (278) PAINT SYSTEM: Not Applicable N (344) PAINT COLOR/NUMBER: Not Applicable

BRIDGE NUMBER: P-BL05001

GEOMETRICS							FOR	M 5 OF 13
(112) NBIS BRIDGE LENGTH:	Υ			(49) STRUCTU	RE LENGTH:	0000260		
(210) NUMBER OF SPANS:	0001			(45) # SPANS I	IN MAIN UNIT:	001		
(46) # APPROACH SPANS:	0000			(209) CONTINU	JOUS SPANS:	N		
(48) LENGTH MAX SPAN:	0024			(238) # STRING	GERS - ORIGINAL:	00		
(240) SPACING - ORIGINAL:	N			(239) # STRING	GERS - WIDENED:	00		
(241) SPACING - WIDENED:	N			(33) BRIDGE M	IEDIAN:	0		
(50) CURB/SIDEWALK WIDTHS:	044	044		(205) MEDIAN	WIDTH:	000		
(51) DECK CURB-CURB WIDTH:	0255			(32) APPROAC	CH ROAD WIDTH:	00 025	00	
(52) DECK OUT-OUT WIDTH:	0360			(10) INVENT R	OUTE, MIN VERT C	LEAR:	9999	
(53) BRIDGE ROADWAY, MIN VE	RTCLEAR:	9999		(47) INVENT R	OUTE, TOTAL HOR	RIZ CLEAR:	255	
(54) MIN. VERT. UNDERCLEARA	NCE:	N Fe	eature r	not a highway o	or a railroad	Α	< 10'	
(55) MIN. LAT. CLEARANCE (RIG	iHT):	N Fe	eature r	not a highway o	or a railroad	999		
(56) MIN. LAT. CLEARANCE (LEF	-T):	000		(342) HORIZ CI	LEARANCE (ON):		02506	
(34) SKEW, IN DEGREES: 2	0			(280) HORIZ CI	LEARANCE (UNDE	R):	N	
(35) STRUCTURE FLARED:	1			(253) NUMBER	OF CELLS:		N	
(256) SPAN OF CELLS:	N			(254) RISE:			N	
				(258) EARTH F	TLL:		N	
				(343) CENTER	LINE LENGTH (Cul	verts/Pipes):	N	
(223) SHOULDER WIDTHS:	N	N	N	N				
(264) TYPE AND SPAN:	RF 26'-3"							

BRIDGE NUMBER: P-BL05001

(70) POSTING:

LOAD RATINGS AND POSTINGS

FORM 6 OF 13

2013

(41) STATUS:	Р	Posted for load	(224) WEIGHT POSTED:	06 06
(31) DESIGN LOAD:	5	HS 20		(New Split)
(398) PEDESTRIAN LOADING:	N		(66) INVENTORY RATING:	045
(399) RAILROAD LOADING:	N		(64) OPERATING RATING:	075

(400) DATE OF RATING:

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

Greater than 39.9% below

	INVENTORY RATING		OPERAT	ING RATING
HL-93 Vehicle	(402)		(401)	
H-15 Vehicle	(404)	030	(403)	050
T3 (Dump Truck) Vehicle	(406)	030	(405)	055
T4 Reduced Lift Axle Vehicle	(408)	035	(407)	055
HS Vehicle	(410)	045	(409)	075
3S2 Vehicle	(412)	060	(411)	100
150K Vehicle	(414)	055	(413)	095
90K Permit Combination Vehicle	(416)	040	(415)	070
90K Mobile Crane Vehicle	(418)	035	(417)	060
90K Cargo Vehicle	(420)	050	(419)	090
80K Cargo Vehicle	(422)	060	(421)	100
120K Vehicle	(424)	055	(423)	095
108K Mobile Crane Vehicle	(426)	040	(425)	065
120K Mobile Crane Vehicle	(428)	050	(427)	080

(225) SPEED LIMIT ON STRUCTURE: Ν

(226) MIN VERT CLEARANCE OVER ROADWAY POSTED: Χ Posting signs not

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

required

BRIDGE NUMBER: P-BL05001

CONDITION INSPECTION

FORM 7 OF 13

	Inspection Month	(91) Frequency	Due Date	(90) Inspection D	ate (290) Inspection Report Completion Date
Routine Inspection	03	12	03/25/2022	03/25/2021	07/30/2019
Critical Feature Inspections	(291) Inspection Month	(92) Frequency	Due Date	(93) Critical Featu 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			<u> </u>
(N) Monitor		N			
(P) Flood					
(Q) Damages					
(R) Inquires					
(58) DECK:	7 Good Condition	(59) S	UPERSTRUCT	URE: 7	Good Condition
(60) SUBSTRUCTURE:	7 Good Condition	(61) C	HANNEL/PRO	TECTION: 5	Bank eroded major damage
(62) CULVERTS:	Not Applicable				
(310) INSPECTION DATA UPDATE	DATE: 02/18/2015	(312)	LEAD INSPEC	TOR: Dominick	DeJohn, P.E.
(311) INSPECTION TEAM:	YKCI	(313)	BRIDGE INSPE	ECTOR: Jean Kub	owayo, E.I.T.
(314) HOURS TO INSPECT: 003	(316) DECK P	LANKING %:	00 (31	15) DECK PUNCTU	IRES %: 00
(317) DECK PATCHING %: 00	(318) BLOCK	ING:	00 (31	19) POWER WASH	ING: N
(320) IDENTIFICATION NO.:	(321) INVENT	ORY DIRECTION:	EAST (32	23) PERMIT:	N
(324) NIGHT WORK:	(325) WEEKE	ND WORK:	N		
(322) LOOKING TOWARD: MD	295				
(326) MAINTENANCE OF TRAFFIC	STANDARDS: N				
(327) MOT COMMENTS:					
(328) LOCATION OF MIN. VERT. UNDERCLEARANCE:					

BRIDGE NUMBER: P-BL05001

(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:
W Waders
(333) MHOI: N (334) MHOI LOCATIONS:
(335) ADVANCED NOTIFICATION: N
(336) ADVANCED NOTIFICATION COMMENTS:

BRIDGE NUMBER: P-BL05001

APPRAISAL					FORM 8 OF 13
(67) STRUCTURAL EVALUATION:	2	BSR	(68) DECK GEOMETRY	:	2
(69) UNDERCLEARANCE:	N	41.4	(72) APPROACH ALIG	MENT:	8
(71) WATERWAY ADEQUACY:	7				
(00) 110 1110 0711 211	NGS: 0	Does NOT me	eet Standards		
FEATURES TRANSIT	ONS: 0	Does NOT me	eet Standards		
APPROACH BAR	RIER: 0	Does NOT me	eet Standards		
APPROACH BARRIER I	ENDS: 0	Does NOT me	eet Standards		
(113) SCOUR EVALUATION:	8P	Bridge is a cu	lvert-type structure with paved bottom.		
(DT) DEDUCT CODE:	Α				
(STAT) STATUS:	2	Functional	lly Obsolete		
NAVIGATION					FORM 9 OF 13
(38) NAVIGATION CONTROL:	0		(39) NAV VERT	CLEARANCE:	000
(40) NAV HORIZONTAL CLEARANC	E: 000	00			
(111) PIER/ABUTMENT PROTECTIO	N:				
(116) MIN NAV VERT CLEARANCE,	VERT LIFT	BRIDGE:			
(247) DESIGN YEAR STORM:	00	00	(248) RUN-OFF	Q : 000000	
(249) DRAINAGE AREA:	00	00000	(250) STRUCTU	RE IN TIDAL AREA	A: NO No
(251) HIGH WATER ELEVATION:	00	000			
(252) YEAR HIGH WATER ELEVATI	ON - LATES	T : 000	00		
HISTORY AND PROPOS	ED IMPF	ROVEME	NTS		FORM 10 OF 13
(201) CONTRACT NUMBERS:					
(203) SHA SPEC- YEAR:	0000	N N	N N		
(204) AASHTO SPEC-YEAR:	0000	N 1	N N		
(75) TYPE OF PROPOSED WORK:	31	1 (76) LENGTH OF IMPROVEMENT	: 000035	
(94) BRIDGE IMPROVE COST:	000306	(95) ROADWAY IMPROVE COST:	000031	
(96) TOTAL PROJECT COST:	000337	(97) YEAR OF IMPROVEMENT:	2007	

BRIDGE NUMBER: P-BL05001

(558) WITH NOISE BARRIER:

MISCELLANEOUS			FORM 11 OF 13
(244) SIGNS ON STRUCTURE:	N No	(245) BRIDGE ROADWY LIGHTING:	N No
(246) PROVISION FOR ROADWAY LIGHTING:	N No		
(260) UTILITIES - ON:		(261) UTILITIES - UNDER:	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
0 Not Applicable		0 Not Applicable	
REMARKS:			
NOISE BARRIER (501) TYPE:	AXIMUM HEIGHT:	(502) ALIGNMENT:	FORM 12 OF 13
(513) FEDERAL COLOR:		(514) STACKED PANELS:]
(515) NOISE BARRIER POST MATERIAL:		(516) ACCESS DOORS:	
(517) FIRE HYDRANTS:		(518) RETROFITS:	
(011,11121111111111111111111111111111111		(616)	
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:	

(559) PURPOSE:

Structure Inventory and Appraisal Sheet

NATIONAL BRIDGE INVENTORY -----STRUCTURE INVENTORY AND APPRAISAL **IDENTIFICATION** SUFFICIENCY RATING = 41.4 (1) STATE NAME:..... Maryland CODE...... STRUCTURE NO:..... 2-00000-P--BL05-01-0 (8)STATUS = 2 INV RTE (ON/UNDER):..... 1-5-1-00170-0 (5)CLASSIFICATION (2)STATE HIGHWAY DEPARTMENT DISTRICT:......... 03 (112) NBIS BRIDGE LENGTH:..... (3)COUNTY CODE:....... 033 (4) STATE CODE:. 07850 FTR INTRS:..... STREAM (6)FACILITY CARRIED:.....VARNUM STREET (7) LOCATION: 0.01 MI W OF 53RD PL (9)(11)(102) DIRECTION OF TRAFFIC:...... 1 BASE HIGHWAY NETWORK: 0 (103) TEMPORARY STRUCTURE:..... LATITUD 38563619. (17) LONGITUDE:... 076554012 BORDER BRIDGE STATE % Share..... BORDER BRIDGE STRUCT NO..... MAINTENANCE:04 STRUCTURE TYPE AND MATERIAL OWNER:......04 (43)STRUCTURE TYPE MAIN: MATERIAL HISTORICAL SIGNIFICANCE:..... 5 TYPE..... Α 07 (44) STRUCTURE TYPE APPR: MATERIAL **CONDITION** TYPE..... 00 (58) DECK:.... (45) NUMBER OF SPANS IN MAIN UNIT:..... SUPERSTRUCTURE: 7 SUBSTRUCTURE:......7 (107) DECK STRUCTURE TYPE...... 1 CHANNEL AND CHANNEL PROTECTION:..... 5 (108) WEARING SURFACE/PROTECTIVE SYSTEM: A) TYPE WEARING SURFACE: CODE:..... 6 LOAD RATING AND POSTING CODE:.... B) TYPE MEMBRANE: (31) DESIGN LOAD:..... C) TYPE DECK PROTECTION: CODE:.... (64) OPERATING RATING: 075 AGE AND SERVICE (27) YEAR BUILT:..... INVENTORY RATING: 045 (66)(106) YEAR RECONSTRUCTED..... 1982 BRIDGE POSTING:......0 (42) TYPE OF SERVICE: ON: (41) STRUCTURE OPEN, POSTED, OR CLOSED:..... P 5 UNDER...... CODE..... APPRAISAL (28) LANES: ON STRUCT 02 UNDER STRUCT: იი (67) STRUCTURAL EVALUATION:.... DECK GEOMETRY:......2 (30) YEAR OF ADT:..... **2018** (109) TRUCK ADT:..... (69) UNDERCLEARANCES, VERT AND HOR:..... N BYPASS, DETOUR LENGTH:.... (71) WATERWAY ADEQUACY:..... GEOMETRIC DATA (72) APPROACH ROADWAY ALIGNMENT:..... LENGTH OF MAXIMUM SPAN:.... (48)(113) SCOUR CRITICAL BRIDGES:...... 8P CURB/SIDEWALK: LFT 044 FT RGT: 044 (51) BRDG RDWY WIDTH CURB TO CURB....... 0255 FT PROPOSED IMPROVEMENTS DECK WIDTH OUT TO OUT..... 0360 FT (75) TYPE OF WORK:.... 1 (32) APPR RDWY WIDTH: 00 025 00 FT (76) LENGTH OF IMPROVEMENT:..... 000035 (33) BRIDGE MEDIAN:.... 0 (94) BRIDGE IMPROVEMENT COST:..... 306,000 20 DEG (35) STRUCT FLARED (34)SKEW: Ν (95) ROADWAY IMPROVEMENT COST:.... 31,000 (10) INV RTE MIN VERTICAL CLEAR:...... FT (96) TOTAL PROJECT COST:.... 337,000 (97) YEAR OF IMPROVEMENT COST EST:.... INV RTE TOT HORIZONTAL CLEAR:.. 255 FT MIN VERT CLEAR OVER BRDG RDW 9999 FT (54) MIN VERT UNDERCLEAR N Α FT (115) YEAR OF FUTURE ADT:.....

Bridge Inspection Report Element Form

Bridge No: P-BL05001							Inspection	on Date: 0	3/25/2021
VARNUM STREET OVE	R STREAM						Milepoin	t : 0	000050
(58) Deck	7	(59) Superstruct	ure 7	7	(6	0) Substru	cture 7	7
(61) Channel	5	(62) Culvert	N	Ī				
					_				
Element			Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
38 - Reinforced Cor	ncrete Slab		1 - Ben.	669	sq. ft.	636	25	8	0
□Eng Req	∏FYI		istrict		nacces	sible?		Eng Com	ıments
		⊔ט	istrict	'·	iiacc es	SIDIC :		Ling Com	iiiieiiis
high x 2'-0" wide ar underside of the sla efflorescence at the near mid-span. Th slab. There is a 2 map cracks at the r light efflorescence One is located at the	th Fascia of the slab area of water staining or ab near mid-span. The north end of the slab ere are four approximately wide x 1" long x 1/2" wide x 1" long x 1/2" the northwest corner and of the allow	n the Nor ere are s . There i ately 2' lo /4" deep e undersi r of the s	th Fascia and mall areas of its a sealed fuong hairline crapall with expede of the slab.	d a 2'-0" we rust stain all-width locacks with bosed reir are two ap	vide x 2' ing, sca ngitudir i rust sta iforcem are two proxima	'-0" long ar aling, and h nal crack or aining at th ent at the r 3' long dia ately 7' long	ea of wate nairline man n the unde ne northeas northeast of gonal hairling	r staining of cracking reside of the standard corner of corner and ine cracks hairline cr	on the with e slab f the hairline with acks.
spalls at the south				000	4	244		255	
510 - Wearing Surface				669	sq. ft.	314	0	355	0
☐Eng Req	□FYI		istrict		nacces	sible?		Eng Com	ments
	racks that are open up alt wearing surface ove			are up to	1/4" wid	e longitudi	nal, transv	erse and r	nap
215 - Reinforced Co	oncrete Abutment		1 - Ben.	72	ft.	64	8	0	0
☐Eng Req	□FYI	□D	istrict	I	nacces	sible?		Eng Com	ments
the concrete slope	alls along the joints wi protection. There are here is light efflorescei	isolated	hairline vertic	al cracks	in the a	abutments.			
330 - Metal Bridge F	Railing		1 - Ben.	52	ft.	24	28	0	0
☐Eng Req	□FYI	□D	istrict		nacces	sible?		Eng Com	ıments
	ng has minor corrosion oughout the chain link								
515 - Steel Protective (Coating			144	sq. ft.	74	70	0	0
☐Eng Req	□FYI	□D	istrict		nacces	sible?		Eng Com	ments
331 - Reinforced Co	oncrete Bridge Raili	ing	1 - Ben.	52	ft.	52	0	0	0
☐Eng Req	□FYI	□D	istrict		nacces	sible?		Eng Com	ments

Bridge Inspection Report Element Form

Bridge No: P-BL05001							Inspection	on Date: 0	3/25/2021
VARNUM STREET OVE	R STREAM						Milepoin	t : 0	000050
(58) Deck (61) Channel	7 5	(59) Sup (62) Culv	erstructure vert	7 N]	(6	0) Substru	cture 7	7
There are vertical h	nairline cracks and water	staining on	the exteric	r faces	of both	parapets.			
8062 - Sidewalk, Re			- Ben.	52	Ft.	47	4	1	0
☐Eng Req	□FYI	District	:	Ir	naccess	sible?		Eng Com	ıments
South Sidewalk. T	r throughout the sidewal he South Sidewalk has s the west end of the Nortl	ettled up to							
Curbs: There is a 1	/8" wide vertical crack in	the South (Curb near t	he wes	t end.				
8251 - Wingwalls, R	einforced Concrete	1 -	- Ben.	28	Ft.	26	0	2	0
☐Eng Req	□FYI	District		□lr	naccess	sible?		Eng Com	nments
Northwest Wingwa	overgrowth at all four w Il exposing the fence pos to the abutment. The So	t anchorage	e. The Nor	thwest	Wingwa	all is under	mined 10"	long x 2"	high x 3
8260 - Slope, Prote	cted	1 -	- Ben.	2	Each	0	2	0	0
☐Eng Req	□FYI	District		∐lr	naccess	sible?		Eng Com	ments
cracks up to 1/8" w slope protection, w Abutment Slope Pr Slope Protection ar efflorescence at the	ng in the joints, drains, a ide throughout the slope hich is typically heavier a otection: There is a vert and minor efflorescence side north end of the East A ast Slope Protection has	protection. It the joints. Ical crack watering below	There are ith built-up w the drain ope Protect	spalls a efflores age pip ion and	and hea scence be. The d patche	near mid-l re is a ver ed areas a	on along the ength of the tical crack	ne base of ne West Ab with built-	the outment up
	rotection: The joint at the								

Northwest Slope Protection: The joint at the Northwest Slope Protection has a 1 1/2" wide gap at the top and the adjacent slab is settled 1/2". There is a 10" long x 4" wide x 1" deep spall at the top of the Northwest Slope Protection, which is undermining the Northwest Wingwall 10" wide x 2" high x 3 1/2" deep. The patch at the Northwest Slope Protection has cracks up to 1/8" wide. There is a small tree growing between the Northwest Slope Protection and the Northwest Wingwall.

Northeast Slope Protection: There is a 1/8" wide diagonal crack with water leaking between the bottom of the Northeast Wingwall and the top of the Northeast Slope Protection. There is a 24" diameter drain outfall in the Northeast Slope Protection below the Northeast Wingwall with a 1'-2" wide x 7" high x 4" deep spall below the pipe, and an up to 1/16" wide diagonal crack and pop-out spalls adjacent to the pipe. There is a tree growing between Panels 1 and 2 of the Northeast Slope Protection.

Southwest Slope Protection: There is 2" settlement along the joint between the West Abutment Slope Protection and the Southwest Slope Protection. The top of the Southwest Slope Protection has been patched along the joint with the Southwest Wingwall and has a diagonal crack up to 1/8" wide and minor spalls. The patch is hollow sounding in several areas. There is an intermittent 1/8" wide horizontal crack with minor edge spalling in the mortar between the Southwest Slope Protection and the Southwest Wingwall. The Southwest Slope Protection is covered by heavy vegetation.

Southeast Slope Protection: There is a large tree growing between the Southeast Slope Protection and the Southeast P-BL05001 03/25/2021

Bridge Inspection Report Element Form

Bridge No: P-BL05001							Inspecti	on Date: (3/25/2021
VARNUM STREET OVE	R STREAM						Milepoir	nt: (000050
(58) Deck	7	(59)	Superstructu	ıre 7		(6	0) Substru	ıcture	7
(61) Channel	5	(62)	Culvert	N					
and settled up to 3' 10' from the bridge Protection and the undermined up to 3 Slope Protection.	t between the East Slop '. At the top of the slope , there is a full-height x i adjacent concrete is off 8'-0" wide x 3" high x 1'-	e, there up to 1" set up to 10" dee	is a 1/2" wide wide crack w o 1" vertically p. There is a	crack with minor At the langer	ith up to edge s pase of 1/4" wid	3" wide eopalling in the crack, de horizon	dge spallir he Southe the slope i tal crack ir	ng. Approx ast Slope s spalled a n the Soutl	ximately and
	oderate corrosion throug ughout the Northwest, N					eavy vege	tation grov	vth, and	
8322 - Roadway Ap	proach Transition		1 - Ben.	2	Each	2	0	0	0
☐Eng Req	□FYI		istrict		nacces	sible?		Eng Con	nments
Traffic barrier: The	re are no approach traffi	c barrie	ers at the struc	cture.					
	adway transitions are sr on. There are up to 1/2"								
Northwest Approac	k: There is embankmer th Sidewalk 9'-5" long x west Sidewalk at the tra	up to 5'	' high x 1'-0" c	deep. Th	ere is 1	1/4" differ	ential settl	ement bet	ween
	c: The Northeast Sidew s 1 1/4" differential settle								
Southwest Sidewal bridge. No underm	k: There is an up to 1'-a nining is present.	3" drop-	off along the	Southwe	st Sidev	valk due to	erosion a	djacent to	the
Southeast Sidewal	k: The Southeast Sidev	valk is iı	n good conditi	on.					
	eet is a one-way street for the West Approach. vehicles.								
Northbound 51st S	load posting signs at th treet at Varnum Street Street at 51st Street	e follow	ving locations.						
8342 - Fencing			1 - Ben.	52	Ft.	0	39	0	13
☐Eng Req	□FYI		istrict		nacces	sible?		Eng Con	nments
fence post on top of	k fence on the wingwall f the Northeast Wingwa est, and Southeast Wing	ll is not	supporting th	e main fe	ence. T	he top rail	is disconn		
8345 - Stream Chan	nel		1 - Ben.	0	Entire Bridge	0	0	0	0
∏Eng Reg	∏FYI	ים וֹם	istrict		nacces	sible?		⊥ ∃Eng Con	nments

Bridge Inspection Report Element Form

Bridge No: P-BL05001							Inspectio	on Date: 0	3/25/2021
VARNUM STREET OVE	R STREAM						Milepoint	t: 0	000050
(58) Deck	7	(59)	Superstructu	ıre 7		(6	0) Substru	cture 7	,
(61) Channel	5	(62)	Culvert	N					
The eastern half of to flow mainly throu	om south to north ur the invert is heavily gh the east side of t nvert is heavily scale	scaled with he bridge.	n random uns The channel i	ettled cor is lined w	ncrete p	ortions ren	naining, ca	using the	stream
8359 - Soffit (unders	side) of concrete	decks	1 - Ben.	1	Entire Bridge	0	1	0	0
☐Eng Req	□FYI	☐ Di	istrict		naccess	sible?		Eng Com	ments

See Element 38 - Reinforced Concrete Slab

APPROACH TRAFFIC BARRIER FORM 2021 BRIDGE INSPECTION REPORT

							-	Transition				Appr	Approach Traffic Barrier	arrier	Exist. End Treatment	Proposed End Treatment
Corners	Bridge Railings Meet MDSHA Standard		Approach Traffic Barrier Present	Traffic	Attached to Bridge	2	Thrie Beam Present	t a m	Gradually Stiffened		Post F	Rail Type	Post Type	Post Spacing	Туре	Туре
	>	z	>	z	>	z	>	z	<u>-</u> ≻	z						
-		×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)
7		×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)
က		×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)
4		×		×											None	Flared, Turned-Down (e.g. MDSHA Type G)

P-BL05R Bridge No.:

Prince George's County: **VARNUM STREET** Road Carried:

STREAM Crossing: D.DeJohn/J.Kubwayo

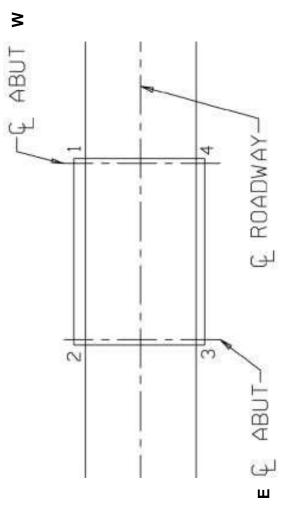
03/12/2020

Date Inspected:

Inspector:

Comments:

There are no approach traffic barriers at the structure.



Load Rating Standard Summary Sheet

Bridge No.: PBL05001 on VARNUM STREET over STREAM
Date of Rating: 12/13/2013 LARS Program: Yes No No Program Used: BOX5
Rating Method: LRFR LFR ASR Judgment Load Surface (in.)
Rating Type: As-Built As Inspected Condition Report Date: 03/05/2013
Comments/Defects/Assumptions: This Load Rating is based on the latest inspection report as noted above as well as a previous load rating dated 1996.

materials,	LRFR Design/Load Rating Vehicle (Lin Service II for Steel only, or Service III for prestressed cond		
	Rating Details	<u>Inventory</u>	Operating
Truck/ Axle/ Tons	Controlling Member	Limit State	Limit State
	Controlling Stress (Moment, Shear, Service)	Rating Factor	Rating Factor
III 02/2/26 Terra	enter controlling member (i.e. Sp. 1, Ext. Beam)	Limit State	Limit State
HL-93/3/36 Tons	Select the Controlling Stress	X.XX	X.XX

Legal Loads (F	For LRFR the Limit States are Strength I for all materials	or Service II for s	steel only)
Truck/ Axle/ Tons	Controlling Member	Inventory or Limit State	Operating
	Controlling Stress	Tons (XX.X)	Tons (XX.X)
H-15 / 2 / 15	Wall	3.0	5.0
H-15/2/15	Moment		3.0
T-3 / 3 / 33	Wall	3.0	5.5
1-3/3/33	Moment		3.3
T-4 / 4/ 35	Wall	3.5	5.5
1-4 / 4/ 33	Moment		3.3
HS-20 / 3 / 36	Wall	4.5	7.5
113-20 / 3 / 30	Moment		7.3
382 / 5 / 40	Wall	6.0	10.0
384/3/40	Moment		10.0

	Permit Loads - (For LRFR the Limit State is Strengt	h II)		
Truck/ Axle/ Tons	Controlling Member	Inventory	Operating	
Truck/ Axie/ Tolls	Controlling Stress (Moment, Shear, Service)	Tons (XX.X)	Tons (XX.X)	
15012 / 0 / 75	Wall	5.5	0.5	
150K / 8 / 75	Moment	5.5	9.5	
90K Comb./4/45	Wall	4.0	7.0	
90K Comb./ 4 / 45	Moment	4.0	7.0	
90K Crane / 4 / 45	Wall	3.5	6.0	
90K Crane / 4 / 45	Moment	3.3	6.0	
90K Cargo/ 5 / 45	Wall	5.0	9.0	
90K Cargo/ 5 / 45	Moment	3.0	9.0	
90V Cargo / 5 / 40	Wall	6.0	10.0	
80K Cargo/ 5 / 40	Moment	0.0	10.0	
1201/ Sman / 5 / 60	Wall	5.5	9.5	
120K Spec./ 5 / 60	Moment	3.3	9.3	
108K Crane/ 4/ 54	Wall	4.0	6.5	
	Moment	4.0	6.5	
1201/ Crons/5 / 60	Wall	5.0	9.0	
120K Crane/ 5 / 60	Moment	5.0	8.0	

```
PBL05001_LFR_121313_legal.OUT
******************
*
                        BOX CULVERT DESIGN AND RATING
                                                                   335529
                                                                          *
*
                                                                          *
                                                                          *
                             COPYRIGHT (C) 1990
                        COMMONWEALTH OF PENNSYLVANIA
                                                                          *
                                                                          *
                        DEPARTMENT OF TRANSPORTATION
                                                                          *
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       OF ANY DEFECT IN THE SOFTWARE OR ANY ACCOMPANYING DOCUMENTATION.
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                       BOX CULVERT DESIGN AND RATING
                                                                      335529
PROGRAM P4356010
                                                            02/26/2014 15:56
VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\jyang\Desktop\NEWFOL~1\PBL050~1.DAT
PBL05001 SINGLE SPAN RIGID FRAME WITHOUT BOTTOM SLAB.
LOAD RATING IS BASED ON PREVIOUS LOAD RATING DATED 1996.
  STRUCTURE IDENTIFICATION
                              SPAN
CNTY
              SEGMENT OFFSET
                               ID
                                           STRUCTURE DESCRIPTION
                                    5001
                               PBL0
          RUN
                 BOTTOM
                                 FISH
                                         LIVE
                                                NO OF
                                                        TOP
                                                              NO OF
                  SLAB
                         HAUNCH
                                                        SLAB
 METHOD
          TYPE
                                CHANNEL
                                         LOAD
                                                CELLS
                                                               LANES
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   LFD
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P-BL05001 42 03/25/2021

PBL05001_LFR_121313_legal.OUT LOAD FACTORS UNIT EQUIV f'c TOP
BETA E BETA E WEIGHT FLUID SLAB AT REBAR GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 5 0
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 23.60 3.15 20.00 0.00 10.00 0.00 10.00 1.4 4.30
BAR COVERS PRECAST TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR TOP BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 2.000 0.00 0.00
SPECIAL LIVE LOADING 1
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 2 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 6.00 14.0 2 24.00 0.0
SPECIAL LIVE LOADING 2
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 14.00 12.0 2 26.00 4.0 3 26.00 0.0
SPECIAL LIVE LOADING 3
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00
AXLE
SPECIAL LIVE LOADING 4
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 3 6.00 4.00 Page 2

Page 2

PBL05001_LFR_121313_legal.OUT

DXIF AXLE AXLE AXLE NO. LOAD DIST NO. DIST NO. LOAD LOAD DIST NO. LOAD DTST 8.00 14.0 2 32.00 14.0 3 32.00 0.0

SPECIAL LIVE LOADING 5

BOTTOM SIZE SPAC

0.000 4 9.0

AS

NUMBER

OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 5 6.00 4.00

AXLE AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 31.0 4 17.00 4.0

5 17.00 0.0

WALL REINFORCEMENT

WALL 1

1 WALL 2
TOP BOTTOM TOP
AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 7 9.0 0.000 4 9.0 0.000 7 9.0

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH 8.736 7.795 10.161 0.24 0.41 4@ 9.0 LL+I 5.816 4.107 RATING TONS 3.67 6.14

3.15 F DL+EPH-12.578 7.283 25.528 1.62 2.71 7@ 9.0 LL+I -7.982 4.107 RATING TONS 24.33 40.64

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 0.00 F DL+EPH -9.012 8.508 10.232 0.21 0.35 4@ 9.0 LL+I -5.816 4.107

RATING TONS 3.15 5.25 Page 3

PBL05001_LFR_121313_legal.OUT

3.15 F DL+EPH 12.957 7.996 25.544 1.58 2.63 7@ 9.0 LL+I 7.982 4.107

RATING TONS 23.65 39.50

SLAB 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 1.138 0.00 F DL+EPD-15.948 61.278 4.53 7.56 7@ 9.0 LL+I -10.016RATING TONS 67.89 113.37 1.46 V DL+EPF -6.058 6.250 23.226 2.87 4.79 7@ 9.0 0.000 LL+I 4.654 5.918 RATING TONS 43.03 71.86 11.80 F DL+EPH 27.680 0.477 61.179 1.36 2.28 7@ 9.0 24.588 II+TRATING TONS 20.44 34.13 -6.678 23.226 22.14 V DL+EPF -5.545 2.80 4.67 7@ 9.0 0.000 4.654 -5.918 $\mathsf{LL} + \mathsf{I}$ RATING TONS 41.94 70.04 23.60 F DL+EPD-16.217 1.138 61.278 4.50 7.51 7@ 9.0 LL+I -10.016RATING TONS 67.48 112.70

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 3.15 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 5.25 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC IR OR REINF REINF 10.168 0.12 0.20 0.00 F DL+EPH 8.736 7.795 4@ 9.0 12.178 9.049 LL+I RATING TONS 3.88 6.48 3.15 F DL+EPH-12.578 7@ 9.0 25.539 0.78 7.283 1.29 LL+I -16.713 9.049 RATING TONS 25.59 42.73

WALL 2

CTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC IR OR REINF REINF **FACTORED EFFECTS** MOMENT THRUST 0.00 F DL+EPH -9.012 8.508 0.17 10.238 0.10 4@ 9.0 LL+I -12.1789.049 RATING TONS 3.32 5.55 3.15 F DL+EPH 12.957 7.996 25.554 0.75 1.26 7@ 9.0 Page 4

PBL05001_LFR_121313_legal.OUT 16.713 9.049 LL+I

RATING TONS 24.87 41.54

SLAB 1

ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS IR REINF REINF MOMENT THRUST SHEAR CAPAC DIST OR 61.278 2.17 3.63 7@ 9.0 0.00 F DL+EPD-15.948 1.138 LL+I -20.883RATING TONS 71.63 119.63 1.46 V DL+EPF -6.058 6.250 23.226 1.46 2.43 7@ 9.0 0.000 11.645 LL+I 2.718 48.11 80.34 RATING TONS 11.80 F DL+EPH 27.680 0.477 61.179 0.79 1.32 7@ 9.0 42.246 RATING TONS 26.17 43.70 22.14 V DL+EPF -5.545 -6.678 23.226 2.37 1.42 7@ 9.0 0.000 LL+I 2.718 -11.64578.32 RATING TONS 46.90 23.60 F DL+EPD-16.217 1.138 61.278 2.16 3.60 7@ 9.0 LL+I -20.883RATING TONS 71.21 118.92

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 3.32 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

5.55 TONS AT DISTANCE 0.00 IN WALL 2. THE MINIMUM OPERATING RATING IS

> ********* * LIVE LOAD RATING - SP-3 LOADING * *********

WALL 1

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC MOMENT THRUST OR REINF REINF DTST IR 0.19 0.00 F DL+EPH 8.736 7.795 10.153 0.12 4@ 9.0 12.242 8.143 LL+I RATING TONS 4.05 6.76 3.15 F DL+EPH-12.578 7.283 25.516 0.77 1.29 7@ 9.0 LL+I -16.801 8.143 RATING TONS 26.95 45.01

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST 0.00 F DL+EPH -9.012 8.508 IR SHEAR CAPAC OR REINF REINF 10.225 0.10 0.17 4@ 9.0 LL+I -12.242 8.143 RATING TONS 3.47 5.79 3.15 F DL+EPH 12.957 7.996 25.532 0.75 1.25 7@ 9.0 16.801 8.143 LL+I RATING TONS 26.20 43.75 Page 5

SLAB 1

			MOMENT -15.948	THRUST	SHEAR	CAPAC	IR	FACTOR OR 3.56	REINF	
					RATIN	G TONS	74.71	124.76		
1.46	V		-6.058 1.489			23.226	1.50	2.50	7@ 9.0	0.000
		LLII	1.403			G TONS	52.45	87.59		
11.80	F			0.477		61.179	0.78	1.30	7@ 9.0	
		LLII	43.107		RATIN	G TONS	27.15	45.34		
22.14	٧		-5.545 1.489			23.226	1.46	2.44	7@ 9.0	0.000
		LLTI	1.403			G TONS	51.13	85.38		
23.60	F	DL+EPD-		1.138		61.278	2.12	3.54	7@ 9.0	
			21.237		RATIN	G TONS	74.26	124.02		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 3.47 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.
THE MINIMUM OPERATING RATING IS 5.79 TONS AT DISTANCE 0.00 IN WALL 2.

********* * LIVE LOAD RATING - SP-4 LOADING *

WALL 1

DIST 0.00 F DL+EPH LL+I	MOMENT	THRUST 7.795	SHEAR	CAPAC	IR		ACTUAL REINF 4@ 9.0	
			RATIN	IG TONS	5.45	9.10		
3.15 F DL+EPH	-12.578 -13.098			25.557	0.99	1.65	7@ 9.0	
22.1	13.030	, , ,	RATIN	IG TONS	35.67	59.57		

WALL 2

		FACTO	ORED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST		MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00 F	DL+EPH	-9.012	8.508		10.249	0.13	0.22	4@ 9.0	
	LL+I	-9.544	7.714						
				RATIN	NG TONS	4.67	7.79		
3.15 F	DL+EPH	12.957	7.996		25.572	0.96	1.61	7@ 9.0	
	LL+I	13.098	7.714						
				RATIN	NG TONS	34.67	57.90		

Page 6

PBL05001_LFR_121313_legal.OUT SLAB 1

		DL+EPD- LL+I -	MOMENT -15.948	THRUST	SHEAR	CAPAC	IR	OR	ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	102.80	171.68		
1.46	٧	DL+EPF	-6.058 1.727		6.250 9.782	23.226	1.74	2.90	7@ 9.0	0.000
		LLTI	1.727			IG TONS	62.48	104.33		
11.80	F	DL+EPH LL+T	27.680 32.784	0.477		61.179	1.02	1.71	7@ 9.0	
		LLII	32.704		RATIN	IG TONS	36.78	61.43		
22.14	٧	DL+EPF	-5.545 1.727		-6.678 -9.782	23.226	1.69	2.83	7@ 9.0	0.000
		LLTI	1.727			IG TONS	60.90	101.70		
23.60	F	DL+EPD-		1.138		61.278	2.84	4.74	7@ 9.0	
			13.074		RATIN	IG TONS	102.19	170.66		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 4.67 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 7.79 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

ULT RATING FACTOR ACTUAL SHEAR CAPAC IR OR REINF REINF FACTORED EFFECTS DIST MOMENT THRUST 0.00 F DL+EPH 8.736 7.795 LL+I 8.096 5.972 SHEAR 0.18 0.30 10.167 4@ 9.0 RATING TONS 7.07 11.81 3.15 F DL+EPH-12.578 7.283 25.537 1.17 1.95 7@ 9.0 LL+I -11.111 5.972 RATING TONS 46.65 77.91

WALL 2

FACTORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR SHEAR CAPAC MOMENT THRUST REINF REINF DIST IR OR 0.00 F DL+EPH -9.012 8.508 10.237 0.15 0.25 4@ 9.0 LL+I -8.096 5.972 6.05 RATING TONS 10.113.15 F DL+EPH 12.957 7.996 LL+I 11.111 5.972 25.553 1.13 1.89 7@ 9.0 RATING TONS 45.34 75.72

SLAB 1

Page 7

								gal.OUT		
								FACTOR		
								OR		REINF
0.00	F			1.138		61.278	3.30	5.51	7@ 9.0	
		LL+I -	-13.746							
					RATIN	IG TONS	131.91	220.29		
4 46			6 050		6 250	22 226	2 40	2 65	7 0 0 0	
1.46	V					23.226	2.18	3.65	7@ 9.0	0.000
		LL+I	1.351				07 21	145 00		
					KAIIN	IG TONS	87.31	145.82		
11 00	_	DI . EDII	27 600	0 477		C1 170	1 21	2 02	70 0 0	
11.80	F		27.652			61.179	1.21	2.02	70 9.0	
		LL+1	27.032		DATTN	C TONG	48.46	80 02		
					KAIIN	IG TONS	40.40	80.92		
22 1/	v	DI TEDE	_5 5/15		-6 678	23 226	2 13	3.55	70 9 0	0 000
22.17	٧					23.220	2.13	5.55	76 5.0	0.000
		LLII	1.551			IG TONS	85.11	142 14		
					10-(1-11)	10115	03.11	1 ,2,1,		
23.60	F	DI +FPD-	-16.217	1.138		61.278	3.28	5.47	70 9.0	
	•	LL+I -					2.20	2		
		· -			RATIN	IG TONS	131.13	218.98		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 6.05 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 10.11 TONS AT DISTANCE 0.00 IN WALL 2.



	MINIM	UM INV	ENTORY RAT:	MINIMUM OPERATING RATING					
LOAD	FACTOR	TONS	LOCATION	DIST	FACTOR	TONS	LOCATION	DIST	
SP-1	0.21 M	3.1	WALL 2	0.00	0.35 M	5.3	WALL 2	0.00	
SP-2	0.10 M	3.3	WALL 2	0.00	0.17 M	5.5	WALL 2	0.00	
SP-3	0.10 M	3.5	WALL 2	0.00	0.17 M	5.8	WALL 2	0.00	
SP-4	0.13 M	4.7	WALL 2	0.00	0.22 M	7.8	WALL 2	0.00	
SP-5	0.15 M	6.1	WALL 2	0.00	0.25 M	10.1	WALL 2	0.00	

RATING FACTOR CODES

M - MAXIMUM MOMENT STRENGTH GOVERNS S - MAXIMUM SHEAR STRENGTH GOVERNS

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                        BOX CULVERT DESIGN AND RATING
                                                                    335529
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       OF ANY DEFECT IN THE SOFTWARE OR ANY ACCOMPANYING DOCUMENTATION.
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                        BOX CULVERT DESIGN AND RATING
                                                                      335529
PROGRAM P4356010
                                                            02/16/2014 23:32
VERSION 5.8
                         LAST UPDATED 07/18/2002
                                                       DOCUMENTATION 05/1998
INPUT: C:\Users\Yang\Desktop\box\PBL05001\PBL050~2.DAT
PBL05001 SINGLE SPAN RIGID FRAME WITHOUT BOTTOM SLAB.
LOAD RATING IS BASED ON PREVIOUS LOAD RATING DATED 1996.
  STRUCTURE IDENTIFICATION
                               SPAN
CNTY
              SEGMENT OFFSET
                               ID
                                           STRUCTURE DESCRIPTION
                                    5001
                               PBL0
          RUN
                 BOTTOM
                                 FISH
                                         LIVE
                                                NO OF
                                                        TOP
                                                               NO OF
                  SLAB
                         HAUNCH
                                                        SLAB
 METHOD
          TYPE
                                CHANNEL
                                         LOAD
                                                CELLS
                                                               LANES
                                           9
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P-BL05001 50 03/25/2021

PBL05001_LFR_121313_permit.OUT	
LOAD FACTORS UNIT EQUIV f'C TOP BETA E BETA E WEIGHT FLUID SLAB AT REBAR GAMMA BETA D BETA L VERT HORZ E OR O PRESS f'C GRADE GRADE 1.30 1.00 1.67 1.00 1.30 120. 35.0 4000. 4000. 60.	Ξ
REBAR OR P W LIVE HEIGHT NO. WIRE OR OR DIA. C B SPECS ALPHA SURCH. FORCE FACTOR LL OUTPUT 0.875 C B 4 45. 2.00 Y 1.0000 8 0	
CLEAR CLEAR SLAB THICKNESS WALL THICKNESS HEIGHT % SPAN HEIGHT TOP BOTTOM LEFT INT RIGHT OF FILL GRADE 23.60 3.15 20.00 0.00 10.00 0.00 10.00 1.4 4.30	
BAR COVERS TOP SLAB BOTTOM SLAB OVERLAY SEGMENT TOP BAR BOT BAR BOT BAR WALLS THICKNESS LENGTH 2.000 2.000 0.00	
SPECIAL LIVE LOADING 1	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 8 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 8.00 11.0 2 26.00 4.0 3 26.00 30.0 4 18.00 4.0 5 18.00 4.0 6 18.00 4.0 7 18.00 4.0 8 18.00 0.0)
SPECIAL LIVE LOADING 2	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 12.00 12.0 2 24.00 35.0 3 27.00 4.0 4 27.00 0.0	
SPECIAL LIVE LOADING 3	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 4 6.00 4.00	
AXLE AXLE AXLE AXLE NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 1 18.00 5.4 2 18.00 6.9 3 27.00 5.4 4 27.00 0.0	
SPECIAL LIVE LOADING 4	
NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE Page 2	

Page 2

PBL05001_LFR_121313_permit.OUT 6.00 4.00 AXLE AXLE AXLE
DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST 12.0 2 17.00 4.0 3 17.00 28.0 4 22.00 4.0 AXIF NO. LOAD 1 12.00 5 22.00 LOAD 0.0 SPECIAL LIVE LOADING 5 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 AXLE AXLE AXLE AXLE

NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST

1 12.00 12.0 2 17.00 4.0 3 17.00 14.0 4 17.00 4.0

5 17.00 0.0 SPECIAL LIVE LOADING 6 NUMBER 3% GAGE PASSING OF AXLES INCR DISTANCE DISTANCE 6.00 4.00 SPECIAL LIVE LOADING 7 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 XLE AXLE AXLE AXLE AXLE
NO. LOAD DIST NO. LOAD DIST NO. LOAD DIST
1 27.00 5.4 2 27.00 6.8 3 27.00 5.4 4 27.00 0.0 AXLE NO. LOAD SPECIAL LIVE LOADING 8 NUMBER OF 3% GAGE PASSING AXLES INCR DISTANCE DISTANCE 6.00 4.00 WALL REINFORCEMENT WALL 1 WALL 2

BOTTOM TOP BOTTOM TOP

AS SIZE SPAC AS SIZE SPAC AS SIZE SPAC
0.000 4 9.0 0.000 7 9.0 0.000 4 9.0 0.000 7 9.0 Page 3

PBL05001_LFR_121313_permit.OUT

SLAB REINFORCEMENT

SLAB AT LEFT END OF SPAN AT MID SPAN AT RIGHT END OF SPAN
NO AS SIZE SPAC AV SIZE SPAC AS SIZE SPAC AV SIZE SPAC
1 0.000 7 9.0 0.000 0 0.0 0.000 7 9.0 0.000 7 9.0 0.000 0 0.0

LIVE LOADINGS USED FOR RATING ARE: SP-1 SP-2 SP-3 SP-4 SP-5 SP-6 SP-7 SP-8

THE RATING FACTOR 99.99 INDICATES THAT THE SECTION CAPACITY IS VERY HIGH COMPARED TO DEAD LOAD AND LIVE LOAD EFFECTS.

THE RATING FACTOR -99.99 INDICATES THAT THE DEAD LOAD EFFECT EXCEEDS THE SECTION CAPACITY.

WALL 1

	FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST							REINF	REINF
0.00 F DL+EPH				10.172	0.09	0.15	4@ 9.0	
LL+I	15.779	12.062			6 03	11 10		
			RATIN	IG TONS	6.83	11.40		
3.15 F DL+EPH	_12 578	7 283		25 545	0.60	1.00	70 9 O	
	-21.655			23.373	0.00	1.00	76 5.0	
2211	055	11.002	RATIN	IG TONS	44.91	75.00		

WALL 2

0.00 F DL+EPH	MOMENT THRUS		IR		REINF REINF
		RATING TONS	5.84	9.76	
3.15 F DL+EPH	12.957 7.99 21.655 12.06		0.58	0.97	7@ 9.0
LLTI	21.033 12.00	RATING TONS	43.65	72.89	

SLAB 1

DIST 0.00				THRUST	FECTS SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
			201701		RATIN	NG TONS	127.31	212.61		
1.46	-		-6.058 -6.701		6.250 13.006	23.226	1.31	2.18	7@ 9.0	0.000
		LLII	0.701			NG TONS	97.90	163.49		
11.80			27.680 49.103	0.477		61.179	0.68	1.14	7@ 9.0	
		LLTI	49.103		RATIN	NG TONS	51.17	85.45		
22.14	٧	DL+EPF	-5.545		-6.678	23.226 Page	_	2.12	7@ 9.0	0.000

PBL05001_LFR_121313_permit.OUT LL+I -6.701-13.006RATING TONS 95.43 159.36 23.60 F DL+EPD-16.217 1.138 61.278 1.69 2.82 7@ 9.0 LL+I -26.704RATING TONS 126.56 211.35 THE INVENTORY RATING IS GOVERNED BY MOMENT. THE MINIMUM INVENTORY RATING IS 5.84 TONS AT DISTANCE 0.00 IN WALL 2. THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 9.76 TONS AT DISTANCE 0.00 IN WALL 2. ********* * LIVE LOAD RATING - SP-2 LOADING * ********** WALL 1 ULT RATING FACTOR ACTUAL SHEAR FACTORED EFFECTS DIST MOMENT THRUST 0.00 F DL+EPH 8.736 7.795 LL+I 12.302 7.932 SHEAR CAPAC IR OR REINF REINF 0.19 10.149 4@ 9.0 0.11RATING TONS 5.17 8.63 3.15 F DL+EPH-12.578 7.283 25.510 0.77 1.28 7@ 9.0 LL+I -16.883 7.932 RATING TONS 34.47 57.56 WALL 2 **FACTORED EFFECTS** ULT RATING FACTOR ACTUAL SHEAR MOMENT THRUST SHEAR CAPAC REINF REINF DIST ΙR OR 0.00 F DL+EPH -9.012 8.508 10.222 0.10 0.16 4@ 9.0 LL+I -12.302 7.932 RATING TONS 4.42 7.39 3.15 F DL+EPH 12.957 25.527 0.74 7.996 1.24 7@ 9.0 16.883 7.932 LL+I RATING TONS 33.50 55.95 SLAB 1 PACIORED EFFECTS ULT RATING FACTOR ACTUAL SHEAR DIST MOMENT THRUST SHEAR CAPAC IR OR PETNIC 500.00 F DL+EPD-15.948 1.138 LL+I -21.298 RATING TONS 95.78 159.95 6.250 23.226 1.46 V DL+EPF -6.058 1.51 2.52 7@ 9.0 0.000 LL+I 5.003 11.259 RATING TONS 67.85 113.32 11.80 F DL+EPH 27.680 0.477 61.179 0.77 1.28 7@ 9.0 LL+I43.717 RATING TONS 34.48 57.58 22.14 V DL+EPF -5.545 -6.678 23.226 1.47 2.45 7@ 9.0 0.000 LL+I 5.003 -11.259RATING TONS 66.14 110.46 Page 5

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23.60 F DL+EPD-16.217 1.138 61.278 2.12 3.53 7@ 9.0
LL+I -21.298 RATING TONS 95.21 159.00

THE INVENTORY RATING IS GOVERNED BY MOMENT.
THE MINIMUM INVENTORY RATING IS 4.42 TONS AT DISTANCE 0.00 IN WALL 2.
THE OPERATING RATING IS GOVERNED BY MOMENT.
THE MINIMUM OPERATING RATING IS 7.39 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

0.00 F DL+EPH	FACTORED EFF MOMENT THRUST 8.736 7.795 14.624 11.033		IR 0.10	OR 0.16	REINF REINF
	-12.578 7.283 -20.069 11.033			1.08	7@ 9.0
LLTI	-20.009 11.033	RATING TONS	29.07	48.54	

WALL 2

	FACT(DRED EFFI	ECTS	ULT	RATING	FACTOR	ACTUAL SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF REINF
0.00 F D	L+EPH -9.012	8.508		10.240	0.08	0.14	4@ 9.0
L	L+I -14.624	11.033					
			RATIN	IG TONS	3.78	6.31	
3.15 F D	L+EPH 12.957	7.996		25.557	0.63	1.05	70 9 0
	L+I 20.069				0.05		
_	20.005	11.033	RATIN	IG TONS	28.25	47.18	

SLAB 1

			MOMENT 15.948	THRUST	SHEAR	CAPAC	IR	FACTOR OR 3.06	REINF	
			211703		RATIN	IG TONS	82.57	137.89		
1.46	٧		-6.058 -2.613			23.226	1.27	2.12	7@ 9.0	0.000
		LLTI	2.013			IG TONS	57.22	95.56		
11.80	F	DL+EPH LL+I		0.477		61.179	0.72	1.21	7@ 9.0	
		LLII	40.300		RATIN	IG TONS	32.55	54.36		
22.14	٧		-5.545 -2.613			23.226	1.24	2.07	7@ 9.0	0.000
		LLII	2.013			IG TONS	55.78	93.15		
23.60	F	DL+EPD-	-16.217	1.138		61.278 Page		3.05	7@ 9.0	

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LL+I -24.705

RATING TONS 82.08 137.07

THE INVENTORY RATING IS GOVERNED BY MOMENT.
THE MINIMUM INVENTORY RATING IS 3.78 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 6.31 TONS AT DISTANCE 0.00 IN WALL 2.

********* * LIVE LOAD RATING - SP-4 LOADING *

WALL 1

	FACTO	RED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL SHEAR
DIST	MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF REINF
0.00 F DL+EPH	8.736	7.795		10.149	0.14	0.24	4@ 9.0
LL+I	10.024	6.463					
			RATIN	NG TONS	6.34	10.59	
3.15 F DL+EPH-	-12.578	7.283		25.510	0.94	1.57	7@ 9.0
LL+I -	-13.756	6.463					
			RATIN	NG TONS	42.30	70.65	

WALL 2

			FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST			MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF	REINF
0.00	F	DL+EPH	-9.012	8.508		10.222	0.12	0.20	4@ 9.0	
		LL+I -	-10.024	6.463						
					RATIN	IG TONS	5.43	9.07		
3.15	F			7.996		25.527	0.91	1.53	7@ 9.0	
		LL + I	13.756	6.463						
					RATIN	IG TONS	41.12	68.67		

SLAB 1

		DL+EPD- LL+I -	MOMENT -15.948	THRUST	SHEAR	CAPAC	IR		ACTUAL REINF 7@ 9.0	
		LLTI	17.554		RATIN	IG TONS	117.54	196.30		
1.46	٧		-6.058 4.077			23.226	1.85	3.09	7@ 9.0	0.000
		LLII	4.077			IG TONS	83.28	139.07		
11.80	F	DL+EPH LL+I	27.680 35.621	0.477		61.179	0.94	1.57	7@ 9.0	
		LLTI	33.021		RATIN	IG TONS	42.32	70.67		
22.14	٧		-5.545 4.077		-6.678 -9.174	23.226	1.80	3.01	7@ 9.0	0.000
		LLII	4.077			IG TONS	81.18	135.56		
23.60	F		-16.217 -17.354	1.138		61.278	2.60	4.34	7@ 9.0	
			1, . 55 1		RATIN	IG TONS	116.85	195.13		

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THE INVENTORY RATING IS GOVERNED BY MOMENT.
THE MINIMUM INVENTORY RATING IS 5.43 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 9.07 TONS AT DISTANCE 0.00 IN WALL 2.

********** * LIVE LOAD RATING - SP-5 LOADING * *********

WALL 1

F	ACTORED EFFI	ECTS ULT	RATING	FACTOR	ACTUAL SHEAR
DIST MOM	IENT THRUST	SHEAR CAPAC	IR	OR	REINF REINF
0.00 F DL+EPH 8.	736 7.795	10.167	0.18	0.30	4@ 9.0
LL+I 8.	096 5.972				
		RATING TONS	7.07	11.81	
3.15 F DL+EPH-12.	578 7.283	25.537	1.17	1.95	7@ 9.0
LL+I -11.	111 5.972				
		RATING TONS	46.65	77.91	

WALL 2

FACTO	RED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL SHEAF	₹
MOMENT	THRUST	SHEAR	CAPAC	IR	OR	REINF REINF	=
-9.012	8.508		10.237	0.15	0.25	4@ 9.0	
-8.096	5.972						
		RATIN	IG TONS	6.05	10.11		
12.957	7.996		25.553	1.13	1.89	7@ 9.0	
11.111	5.972						
		RATIN	IG TONS	45.34	75.72		
	MOMENT -9.012 -8.096	MOMENT THRUST -9.012 8.508 -8.096 5.972	MOMENT THRUST -9.012 8.508 -8.096 5.972 RATIN 12.957 7.996 11.111 5.972	MOMENT THRUST -9.012 8.508 10.237 8.096 5.972 RATING TONS 12.957 7.996 25.553 25.553	MOMENT THRUST -9.012 8.508 10.237 0.15 8.096 5.972 RATING TONS 6.05 12.957 7.996 25.553 1.13 11.111 5.972	MOMENT THRUST -9.012 8.508 10.237 0.15 0.25 8.096 5.972 RATING TONS 6.05 10.11 12.957 7.996 25.553 1.13 1.89	-8.096 5.972 RATING TONS 6.05 10.11 12.957 7.996 25.553 1.13 1.89 7@ 9.0 11.111 5.972

SLAB 1

							_			
		DL+EPD-	MOMENT	THRUST 1.138	SHEAR	CAPAC	IR	OR	ACTUAL REINF 7@ 9.0	
					RATIN	IG TONS	131.88	220.24		
			-6.058 1.166			23.226	2.18	3.64	7@ 9.0	0.000
			1.100			IG TONS	87.19	145.60		
11 00	_	D ED	27 600	0 477		C1 170	1 21	2 02	70 0 0	
11.80	۲		27.680	0.4//		61.179	1.21	2.02	7@ 9.0	
		LLII	27.032		RATIN	IG TONS	48.46	80.92		
22.14	٧		-5.545 1.166			23.226	2.12	3.55	7@ 9.0	0.000
		LL+1	1.100			IG TONS	84.99	141.93		
23.60	F		-16.217 -13.749	1.138		61.278	3.28	5.47	7@ 9.0	
			13.743		RATIN	IG TONS	131.10	218.93		

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THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 6.05 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 10.11 TONS AT DISTANCE 0.00 IN WALL 2.

* LIVE LOAD RATING - SP-6 LOADING * ***********************

WALL 1

0.00 F DL	FACTO MOMENT .+EPH 8.736 +T 12.527	THRUST 7.795	SHEAR	CAPAC	IR	FACTOR OR 0.19	REINF	
<u> </u>	12.32,	31310	RATIN	G TONS	6.86	11.46		
	.+EPH-12.578 .+I -17.192			25.539	0.75	1.26	7@ 9.0	
LL	.+1 17.132	3.340	RATIN	G TONS	45.23	75.54		

WALL 2

			FACTO	DRED EFF	ECTS	ULT	RATING	FACTOR	ACTUAL	SHEAR
DIST			MOMENT	THRUST					REINF	REINF
0.00	F	DL+EPH	-9.012	8.508		10.238	0.10	0.16	4@ 9.0	
		LL+I -	-12.527	9.348						
					RATIN	IG TONS	5.87	9.81		
3.15	F	DL+EPH	12.957	7.996		25.555	0.73	1.22	7@ 9.0	
		LL+I	17.192	9.348						
					RATTN	IG TONS	43.97	73.42		

SLAB 1

						_			
0.00 F		MOMENT 15.948	THRUST	SHEAR	CAPAC	IR	OR	ACTUAL REINF 7@ 9.0	
				RATIN	IG TONS	125.89	210.24		
1.46 V	DL+EPF	-6.058 3 204		6.250 11.947	23.226	1.42	2.37	7@ 9.0	0.000
	LL 1 1	3.204				85.26	142.38		
11.80 F	DL+EPH LL+I		0.477		61.179	0.76	1.28	7@ 9.0	
	LLII	13.011		RATIN	IG TONS	45.84	76.56		
	DL+EPF LL+I				23.226	1.39	2.31	7@ 9.0	0.000
		3.201			IG TONS	83.11	138.79		
23.60 F	DL+EPD- LL+I -		1.138		61.278	2.09	3.48	7@ 9.0	
	· -			RATIN	IG TONS	125.15	209.00		

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 5.87 TONS AT DISTANCE 0.00 IN WALL 2. Page 9

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THE OPERATING RATING IS GOVERNED BY MOMENT. THE MINIMUM OPERATING RATING IS 9.81 TONS AT DISTANCE 0.00 IN WALL 2.

WALL 1

					WALL _				
DIST 0.00 F	DL+EPH LL+I	FACTO MOMENT 8.736 16.675	RED EFF THRUST 7.795 14.422	ECTS SHEAR	ULT CAPAC 10.192	RATING IR 0.09	FACTOR OR 0.15	ACTUAL SI REINF RI 4@ 9.0	HEAR EINF
				RATIN	IG TONS	4.72	7.88		
3.15 F	DL+EPH-	-12.578 -22.885	7.283 14.422		25.574	0.57	0.95	7@ 9.0	
					IG TONS	30.66	51.21		
					WALL 2	2			
DIST		FACTO	RED EFF	FECTS	ULT	RATING	FACTOR	ACTUAL SI REINF RI	HEAR
0.00 F	DL+EPH	-9.012 -16 675	8.508 14 422	SHEAR	10.259	0.07	0.12	4@ 9.0	ETNE
	LLII	10.073	11.122	RATIN	IG TONS	4.04	6.74		
3.15 F	DL+EPH	12.957	7.996 14 422		25.588	0.55	0.92	7@ 9.0	
	LLTI	22.003	17.722			29.81			
					SLAB 1	L			
		FACTO	RED EFF	FECTS	ULT	RATING	FACTOR	ACTUAL SI	HEAR
DIST 0.00 F	DL+EPD-	MOMENT	THRUST	FECTS SHEAR	ULT CAPAC 61.278	RATING IR 1.62	FACTOR OR 2.71	ACTUAL SI REINF RI 7@ 9.0	HEAR EINF
DIST 0.00 F	DL+EPD- LL+I -	FACTO MOMENT -15.948 -27.977	THRUST	SHEAR	CAPAC 61.278	RATING IR 1.62 87.49	OR 2.71	ACTUAL SI REINF RI 7@ 9.0	HEAR EINF
	LL+I -	MOMENT -15.948 -27.977	THRUST 1.138	SHEAR RATIN	CAPAC 61.278 IG TONS	IR 1.62 87.49	OR 2.71 146.12	REINF RI 7@ 9.0	EINF
	LL+I -	MOMENT -15.948 -27.977	THRUST 1.138	SHEAR RATIN 6.250 14.647	CAPAC 61.278 IG TONS 23.226	IR 1.62 87.49	OR 2.71 146.12 1.94	ACTUAL SI REINF RI 7@ 9.0	EINF
1.46 V 11.80 F	DL+EPF LL+I DL+EPH	MOMENT -15.948 -27.977 -6.058 -5.581 27.680	THRUST 1.138	RATIN 6.250 14.647 RATIN	CAPAC 61.278 IG TONS 23.226 IG TONS	1R 1.62 87.49 1.16 62.59	OR 2.71 146.12 1.94 104.52	REINF RI 7@ 9.0 7@ 9.0 0	EINF
1.46 V 11.80 F	DL+EPF LL+I DL+EPH	MOMENT -15.948 -27.977 -6.058 -5.581	THRUST 1.138	RATIN 6.250 14.647 RATIN	CAPAC 61.278 IG TONS 23.226 IG TONS 61.179	1R 1.62 87.49 1.16 62.59 0.68	OR 2.71 146.12 1.94 104.52 1.13	REINF RI 7@ 9.0 7@ 9.0 0	EINF
1.46 V 11.80 F	DL+EPF LL+I DL+EPH LL+I	MOMENT -15.948 -27.977 -6.058 -5.581 27.680 49.598	THRUST 1.138	RATIN 6.250 14.647 RATIN	CAPAC 61.278 IG TONS 23.226 IG TONS 61.179 IG TONS	1R 1.62 87.49 1.16 62.59 0.68 36.47	OR 2.71 146.12 1.94 104.52 1.13 60.91	REINF RI 7@ 9.0 7@ 9.0 0 7@ 9.0	.000
1.46 V 11.80 F	DL+EPF LL+I DL+EPH LL+I	MOMENT -15.948 -27.977 -6.058 -5.581 27.680 49.598	THRUST 1.138	SHEAR RATIN 6.250 14.647 RATIN RATIN -6.678 -14.647	CAPAC 61.278 IG TONS 23.226 IG TONS 61.179 IG TONS 23.226	1R 1.62 87.49 1.16 62.59 0.68 36.47	OR 2.71 146.12 1.94 104.52 1.13 60.91 1.89	REINF RI 7@ 9.0 7@ 9.0 0	.000
1.46 V 11.80 F 22.14 V 23.60 F	DL+EPF LL+I DL+EPH LL+I DL+EPF LL+I	MOMENT -15.948 -27.977 -6.058 -5.581 27.680 49.598 -5.545 -5.581	1.138 0.477	SHEAR RATIN 6.250 14.647 RATIN RATIN -6.678 -14.647 RATIN	CAPAC 61.278 IG TONS 23.226 IG TONS 61.179 IG TONS 23.226 IG TONS	1R 1.62 87.49 1.16 62.59 0.68 36.47 1.13 61.01	OR 2.71 146.12 1.94 104.52 1.13 60.91 1.89	REINF RI 7@ 9.0 0 7@ 9.0 0 7@ 9.0 0	.000

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 4.04 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT. Page 10

PBL05001_LFR_121313_permit.OUT THE MINIMUM OPERATING RATING IS 6.74 TONS AT DISTANCE 0.00 IN WALL 2.

FACTORED EFFECTS

WALL 1

ULT RATING FACTOR ACTUAL SHEAR

	MOMENT THRUST PH 8.736 7.795 15.006 12.822	SHEAR CAPAC 10.190			REINF REINF 4@ 9.0	
LLTI	13.000 12.822	RATING TONS	5.81	9.71		
	PH-12.578 7.283 -20.595 12.822	25.571	0.63	1.05	7@ 9.0	
		RATING TONS	37.85	63.21		
		WALL 2	2			
		FECTS ULT SHEAR CAPAC 10.257	IR		REINF REINF	
LLII	13.000 12.022	RATING TONS	4.98	8.31		
3.15 F DL+E	PH 12.957 7.996 20.595 12.822	25.586	0.61	1.02	7@ 9.0	
		RATING TONS	36.79	61.44		
		SLAB 1	1			
DIST		FECTS ULT SHEAR CAPAC	IR	OR	REINF REINF	

0.00 F DL+EPD-15.948 1.138 61.278 1.803.01 7@ 9.0 LL+I -25.192RATING TONS 107.96 180.30 6.250 23.226 1.46 V DL+EPF -6.058 1.29 2.16 7@ 9.0 0.000 LL+I -5.100 13.120 RATING TONS 77.64 129.66 11.80 F DL+EPH 27.680 0.477 0.75 1.25 7@ 9.0 61.179 LL+I 44.729 RATING TONS 44.94 75.04 22.14 V DL+EPF -5.545 LL+I -5.100 -6.678 23.226 1.26 2.11 7@ 9.0 0.000 -13.120RATING TONS 75.68 126.39 23.60 F DL+EPD-16.217 1.138 61.278 1.79 2.99 7@ 9.0 LL+I -25.192RATING TONS 107.32 179.23

THE INVENTORY RATING IS GOVERNED BY MOMENT.

THE MINIMUM INVENTORY RATING IS 4.98 TONS AT DISTANCE 0.00 IN WALL 2.

THE OPERATING RATING IS GOVERNED BY MOMENT.

THE MINIMUM OPERATING RATING IS 8.31 TONS AT DISTANCE 0.00 IN WALL 2.

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++++	++++-	+++	+++	++-	++-	+++	+++	++	++	+-	++-	++-	++-	++-	+++	-+++	+++++
+																	+
+		R	Α	Т	Ι	Ν	G		S	U	Μ	М	Α	R	Υ		+
+																	+
++++	++++-	+++	-+-	++-	++-	+++	+++	++	++	+-	++-	++-	++-	++-	+++	+++	+++++

	MINIM	UM INV	ENTORY RAT	MINIMUM OPERATING RATING					
LOAD	FACTOR	TONS	LOCATION	DIST	FACTOR	TONS	LOCATION	DIST	
SP-1	0.08 M	5.8	WALL 2	0.00	0.13 M	9.8	WALL 2	0.00	
SP-2	0.10 M	4.4	WALL 2	0.00	0.16 M	7.4	WALL 2	0.00	
SP-3	0.08 M	3.8	WALL 2	0.00	0.14 M	6.3	WALL 2	0.00	
SP-4	0.12 M	5.4	WALL 2	0.00	0.20 M	9.1	WALL 2	0.00	
SP-5	0.15 M	6.1	WALL 2	0.00	0.25 M	10.1	WALL 2	0.00	
SP-6	0.10 M	5.9	WALL 2	0.00	0.16 M	9.8	WALL 2	0.00	
SP-7	0.07 M	4.0	WALL 2	0.00	0.12 M	6.7	WALL 2	0.00	
SP-8	0.08 M	5.0	WALL 2	0.00	0.14 M	8.3	WALL 2	0.00	

RATING FACTOR CODES M - MAXIMUM MOMENT STRENGTH GOVERNS S - MAXIMUM SHEAR STRENGTH GOVERNS

BOX5 data input: Equivalent fill depth:

East: 0.173' / 0.12kcf = 1.44' West: 0.295'/0.12kcf = 2.46' Grade: (2.46'-1.44')/23.60'=4.3%

Box5 Truck list:

Legal rating	Permit rating
SP-1 H 15	SP-1 150K
SP-2 T-3	SP-2 90K COMB.
SP-3 T-4	SP-3 90K CRANE
SP-4 HS20	SP-4 90K CARGO
SP-5 3S2	SP-5 80K CARGO
	SP-6 120K
	SP-7 108K
	SP-8 120K CRANE