AGENDA

JAMES CITY COUNTY WETLANDS BOARD

REGULAR MEETING

COUNTY GOVERNMENT CENTER BOARD ROOM

101 MOUNTS BAY ROAD, WILLIAMSBURG, VA 23185

November 8, 2023

5:00 PM

A. CALL TO ORDER

B. ROLL CALL

C. MINUTES

1. Minutes from the October 11, 2023, Regular Meeting

D. PUBLIC COMMENT

E. PUBLIC HEARING(S)

F. BOARD CONSIDERATION(S)

1. Election of Officers for 2024

2. WJPA-23-0040 : Colonial Parkway Bridge Repairs - Update

G. MATTERS OF SPECIAL PRIVILEGE

H. ADJOURNMENT

MINUTES

JAMES CITY COUNTY WETLANDS BOARD

REGULAR MEETING

COUNTY GOVERNMENT CENTER BOARD ROOM

101 MOUNTS BAY ROAD, WILLIAMSBURG, VA 23185

October 11, 2023

5:00 PM

A. CALL TO ORDER

The Wetlands Board meeting for October 11, 2023, was called to order.

The responsibility of this Board is to carry out locally the Commonwealth policy to preserve the wetlands and to accommodate economic activity so as to prevent its despoliation.

B. PUBLIC COMMENT

The Public Comment Agenda item was moved during the meeting to come after the Minutes Agenda item was completed.

A. Ms. Lisa Garber, 115 Kingspoint Drive, asked the Board for an update on the status of the reportedly ongoing herbicide spraying near her property in the Kingspoint neighborhood.

Staff confirmed that the County is aware that the previously scheduled, privately organized spraying in the area on October 11, 2023, was delayed by a few days. This task is expected to be carried out using drones flying approximately 10 feet above the ground. Furthermore, staff reiterated that the Public Comment period is a chance for the public to express their views, not a forum for discussions. They also clarified that the planned herbicide spraying is not an activity to be approved by the Board.

C. ROLL CALL

Board Members Present:
Larry Waltrip
Michael O'Brien
Scott Maye, Vice Chair
Leslie Bowie

Board Members Absent:
Charles Roadley

Other Staff Present:
Toni Small, Director, Stormwater and Resource Protection
Michael Woolson, Resource Protection Section Chief, Stormwater and Resource Protection
Robin Benedict, Watershed Planner, Stormwater and Resource Protection

D. MINUTES

1. Minutes from the September 13, 2023, Regular Meeting

A motion to Approve the minutes was made by Mr. O'Brien.

The minutes were Approved on a voice vote.

E. BOARD CONSIDERATION(S)

1. Election of Officer : Board Secretary

A motion to Appoint Ms. Robin Benedict, Watershed Planner, as Secretary of the Wetlands Board was made by Ms. Bowie and Approved by a unanimous voice vote.

F. PUBLIC HEARING(S)

1. WJPA-23-0017 : 733 Arlington Island Road

A motion to Approve w/ Conditions was made by Mr. Waltrip, the motion result was Passed.
Ayes: 4 NAYS: 0 ABSTAIN: 0 ABSENT: 1
Ayes: Bowie, Maye, O'Brien, Waltrip
Absent: Roadley

Ms. Robin Benedict, Watershed Planner, presented the permit request submitted by Mr. Andrew Gurley, CLS Marine, LLC, on behalf of Ms. Emily Collawn, for the approval of riprap installation. The property is further identified as James City County Real Estate Tax Map Parcel No. 930100004. The presentation described the current and proposed site conditions. If the Board approved the request, staff asked that the suggested conditions be incorporated into the approval.

Mr. Maye opened the Public Hearing.

Mr. Maye closed the Public Hearing as no one wished to speak.

The Board discussed the pros and cons of the plan.

G. MATTERS OF SPECIAL PRIVILEGE

None.

H. ADJOURNMENT

A motion to Adjourn was made by Mr. O'Brien and approved on a voice vote.

The meeting adjourned at 5:14 p.m.

JAMES CITY COUNTY WETLANDS BOARD
BYLAWS

ARTICLE I. LEGAL AUTHORITY

The objectives and procedures of the James City County Wetlands Board are those set forth in Section 28.2-1300 et. seq. in the Code of Virginia, 1950 as amended.

ARTICLE II. MEMBERSHIP

Membership of the Board shall consist of members and alternate member(s) as appointed pursuant to Section 28.2-1303 of the Code of Virginia, 1950 as amended. Members unable to attend a meeting shall endeavor to provide the Chairman, or the Chairman's designee, at least twenty-four (24) hour notice in advance of such meeting. The Chairman, or the Chairman's designee, shall select an alternate member to serve in the place of the absent member at the board meeting. The alternate member(s) shall be selected generally on a rotating basis, except as conflicts may arise.

ARTICLE III. OFFICERS AND THEIR DUTIES

Section 1. The officers of the Wetlands Board shall consist of a Chairman, Vice-Chairman and a Secretary. Other than Secretary, all officers shall be appointed members.

Section 2. The Chairman shall preside at all meetings and hearings, serve as spokesman for the Board and carry out any other duties as necessary. For the convenience of the Board and citizens, the Chairman may make procedural decisions as needed when circumstances are clear or of a minor nature. The Chairman or his designee shall notify the Board of Supervisors at least 30 days prior to the expiration of any member's term and notify the Board of Supervisors if any vacancy occurs. In the event a member is absent from a board meeting, the Chairman shall select an alternate member to serve in place of the absent member.

Section 3. The Vice-Chairman shall perform the duties of the Chairman in his/her absence.

Section 4. The Secretary shall be provided by the County government and shall be responsible for keeping the minutes and other records of the Board, arranging site inspections, maintaining a file of all site inspections, preparing the annual report, preparing agendas, providing notice of meetings to members, arranging legal notice of hearings, attending to correspondence, providing staff assistance, and such other duties as needed.

Section 5. Special committees may be appointed by the Chairman for the purposes and terms which the Board approves.

ARTICLE IV. ELECTION OF OFFICERS

Section 1. Nominations and elections shall be at the November meeting of each year. If the November meeting is not held, nominations and elections shall be at the December meeting. The positions shall be effective January 1st of the following year.

Section 2. A candidate shall be elected by a quorum and shall serve for one (1) full year or until his/her successor is elected.

Section 3. Vacancies in offices shall be filled by normal election procedure at the next meeting.

Section 4. Officers may succeed themselves.

ARTICLE V. MEETINGS AND HEARINGS

Section 1. Regular meetings of the Board shall be held on the second Wednesday of each month at 5:00 P.M. in the Board room of the County Government Center Complex. When the second Wednesday falls on a legal holiday, the Board shall meet as determined by the Chairman in consultation with the Secretary. Upon the Chairman's decision or vote of a majority, a regular or special meeting may be canceled or rescheduled. Special meetings may be called by the Chairman, in consultation with the Secretary.

Section 2. A majority of the members of the Board shall constitute a quorum. A quorum is necessary to conduct a meeting.

Section 3. All meetings at which official action is taken shall be open to the general public and to any governmental agency.

Section 4. The filing deadline for public hearing items to appear on the agenda shall be forty-two (42) days prior to the meeting.

Section 5. The order of business at regular meetings shall be:

A. Call to Order and Roll Call

B. Statement of Board Purposes: "The responsibility of this Board is to carry out locally the Commonwealth policy to preserve the wetlands and to accommodate economic activity so as to prevent their despoliation."

C. Approval of Minutes

D. Unfinished Business

E. Public Hearings

F. Board Considerations

G. Matters of Special Privilege

H. Adjournment

Section 6. In addition to those required by law, the Board may hold other public hearings.

Section 7. Public hearings shall be conducted in the following order: opening, staff report (with comments from state and/or federal agencies as appropriate), applicant, and other interested parties.

Section 8. Applicants and other interested parties shall give their full name and address after being recognized by the Chairman. A record shall be kept of those speaking before the Board by the Secretary. Physical evidence submitted to the Board becomes the property of the Board and is retained as part of the case record.

Section 9. For each public hearing item, presentations by staff, applicants, individuals or groups shall be limited as follows:

a. Presentations by staff and applicants are limited to 15 minutes each;
b. Comments by individuals are limited to 5 minutes each;
c. Comments by citizen groups are limited to 10 minutes each; and
d. At a meeting, the time limits set forth in a, b and/or c above may be extended at the discretion of the Chair.

Section 10. Extension requests submitted in writing, in accordance with the Board's resolution granting the permit, shall be heard by the Board at regular meetings under Board Considerations.

ARTICLE VI. MOTIONS AND VOTING

Section 1. Business will be conducted according to Robert's Rules of Order Newly Revised, 10th Edition, as adopted for small bodies; provided, however, the Board may amend by Resolution the Rules as it deems appropriate. The following rules shall apply:

a. Members are not required to obtain floor before making motions or speaking, which they can do while seated.
b. Motions need not be seconded.

c. There is no limit to the number of times a member can speak to a question, and motions to close or limit debate generally should not be entertained.
d. Informal discussion of a subject is permitted while no motion is pending.
e. The Chairman can speak in discussion without leaving the chair; and can make motions and votes on all questions.
f. A motion to reconsider may be made at (i) the next succeeding regular meeting; or (ii) at the next regular meeting following the discovery of additional information or a changed situation that has developed since the taking of the vote.

Section 2. A member not voting on a case must cite "conflict of interest" or any legal prohibition which precludes voting.

Section 3. If the application receives less than four affirmative votes from a seven-member board or less than three affirmative votes from a five-member board, the permit shall be denied.

Section 4. Permits shall have a time limit and conditions, or "no conditions" specified.

Section 5. The Secretary shall record motions and voting in the minutes.

ARTICLE VII. VIOLATIONS

Section 1. In cases of violations, restoration will be the primary goal of legal action.

Section 2. In cases of after-the-fact applications, the option of restoration must be considered before evaluating the project on its merits.

Section 3. Violations must be corrected prior to issuing a permit on the same piece of property for another project.

ARTICLE VIII. AMENDMENTS

Section 1. These bylaws may be amended or suspended by a majority vote of the appointed members of the Board.

ADOPTED: January 8, 1997
AMENDED: September 12, 2007
AMENDED: October 8, 2008
AMENDED: October 12, 2011
AMENDED: October 9, 2013
AMENDED: March 12, 2014
AMENDED: May 10, 2017

From:	Braspennickx, Nicholle (FHWA)
To:	MRC - jpa Permits
Cc:	Weston, Dan (FHWA); Geyer, Dorothy W; Scheid, Dwayne L; McLean, Timothy R
Subject:	National Park Service, Colonial National Historical Park, James City County, Joint Application for Permit
Date:	Monday, August 28, 2023 10:09:43 AM
Attachments:	NP COLO 1C14 1D48 1E15 Bridge maintenance Jamestown Island VA (003)a.pdf
Importance:	High

Hello !

Attached is a Joint Application for Permit for bridge maintenance projects on/near Jamestown Island, on/near the James River, James City County, VA.

The plans are greater than 10MB – we will provide a file transfer protocol (ftp) site for download purposes shortly.

Sincerely,

Nicholle Braspennickx
Environmental Compliance
Federal Highway Administration, Eastern Federal Lands
703-404-6248

- DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
	JPA # **23-1994**

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☒ NWP # 3, Maintenance (*For Nationwide Permits ONLY - No DEQ-VWP permit writer will be assigned*)	Regional Permit 17 (RP-17) ☐	

County or City in which the project is located: James City County

Waterway at project site: James River

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial

Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:

   Kevin Rose, Federal Highway Admin., Eastern Federal Lands, 22001 Loudoun County Pkwy, Suite 200, Ashburn, VA 20147

   Home (____)_____
   Work (571)434-1541
   Fax (____)_____
   Cell (____)_____
   e-mail kevin.rose@dot.gov

   State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:

   National Park Service, Ms. Jerri Marr, Superintendent, National Park Service, Colonial National Historical Park, P.O. Box 210, Yorktown, VA 23690

   Home (____)_____
   Work (757)898-2410
   Fax (____)_____
   Cell (____)_____
   e-mail jerri_marr@nps.gov

   State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable):

   Contact Information:
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____

   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

This project is for the repair and rehabilitation of the 8 bridges listed below, which are located on the Colonial Parkway and the Jamestown Loop in the Colonial National Historical Park in James City County, Virginia. In water work includes pile encapsulation on Blacks Point, Long and Powhatan Bridges.

• College Creek Bridge (4290-023P). Single-span steel multi-girder structure. The bridge deck has minor cracking and the joint material shows signs of deterioration. There is delamination and spalling at abutments, bearing seats, and grout pads. Minor corrosion appears on the steel superstructure. There is a sign missing at the North abutment.
• Mill Creek Bridge (4290-024P). Single-span steel multi-girder structure. There is minor cracking on the bridge deck and cracking and delamination on the deck underside. There is delamination and spalling at abutments, bearing seats, grout pads, curbs, and railing. The joint material is deteriorated. The steel superstructure has minor corrosion.
• Powhatan Creek Bridge (4290-025P). Thirty-six span concrete slab structure. On the surface, there is deterioration of joint material with associated curb cracking. The deck underside has minor cracking and delamination. There is minor delamination and spalling at abutments, bent caps, and some piles. Previously repaired concrete is cracking or delaminated.
• Isthmus Bridge (4290-026P). Single-span steel multi-girder structure. There is minor cracking and delamination on the bridge deck and deck underside. The bridge joint material is deteriorating. Minor corrosion appears on the steel superstructure. There is delamination and spalling at abutments, including bearing seats and grout pads. A utility conduit under bridge deck and along bridge fascia is damaged.
• Pitch and Tar Bridge (4290-028P). Six-span timber multi-girder structure. There are deteriorated areas on the timber deck and curbs for the length of the bridge. A steel plate was recently installed to cover the largest deteriorated area of the deck. The ride quality for cyclists is poor.
• Blacks Point Bridge, (4290-029P). Twenty-four span timber multi-girder structure. Minor to moderate deterioration appear on all timber elements including deck and curbs. The ride quality for cyclists is poor within these deteriorated areas.
• Long Bridge (4290-031P). Forty-one span timber multi-girder structure. Minor to moderate deterioration appear on all timber elements including deck and curbs. The ride quality for cyclists is poor within these deteriorated areas. Some beams have shifted and do not fully bear on the bent caps. At Bent #36 there are missing nuts at Beam #8 splice connection. Beam #7 is not bearing on Bent #36 and cap is splintered.
• Jamestown Visitor Center Pedestrian Bridge (4290-039T). Seventy-one span multi-girder structure. There is collision damage from errant vehicle. (no water features associated with Visitor Center Ped. Br.).

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? ___ Yes* _X_ No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)
   Contractor's name* and complete mailing address:

   Contact Information:
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   email _____

   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

   Name and complete mailing address:
   The Virginia Gazette, 1430 High St. #504, Williamsburg, VA 23185

   Telephone number
   (757) 220-1736

7. Give the following project location information:
   Street Address (911 address if available) Jamestown Island
   Lot/Block/Parcel#_____
   Subdivision 1368 Colonial National Parkway
   City / County Jamestown, VA ZIP Code 23081
   Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
   37.206967 / -76.759921 (Example: 36.41600/-76.30733)

   If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

   From Richmond, VA, at I-295 & I-64 - the first bridge, College Creek Bridge is 47.7 miles. Take I-64 east/south to VA St. Rte. 199 south/west to the Interchange with Colonial National Historical Parkway. Turn South on Colonial National Historical Parkway. Continue south past Halfway Creek and the next bridge will be College Creek Bridge. Continue west on Colonial National Historic Parkway until the Mill Creek Bridge. Continue west on Colonial Nat'l Historic Pkwy until Powhatan Creek Bridge. Continue West, then south, to Isthmus Bridge. Continue East and South to Pitch and Tar Bridge. Head East on Jamestown Loop Rd. to Long Bridge. Continue east until Blacks Point Bridge.

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

   Primary purpose is to maintain the existing bridges for the traveling public (including cyclists).

Part 1 - General Information (continued)

9. Proposed use (check one):
   ___ Single user (private, non-commercial, residential)
   _X_ Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

    The project is to maintain the existing structures. Pile encapsulation would be done at low tide. Temporary access to the bridges is anticipated to be on foot, or from the deck of the bridge. There is no fill proposed outside of the existing structures, but for the grout in between the existing piles and the forms for pile encapsulation.

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes _X_No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $ 5 million
    Approximate cost of that portion of the project that is channelward of mean low water:
    $ 2.5 million

13. Completion date of the proposed work: September 2025 - December 2025

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

    James River Association, CURRENT, PAUL W, 123 CONSTANCE AVE, WILLIAMSBURG, VA 23185-3102

    Parcel 4732500002, Burris, Bryan D & Barbara R, 115 Constance Avenue, Williamsburg, VA 23185-3102

    Parcel 4732500003, Papas, Constantine T, Trustee & Toby, 119 Constance Avenue, Williamsburg, VA 23185-3102

    Parcel 5610100001-541, Neck-O-Land Road United States of America

    Parcel,000022296, OCURRENT, PAUL W, 123 CONSTANCE AVE, WILLIAMSBURG, VA 23185-3102W

    Parcel 090018383, GILLEY, R EDWIN II & LEIGH ANN & TERRI LYNN, 227 GATE HOUSE BLVD, WILLIAMSBURG, VA 23185-3169

    Parcel 673-438, JAMES CITY COUNTY BIBLE & AGRICULTURAL TRAINING SC, 2006 GEORGIA AVENUE NW, WASHINGTON, DC 20001-3027

    Mr. Smith, 2205 TREASURE ISLAND RD, WMSBURG , VA 23185-3166

    Parcel 1359-318, ESCALANTE KINGSMILL RESORT LLC, 2930 BLEDSOE ST STE 124, FORT WORTH, TX 76107-2942

    Parcel 060031151-01, JAMES CITY COUNTY, PO BOX 8784, WILLIAMSBURG, VA 23187-8784

    Parcel 02-0006, Jamestown Yacht Basin, Mr. David Givens, Preservation Virginia, 1365 COLONIAL PKWY, WILLIAMSBURG, VA 23185-1900

Part 2 - Signatures

1. Applicants and property owners (if different from applicant).
NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.
CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit. **In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**

Kevin Rose

Applicant's Legal Name (printed/typed) _____ (Use if more than one applicant)

Applicant's Signature _____ (Use if more than one applicant)

Date _____

Property Owner's Legal Name (printed/typed) (If different from Applicant) _____ (Use if more than one owner)

Property Owner's Signature _____ (Use if more than one owner)

Date _____

Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we),_____, hereby certify that I (we) have authorized _____
(Applicant's legal name(s)) (Agent's name(s))
to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

_____ _____
(Agent's Signature) (Use if more than one agent)

_____
(Date)

_____ _____
(Applicant's Signature) (Use if more than one applicant)

_____
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), _____, have contracted_____
(Applicant's legal name(s)) (Contractor's name(s))
to perform the work described in this Joint Permit Application, signed and dated_____.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

_____
Contractor's name or name of firm

_____
Contractor's or firms address

_____ _____
Contractor's signature and title Contractor's License Number

_____ _____
Applicant's signature (use if more than one applicant)

_____
Date

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ ABOUT THE PROJECT.

I DO NOT OBJECT _____ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

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I DO NOT OBJECT _____ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

APPENDIX B

U.S. Army Corps Of Engineers
Norfolk District

REGIONAL PERMIT 17 CHECKLIST
Expires: September 5, 2023

Please review the 18-RP-17 enclosure before completing this form and note 18-RP-17 can only be used for proposed PRIVATE USE structure(s) that comply with the terms and conditions of 18-RP-17. Copies can be obtained online at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/.

YES☐ NO☐ **(1)** Has the permittee reviewed the 18-RP-17 enclosure and verified that the proposed structure(s) is in compliance with all the terms, conditions, and limitations of 18-RP-17?

YES☐ NO☐ **(2)** Does the proposed structure(s) extend no more than one-fourth of the distance across the waterway measured from either mean high water (MHW) to MHW (including all channelward wetlands) or ordinary high water (OHW) to OHW (including all channelward wetlands)?

YES☐ NO☐ **(3)** Does the proposed structure(s) extend no more than 300 feet from MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(4)** Does the proposed structure(s) attach to the upland at a point landward of MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(5)** If the proposed structure(s) crosses wetland vegetation, is it an open-pile design that has a maximum width of five (5) feet and a minimum height of four (4) feet between the decking and the wetland substrate?

YES☐ NO☐ N/A☐ **(6)** Does the proposed structure(s) include no more than two (2) boatlifts and no more than two (2) boat slips?

YES☐ NO☐ N/A☐ **(7)** Is the open-sided roof structure designed to shelter a boat ≤ 700 square feet and/or is the open sided roof structure or gazebo structure designed to shelter a pier ≤ 400 square feet?

YES☐ NO☐ N/A☐ **(8)** Are all piles associated with the proposed structure(s) non-steel, less than or equal to 12" in diameter, and will less than or equal to 25 piles be installed channelward of MHW?

YES☐ NO☐ N/A☐ **(9)** Is all work occurring behind cofferdams, turbidity curtains, or other methods to control turbidity being utilized when operationally feasible and federally listed threatened or endangered species may be present?

YES☐ NO☐ N/A☐ **(10)** If the proposed structure(s) is to be located within an anadromous fish use area, the prospective permittee will adhere to the anadromous fish use area time of year restriction (TOYR) prohibiting in-water work from occurring between February 15 through June 30 of any given year if (1) piles are to be installed with a cushioned impact hammer and there is less than 492 feet between the most channelward pile and mean low water (MLW) on the opposite shoreline or (2) piles are to be installed with a vibratory hammer and there is less than 384 feet between the most channelward pile and MLW on the opposite shoreline.

YES☐ NO☐ **(11)** Is all work occurring outside of submerged aquatic vegetation (SAV) mapped by the Virginia Institute of Marine Sciences' (VIMS) most recent survey year and 5 year composite?

YES☐ NO☐ **(12)** Has the permittee ensured the construction and/or installation of the proposed structure(s) will not affect federally listed threatened or endangered species or designated critical habitat?

YES☐ NO☐ **(13)** Will the proposed structure be located outside of Broad Creek in Middlesex County, Fisherman's Cove in Norfolk, or the Salt Ponds in Hampton?

YES☐ NO☐ **(14)** Will the proposed structure(s) be located outside of the waterways containing a Federal Navigation Project listed in Permit Specific Condition 12 of 18-RP-17 and/or will all portions of the proposed structure(s) be located more than 85 feet from the Federal Navigation Project?

YES☐ NO☐ **(15)** Will the proposed structure(s) be located outside a USACE Navigation and Flood Risk Management project area?

YES☐ NO☐ **(16)** Will the proposed structure(s) be located outside of any Designated Trout Waters?

YES☐ NO☐ N/A☐ **(17)** If the proposed structure(s) includes flotation units, will the units be made of materials that will not become waterlogged or sink if punctured?

YES☐ NO☐ N/A☐ **(18)** If the proposed structure(s) includes flotation units, will the floating sections be braced so they will not rest on the bottom during periods of low water?

YES☐ NO☐ **(19)** Is the proposed structure(s) made of suitable materials and practical design so as to reasonably ensure a safe and sound structure?

YES☐ NO☐ **(20)** Will the proposed structure(s) be located on the property in accordance with the local zoning requirements?

YES☐ NO☐ N/A☐ **(21)** If the proposed structure(s) includes a device used for shellfish gardening, will the device be attached directly to a pier and limited to a total of 160 square feet?

YES☐ NO☐ N/A☐ **(22)** If the proposed structure(s) includes a device used for shellfish gardening, does the permittee recognize this RP does not negate their responsibility to obtain an oyster gardening permit (General Permit #3) from Virginia Marina Resources Commission's Habitat Management Division?

YES☐ NO☐ **(23)** Does the permittee recognize this RP does not authorize any dredging or filling of waters of the United States (including wetlands) and does not imply that future dredging proposals will be approved by the Corps?

YES☐ NO☐ **(24)** Does the permittee understand that by accepting 18-RP-17, the permittee accepts all of the terms and conditions of the permit, including the limits of Federal liability contained in the 18-RP-17 enclosure? Does the permittee acknowledge that the structures permitted under 18-RP-17 may be exposed to waves caused by passing vessels and that the permittee is solely responsible for the integrity of the structures permitted under 18-RP-17 and the exposure of such structures and vessels moored to such structures to damage from waves? Does the permittee accept that the United States is not liable in any way for such damage and that it shall not seek to involve the United States in any actions or claims regarding such damage?

IF YOU HAVE ANSWERED "NO" TO ANY OF THE QUESTIONS ABOVE, REGIONAL PERMIT 17 (18-RP-17) DOES NOT APPLY AND YOU ARE REQUIRED TO OBTAIN WRITTEN AUTHORIZATION FROM THE CORPS PRIOR TO PERFORMING THE WORK.

IF YOU HAVE ANSWERED "YES" (OR "N/A", WHERE APPLICABLE) TO ALL OF THE QUESTIONS ABOVE, YOU ARE IN COMPLIANCE WITH REGIONAL PERMIT 17 (18-RP-17). PLEASE SIGN BELOW, ATTACH, AND SUBMIT THIS CHECKLIST WITH YOUR COMPLETED JOINT PERMIT APPLICATION (JPA). THIS SIGNED CERTIFICATE SERVES AS YOUR LETTER OF AUTHORIZATION FROM THE CORPS. YOU WILL NOT RECEIVE ANY OTHER WRITTEN AUTHORIZATION FROM THE CORPS; HOWEVER, YOU MAY NOT PROCEED WITH CONSTRUCTION UNTIL YOU HAVE OBTAINED ALL OTHER NECESSARY STATE AND LOCAL PERMITS.

I CERTIFY THAT I HAVE READ AND UNDERSTAND ALL CONDITIONS OF THE REGIONAL PERMIT 17 (18-RP-17), DATED SEPTEMBER 2018, ISSUED BY THE US ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT REGULATORY BRANCH (CENAO-WRR), NORFOLK, VIRGINIA.

Proposed work to be located at:

_____

Signature of Property Owner(s) or Agent

_____

Date_____

VMRC Number: National Park Service, Ms. Jerri Marr, Superintendent, National Park Service, Colonial National Historical Park, P.O. Box 210, Yorktown, VA 23690

Part 3 – Appendices

Please complete and submit the appendix questions applicable to your project, and attach the required vicinity map(s) and drawings to your application. If an item does not apply to your project, please write "N/A" in the space provided.

Appendix A: (TWO PAGES) Projects for Access to the water such as private and community piers, boathouses, marinas, moorings, and boat ramps. Answer all questions that apply.

1. **Briefly describe your proposed project**.

2. **For private, noncommercial piers:**
   Do you have an existing pier on your property? ____Yes____ No
   If yes, will it be removed? ____Yes ____No
   Is your lot platted to the mean low water shoreline? ____Yes ____No
   What is the overall length of the proposed structure? _____feet.
   Channelward of Mean High Water? _____feet.
   Channelward of Mean Low Water? _____feet.
   What is the area of the piers and platforms that will be constructed over
   Tidal non-vegetated wetlands _____ square feet.
   Tidal vegetated wetlands _____ square feet.
   Submerged lands _____square feet.
   What is the total size of any and all L- or T-head platforms?_____sq. ft.
   For boathouses, what is the overall size of the roof structure? _____sq. ft.
   Will your boathouse have sides?_____Yes____ No.

   NOTE: All proposals for piers, boathouses and shelter roofs must be reviewed by the Virginia Marine Resources Commission (Commission or VMRC), however, pursuant to § 28.2-1203 A 5 of the Code of Virginia a VMRC permit may not be required for such structures (except as required by subsection D of § 28.2-1205 for piers greater than 100 feet in length involving commercially productive leased oyster or clam grounds), provided that (i) the piers do not extend beyond the navigation line or private pier lines established by the Commission or the United States Army Corps of Engineers (USACE), (ii) the piers do not exceed six feet in width and finger piers do not exceed five feet in width, (iii) any L or T head platforms and appurtenant floating docking platforms do not exceed, in the aggregate, 400 square feet, (iv) if prohibited by local ordinance open-sided shelter roofs or gazebo-type structures shall not be placed on platforms as described in clause (iii), but may be placed on such platforms if not prohibited by local ordinance, and (v) the piers are determined not to be a navigational hazard by the Commission. Subject to any applicable local ordinances, such piers may include an attached boat lift and an open-sided roof designed to shelter a single boat slip or boat lift. In cases in which open-sided roofs designed to shelter a single boat, boat slip or boat lift will exceed 700 square feet in coverage or the open-sided shelter roofs or gazebo structures exceed 400 square feet, and in cases in which an adjoining property owner objects to a proposed roof structure, permits shall be required as provided in § 28.2-1204.

Part 3 – Appendices (continued)

3. **For USACE permits**, in cases where the proposed pier will encroach beyond one fourth the waterway width (as determined by measuring mean high water to mean high water or ordinary high water mark to ordinary high water mark), the following information must be included before the application will be considered complete. For an application to be considered complete:

   a. The USACE MAY require depth soundings across the waterway at increments designated by the USACE project manager. Typically 10-foot increments for waterways less than 200 feet wide and 20-foot increments for waterways greater than 200 feet wide with the date and time the measurements were taken and how they were taken (e.g., tape, range finder, etc.).
   b. The applicant MUST provide a justification as to purpose if the proposed work would extend a pier greater than one-fourth of the distance across the open water measured from mean high water or the channelward edge of the wetlands.
   c. The applicant MUST provide justification if the proposed work would involve the construction of a pier greater than five feet wide or less than four feet above any wetland substrate.

4. Provide the type, size, and registration number of the vessel(s) to be moored at the pier or mooring buoy.

   Type Length Width Draft Registration #

   _____

   _____

   _____

5. For **Marinas, Commercial Piers, Governmental Piers, Community Piers and other non-private piers**, provide the following information:
   A) Have you obtained approval for sanitary facilities from the Virginia Department of Health?_____ (required pursuant to Section 28.2-1205 C of the Code of Virginia).
   B) Will petroleum products or other hazardous materials be stored or handled at your facility?_____.
   C) Will the facility be equipped to off-load sewage from boats?_____.
   D) How many wet slips are proposed?_____. How many are existing?_____.
   E) What is the area of the piers and platforms that will be constructed over
      Tidal non-vegetated wetlands _____ square feet
      Tidal vegetated wetlands _____ square feet
      Submerged lands _____square feet

6. For **boat ramps**, what is the overall length of the structure?_____feet.
   From Mean High Water?_____feet.
   From Mean Low Water?_____feet.

   Note: drawings must include the construction materials, method of installation, and all dimensions. If tending piers are proposed, complete the pier portion.
   Note: If dredging or excavation is required, you must complete the Standard Joint Point Permit application.

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS**.**

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.**

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

2. What is the maximum encroachment channelward of mean high water?_____feet.
   Channelward of mean low water?_____feet.
   Channelward of the back edge of the dune or beach?_____feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands _____square feet
   - Non-vegetated wetlands _____square feet
   - Subaqueous bottom _____square feet
   - Dune and/or beach _____square feet

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? ____ Yes____ No.

   If yes, will the construction of the new bulkhead be no further than two (2) feet channelward of the existing bulkhead? _____Yes ____No.

   If no, please provide an explanation for the purpose and need for the additional encroachment.

Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
   NOTE: **Drawings must include construction details, including dimensions, design and all materials, including fittings if used**.

6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
   Core (inner layer) material_____ pounds per stone Class size _____
   Armor (outer layer) material _____ pounds per stone Class size _____

7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

   - Volume of material
     _____ cubic yards channelward of mean low water
     _____ cubic yards landward of mean low water
     _____ cubic yards channelward of mean high water
     _____ cubic yards landward of mean high water
   - Area to be covered
     _____ square feet channelward of mean low water
     _____ square feet landward of mean low water
     _____ cubic yards channelward of mean high water
     _____ cubic yards landward of mean high water
   - Source of material, composition (e.g. 90% sand, 10% clay):_____
   - Method of transportation and placement:

     _____
   - Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:

Received by VMRC August 28, 2023 /blh

Part 3 – Appendices (continued)

Appendix C: Crossings in, on, over, or under, waters, submerged lands, tidal wetlands and/or dunes and beaches, including but not limited to, bridges, walkways, pipelines and utility lines.

1. What is the purpose and method of installation of the crossing?

2. What is the width of the waterway and/or wetlands to be crossed
   from mean high water to mean high water (tidal waters)? _____ feet.
   from mean low water to mean low water (tidal waters)? _____ feet.
   from ordinary high water to ordinary high water (non-tidal waters)? _____ feet.

3. For bridges (footbridges, golf cart bridges, roadway bridges, etc.), what is the width of the structure over the tidal wetlands, dunes/beaches and/or submerged lands? _____square feet.

4. For overhead crossings:
   a. What will be the height above mean high water? _____feet.
   b. If there are other overhead crossings in the area, what is the minimum height? _____feet.
   c. If the proposed crossing is an electrical line, please confirm the total number of electrical circuits: _____

5. For buried crossings, what will be the depth below the substrate? _____feet. Will the proposed utility provide empty conduits for any additional utilities that may propose to co-locate at a later date? _____Yes _____No.

6. Will there be any excavation or fill required for placement of abutments, piers, towers, or other permanent structures on State-owned submerged lands, tidal wetlands, and dunes/beaches? ____Yes ____ No.

   If yes, please provide the following:

   a. Amount of excavation in wetlands _____ cubic yards
      _____ square feet

   b. Amount of excavation in submerged land _____ cubic yards
      _____ square feet

   c. Amount of excavation in dune/beach _____ cubic yards
      _____ square feet

   d. Amount of fill in wetlands _____ cubic yards
      _____ square feet

   e. Amount of fill in submerged lands _____ cubic yards
      _____ square feet

   f. Amount of fill in dune/beach _____ cubic yards
      _____ square feet

Part 3 – Appendices (continued)

Appendix D: Aquaculture Related Structures such as cages and floats. Before completing this appendix, please review the aquaculture requirements summary at: http://mrc.virginia.gov/Shellfish_Aquaculture.shtm.

1. Will the activity be for commercial purposes? _____Yes _____ No.

   If Yes and structures will be placed upon an oyster ground lease, you may qualify for the VMRC General Permit #4 for Temporary Protective Enclosures for Shellfish. For more info see: http://www.mrc.virginia.gov/regulations/MRC_Scanned_Regs/Shellfish_Mix/fr1130_12-0107.pdf. If you qualify for the General Permit #4, or if such structures are proposed that are not on an oyster planting ground lease, or for floating structures of any kind, complete this Joint Permit Application and include the necessary information requested below in question 2 through 11.

   If No, you may qualify for the VMRC General Permit #3, for Noncommercial Riparian Shellfish Growing (i.e. "Gardening") For more information see: http://www.mrc.virginia.gov/forms/VGP3_Aquaculture.doc.pdf. If you qualify for this general permit use the Abbreviated Joint Permit Application For Noncommercial Riparian Shellfish Aquaculture Structures available at https://mrc.virginia.gov/forms/2019/VGP3_Aquaculture_form_2019.pdf ***do not use this Joint Permit Application***.

2. Will aquaculture structures be attached to an existing pier or other structure? ____ Yes ____ No.

3. The plat file # if proposed upon oyster planting ground lease(s)._____

4. The maximum area where enclosures are proposed. _____ square feet

5. The maximum number of enclosures being proposed to be deployed. _____

6. The species of shellfish to be cultured. _____

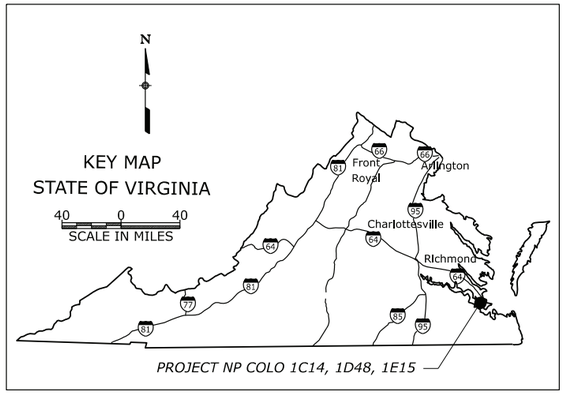
7. A detailed description of the enclosures to include width, length and height.

8. In addition to the requirements itemized in Part 4 Project Drawings, the following additional information must be included on your project drawings: A general description of the area within 500 feet of deployment area. Provide a drawing that depicts existing marine resources such as SAV, shellfish beds, fixed fishing devices, public grounds, piers, water depths at mean low water, tide range, and the minimum clearance at mean low tide over the enclosures.

9. Provide the date enclosures are proposed to be deployed _____. How will the structures be secured? _____.

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	A01



U.S. DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

COLONIAL NATIONAL HISTORICAL PARK

PLANS FOR PROPOSED

PROJECT VA NP COLO 1C14, 1D48, 1E15

REHABILITATION OF EIGHT BRIDGES (STRUCTURE NO. 4290-023P, 4290-024P, 4290-025P, 4290-026P, 4290-028P, 4290-029P, 4290-031P, AND 4290-039T)

INDEX TO SHEETS

DESCRIPTION OF PROJECT

IMPROVEMENT: Repair concrete spalls, clean and reseal joints, clean and paint structural steel, clean and seal concrete decks, repair timber decks, and other miscellaneous work.

PROJECT LENGTH: 0.54 Miles

LANE MILES: 0.72 Miles

ROAD:	WIDTH	SURFACE	BASE
Colonial Parkway	24' to 38'	Exposed Aggregate Concrete	Aggregate Base
Jamestown Loop	10' to 25'	Asphalt	Aggregate Base

BRIDGE:

Structure Name	Structure No.	PMIS Number	Last Date of Inspection
College Creek Bridge	4290-023P	222636	6/22/2021
Mill Creek Bridge	4290-024P	222632	6/22/2021
Powhatan Creek Bridge	4290-025P	323954	6/22/2021
Isthmus Bridge	4290-026P	222594	6/21/2021
Pitch and Tar Bridge	4290-028P	222622	6/21/2021
Blacks Point Bridge	4290-029P	222643	6/21/2021
Long Bridge	4290-031P	222642	6/21/2021
Jamestown Visitor Center Pedestrian Bridge	4290-039T	321154	6/11/2015

DESIGN DESIGNATION:

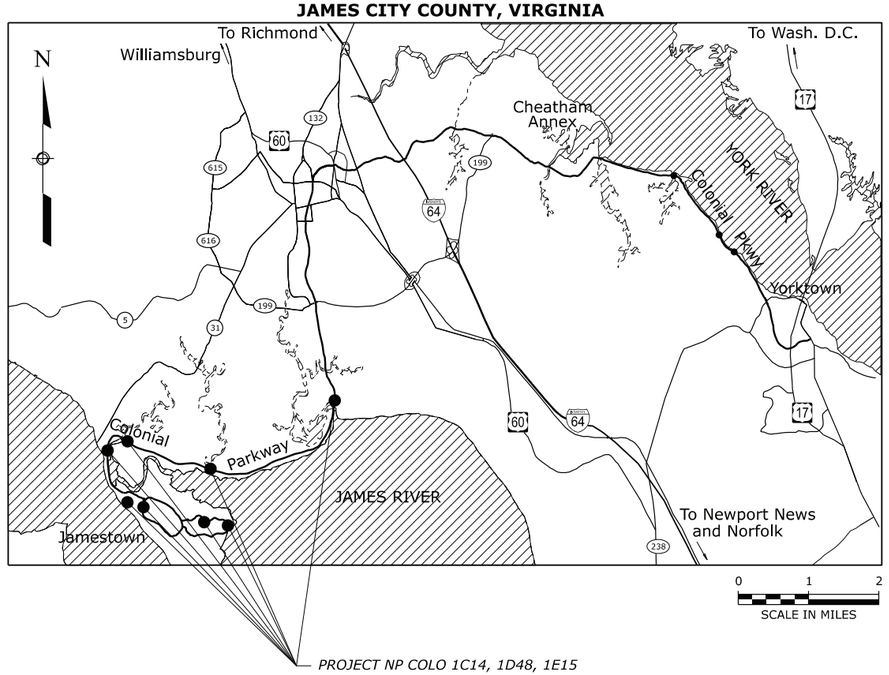
	Colonial Parkway
ADT (2022)	5345
ADT (2041)	7942
DHV	935
D	50/50
%Truck	2%
V (MPH)	20-50
C/A	None
e(max)	8%

SPECIFICATIONS:

"Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects", FP-14.

Project Manager	Highway Design Manager	Lead Designer
D. WESTON	J. JOHNSON	K. KHAN

JAMES CITY COUNTY, VIRGINIA



95% PLANS

PLANS PREPARED BY

U.S. Department of Transportation
Federal Highway Administration

EASTERN FEDERAL LANDS HIGHWAY DIVISION
ASHBURN, VIRGINIA
JULY, 2022

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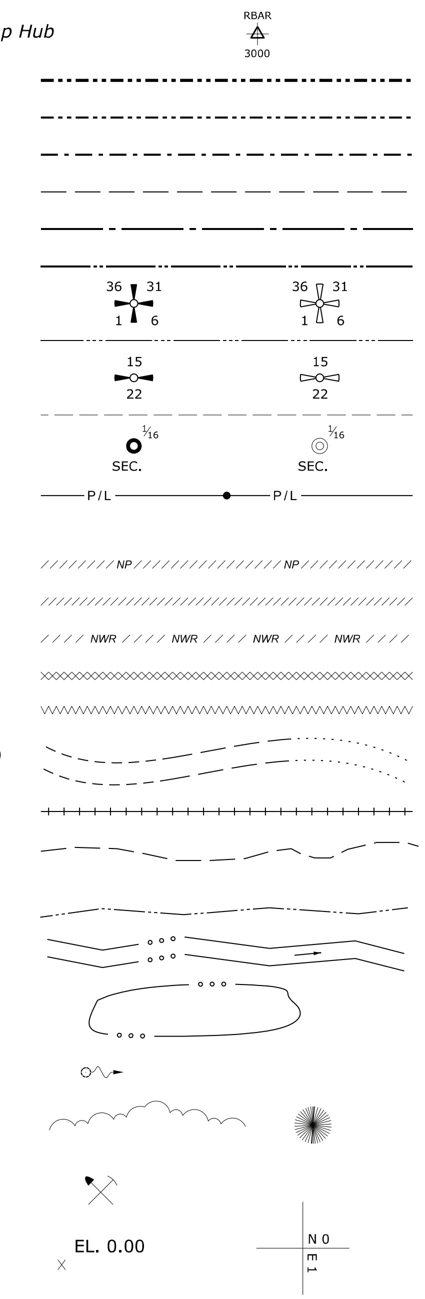
Received by VMRC August 28, 2023 /blh

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	A02

Δ	total central angle
Δc	curve central angle
Ø	diameter
θs	spiral central angle
abut.	abutment
ACP	asphalt concrete pavement
ADT	average daily traffic
AH	ahead
appr.	approach
BK	back
BM	benck mark
BP	balance point
br.	bridge
brg.	bearing
cc or c. to c.	center to center
CL	centerline
CMP	corrugated metal pipe
CO	contracting officer
col.	column
conc.	concrete
conn.	connection
constr. jt.	construction joint
cont.	continuous
CS	curve to spiral
ctrs.	centers
D	diameter
DHV	design hourly volume
dia.	diameter
diag.	diagonal
diaph.	diaphragm
dist.	distance
drwg(s).	drawing(s)
DSY	double solid yellow
E	east
e	superelevation rate
elev.	elevation with number
elev.	elevation
emb.	embankment
EOP	edge of pavement
EOS	edge of shoulder
EOT	edge of travel way
EQ or eq.	equation
ER	edge of road
ESAL	equivalent single axle load
EW	edge of water
exc.	excavation
exp. jt.	expansion joint
fin.	finish
flg.	flange
ftg.	footing
ga.	gage (gauge)
galv.	galvanized
hdwl.	headwall
hex.	hexagon
HW	high water
ID	inside diameter
jt.	joint
L	length of curve
lam.	lamination
lat.	latitude
LOD	Limits of Disturbance
long.	longitudinal
LPSM	lump sum
Ls	length of spiral
lt. or LT	left
LW	low water
ML	main line
MP	mile post
max.	maximum
min.	minimum
mon.	monument
N	north
NC	normal crown
NMSA	nominal maximum size aggregate
o. c.	on center
ohwm	ordinary high water mark
o. to o.	out to out
OD	outside diameter
OG	original ground
PC	point of curve
PCC	point of compound curve
PCS	point of curve to spiral
PI	point of intersection
pl.	plate
POC	point on curve
POS	point on spiral
POT	point on tangent
PS	point of tangent to spiral
PSC	point of spiral to curve
PST	point of spiral to tangent
PT	point of tangent
pvmt.	pavement
R	radius
R.	range
R/W	right-of-way
rdwy.	roadway
RECP	rolled erosion control product
reinf.	reinforcement
reqd.	required
rt. or RT	right
rte.	route
S	south
SADT	seasonal average daily traffic
SC	point of spiral to curve
sec.	section
shldr.	shoulder
spa.	spacing, spaces or spaced
sqft	square foot
sqyd	square yard
SRS	point of spiral to reverse spiral
SS	point of spiral to spiral (no curve)
ST	point of spiral to tangent
Sta.	station
std.	standard
stgr.	stringer
stiff.	stiffener
struc.	structural
STS	point of spiral to tangent spiral
sym.	symmetrical
T	tangent distance
T.	township
TBM	temporary bench mark
thd.	thread
TS	point of tangent to spiral
Ts	tangent distance (spiraled curve)
typ.	typical
V	design speed
vph	vehicles per hour
VPI	vertical point of intersection
W	west

Control Point (Terrestrial and GPS); Jump Hub
National Boundary
State Boundary
County Boundary
City Boundary
Township or Range Line
Section Line
Section Corner (Found, Projected)
¼ Section Line
¼ Section Corner (Found, Projected)
$^1/_{16}$ Section Line
$^1/_{16}$ Section Corner (Found, Projected)
Property Line w/Found Property Corner
Parcel Number
National Park Boundary
National Forest Boundary
National Wildlife Refuge Boundary
BLM Lands Boundary
Indian Reservation Boundary
Existing Roadway (Road, Paved, Gravel)
Railroad
Trail
Intermittent Drainage or Small Creek
Large Creek or River
Lake, Pond or Reservoir; Marshland
Spring or Seep
Treeline; Individual Trees, Pine
Material Source; Bore Hole; Test Pit
Spot Elevation; Coordinate Grid Tick



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27 June 2022 2:46 PM

NO.	DATE	BY	REVISIONS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

Colonial National Historical Park

SYMBOLS AND ABBREVIATIONS

Sheet 1 of 2

NPS PMIS No. 222636, 222632, 323954, 2225
NPS PMIS No. 222622, 222643, 222642, 3211

STATE	
VA	VA

PROJECT SPECIFIC SYMBOLS AND ABBREVIATION

North Arrow

	EXISTING	PROPOSED
Slope Stake Limits	Top of Cut Toe of Fill Transition	
Fence		
Gate with Fence		
Cattleguard		
Guardrail		
Concrete Barrier		
Retaining Wall		
Signs (single, double post; portable)		
Delineators		
Pipe Culvert (arrow shows flow)		
Pipe Culvert with End Section		
Pipe Culvert with Headwall		
Pipe Culvert with Drop Inlet		DI
Box Culvert		
Underdrain	UD	UD
Overhead/Above Ground Utilities	P	P
Underground Utilities	W	W

FM = force main, FO = fiber optic, G = gas, IRR = irrigation, O = oil,
P = power, SA = sanitary sewer, SD = storm drain, SS = storm sewer,
STEAM = steam, T = telephone, TV = CATV, W = water

Poles (Power, Telephone, Joint Use,
Light, Support w/Anchor)

Miscellaneous Utility Features
EM = electric meter, T = telephone pedestal, TV = CATV pedestal,
UP = transformer or junction box, WF = water fountain

Building

Right-of-Way Line with Monument — r/w — R/W

Permanent Easement — P/E — P/E

Construction Easement — TCE

Riprap

AREA PATTERN

Pavement Removal / Roadway Obliteration

Full Depth Pavement

Sidewalk Asphalt/Concrete

Mill and Overlay

Overlay

Silt Fence — SF

Diversion Berm — DB

Drainage Divide

Check Dam

Limits of Disturbance — LOD LOD LOD

Fiber Roll or Wattle

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Colonial National Histor

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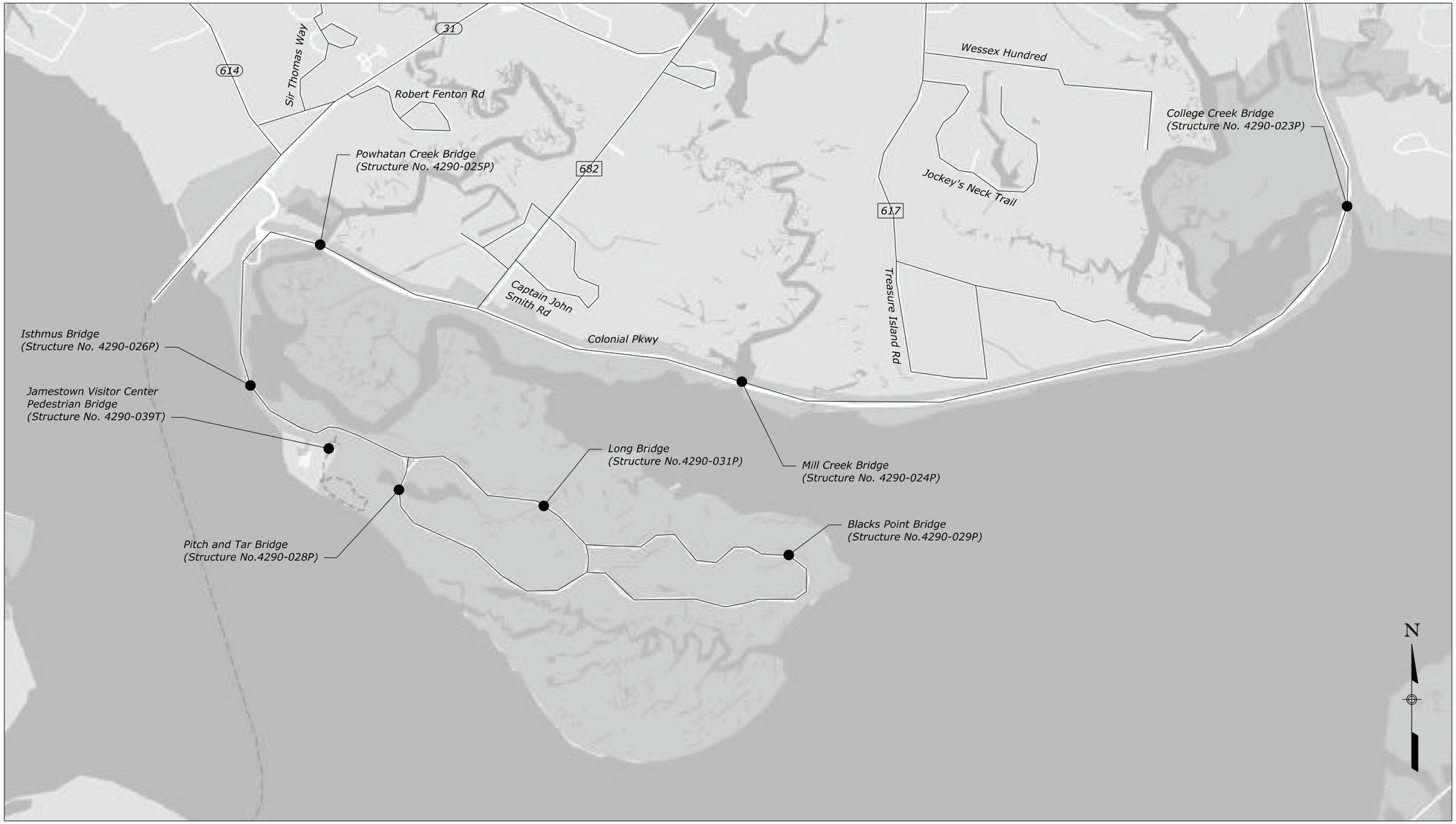
NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	A04



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COLONIAL NATIONAL HISTORICAL PARK

LOCATION MAP

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STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C01

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
A1000	15101-0000	MOBILIZATION	LPSM	ALL
A1010	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM	ALL
A1020	15401-0000	CONTRACTOR TESTING	LPSM	ALL
A1030	15701-0000	SOIL EROSION CONTROL	LPSM	ALL
A1040	20102-0000	CLEARING AND GRUBBING (TREES AND SHRUBS)	LPSM	ALL
A1050	20302-0150	REMOVAL OF BRIDGE RAILING (TIMBER)	LNFT	1,150
A1060	20303-0200	REMOVAL OF BRIDGE DECK	SQYD	380
A1070	55501-0000	STRUCTURAL STEEL (REPLACE MISSING, CLEAN, AND COAT HARDWARE, 4290-031P)	LPSM	ALL
A1080	55501-0000	STRUCTURAL STEEL (REPLACE MISSING, CLEAN, AND COAT HARDWARE, 4290-029P)	LPSM	ALL
A1090	55501-0000	STRUCTURAL STEEL (REPLACE MISSING, CLEAN, AND COAT HARDWARE, 4290-028P)	LPSM	ALL
A1100	55601-1300	BRIDGE RAILING, TIMBER	LNFT	1,150
A1110	55701-2000	STRUCTURAL TIMBER AND LUMBER, TREATED	MFBM	18
A1120	55720-0000	REPAIR STRUCTURAL TIMBER AND LUMBER (REATTACH SUPERSTRUCTURE BRIDGING)	LPSM	ALL
A1130	57601-0000	PILE ENCAPSULATION (TIMBER PILE)	LNFT	32
A1140	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
A1150	63701-0000	FIELD OFFICE	EACH	1
A1160	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES A

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C02

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
B1000	15101-0000	MOBILIZATION	LPSM	ALL
B1010	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM	ALL
B1020	15401-0000	CONTRACTOR TESTING	LPSM	ALL
B1030	15701-0000	SOIL EROSION CONTROL	LPSM	ALL
B1040	20102-0000	CLEARING AND GRUBBING (TREES AND SHRUBS)	LPSM	ALL
B1050	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, COLLEGE CREEK BRIDGE)	LPSM	ALL
B1060	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, POWHATAN CREEK BRIDGE)	LPSM	ALL
B1070	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, MILL CREEK BRIDGE)	LPSM	ALL
B1080	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, ISTHMUS BRIDGE)	LPSM	ALL
B1090	55220-0000	REPAIR CONCRETE (RAILINGS AND CURBS)	SQYD	3
B1100	55220-0000	REPAIR CONCRETE (PIERS AND DECK UNDERSIDE)	SQYD	25
B1110	55223-0000	REPAIR CONCRETE (EPOXY PAINT EXPOSED REBAR)	LNFT	100
B1120	55224-0000	SEAL CONCRETE SURFACE	SQYD	1,600
B1130	55225-0000	CLEAN AND RESEAL JOINTS	LNFT	660
B1140	55506-0000	MISCELLANEOUS STEEL (REPAIR SAGGING UTILITY CONDUITS)	EACH	3
B1150	56101-0000	STRUCTURAL CONCRETE INJECTION AND CRACK REPAIR	LNFT	36
B1160	57601-0000	PILE ENCAPSULATION (CONCRETE PILE)	LNFT	73
B1170	60706-0000	CLEANING DRAINAGE STRUCTURE (WEEP HOLE)	EACH	6
B1180	61401-0000	LEAN CONCRETE BACKFILL	CUYD	9
B1190	63308-3000	OBJECT MARKER, TYPE 3	EACH	4
B1200	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
B1210	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES B

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C03

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
C1000	15101-0000	MOBILIZATION	LPSM	ALL
C1010	15401-0000	CONTRACTOR TESTING	LPSM	ALL
C1020	20102-0000	CLEARING AND GRUBBING (TREES AND SHRUBS)	LPSM	ALL
C1030	55506-0000	MISCELLANEOUS STEEL (REATTACH LOOSE FASCIA BOARDS)	EACH	10
C1040	55603-1000	REMOVE AND RESET BRIDGE RAILING	LPSM	ALL
C1050	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
C1060	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES C

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C04

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
D1000	15101-0000	MOBILIZATION	LPSM	ALL
D1010	15401-0000	CONTRACTOR TESTING	LPSM	ALL
D1020	56301-2000	PAINTING, STEEL STRUCTURE (COLLEGE CREEK BRIDGE)	LPSM	ALL
D1030	56301-2000	PAINTING, STEEL STRUCTURE (ISTHMUS BRIDGE)	LPSM	ALL
D1040	56301-2000	PAINTING, STEEL STRUCTURE (MILL CREEK BRIDGE)	LPSM	ALL
D1050	56320-0000	CONTAINMENT SYSTEM AND WORKER PROTECTION PLAN (MILL CREEK BRIDGE)	LPSM	ALL
D1060	56320-0000	CONTAINMENT SYSTEM AND WORKER PROTECTION PLAN (COLLEGE CREEK BRIDGE)	LPSM	ALL
D1070	56320-0000	CONTAINMENT SYSTEM AND WORKER PROTECTION PLAN (ISTHMUS BRIDGE)	LPSM	ALL
D1080	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
D1090	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES C

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C05

CONSTRUCTION SIGN SUMMARY

SCHEDULE	MUTCD NO.	SIGN TEXT	PANEL SIZE WIDTH (in)	PANEL SIZE HEIGHT (in)	PANEL SIZE AREA (sqft)	COLOR COMBINATION	QUANTITY	Schedule A Pay Item 63504-1000 TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN SQFT	Schedule C Pay Item 63504-1000 TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN SQFT
A	R11-2	ROAD CLOSED	48	30	10.00	Black on White	1	10.0	
C	R11-3B	PEDESTRAIN BRIDGE CLOSED	60	30	12.50	Black on White	1		12.5
							Subtotal this Sheet	10.0	12.5
							Rounded Total	10	13

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COLONIAL NATIONAL HISTORICAL PARK

CONSTRUCTION SIGN SUMMARY

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	M01

EROSION AND SEDIMENT CONTROL NARRATIVE

1. GENERAL GUIDELINES

The Erosion and Sediment Control Plan/Location (ESCP) is a guideline for preventing erosion and controlling sediment. The work consists of applying measures throughout the life of the project to control erosion and to minimize the sedimencation of rivers, streams, and impoundments such as lakes, reservoirs, bays, and coascal waters. The measures consist of scabilization and structural practices, stormwater controls, and other miscellaneous pollution prevention controls. Soil erosion control and turf escablishment measures are also defined and outlined in the Scandard Specifications for Construction of Roads and Bridges on Federal Highway Projeccs, FP-03, U.S. Customary Units and the Special Contract Requirements.

Coordinate the inscallation, use, and removal of erosion and sediment control measures with roadway construction activities to assure economical, effective, and continuous erosion and sediment control. Employ temporary scabili- zation practices in incremencal scages as construction proceeds.

Inscall all erosion and sediment control measures as shown in the Plans or as directed by the Contracting Officer (CO). Do not modify the type, size, or location of any control or practice without approval from the CO.

Preventing initial soil erosion is much more effective than trying to control eroded sediment. Therefore, scabilize all disturbed areas as soon as is practical, but no more than 14 days after construction activity has temporarily or permanently ceased.

Control only sediment-laden runoff generated by the project site. Do not drive construction equipment in or across flowing waterways.Do not allow construction vehicles to track sediment offsite of the project limits.

Do not allow any construction equipment to operate or access on the downslope side of perimeter control measures. In general, preserve existing vegecation, trees, and shrubs when possible, and where specifically directed by the CO.

2. SITE DESCRIPTION

A. NATURE OF ACTIVITY

Project COLO 1A18, D42, 500(1), 107(1), 108(1), 109(1) consists of the rehabilication of several bridges and ramps in Virginia along the Colonial Parkway.

B. SEQUENCE OF CONSTRUCTION

Unless otherwise noted, sequence of construction phasing applies to all areas of work.

* PHASE I (ESTABLISH PERIMETER CONTROLS):

Prior to bridge repair and improvemencs, construct perimeter controls to ensure that any disturbed sediment does not leave the proJect site. Perimeter controls include silt fence.

* PHASE II (INTERMEDIATE CONTROLS/STABILIZATION):

Apply temporary turf escablishment and 2-inch topsoil on uncompleted disturbed areas that will remain exposed for more than 14 calendar days or as directed by the CO.

As soon as practical, but not to exceed 14 calendar days, apply permanent turf escablishment to the finished slopes and ditches according to Sections 624 and 625.

To control erosion during the time periods between seeding seasons shown in Section 625, apply temporary mulch in lieu of temporary turf escablishment.

When directed by the CO, apply temporary mulch to all disturbed slopes at the end of each day's operations.

Inscall temporary inlet protection to any inlet, susceptible to receiving sediment laden water.

In order to prevent traffic hazards caused by ponded water on the roadway, do not inscall inlet protection at inlets adjacent to traffic.

Do not allow ponded water to encroach into travel lanes.

Provide silt fence around all stockpiled roadway material. Apply temporary mulch or temporary turf escab- lishment to stockpiles remaining in place longer than 14 days or when directed by the CO.

* PHASE III (FINAL CONTROLS/STABILIZATION):

After completion of construction, perform the following as directed by the CO:

Where necessary, replace eroded topsoil and reapply permanent turf escablishment to disturbed areas were vegecation has not escablished.

Inspect, clean, and repair all culvert outlet protection, riprap basins, and scabilized channels.

Remove silt fence and inlet protection only after all upslope areas are scabilized and vegecation is well escablished.

Remove all perimeter silt fence only after turf is well escablished.

Remove all perimeter controls, silt fence, and other erosion and sediment control measures when directed by the CO.

Scabilize all areas which are disturbed due to the removal of sediment control devices.

3. LIST OF STABILIZATION PRACTICES

A. TEMPORARY

Temporary scabilization practices used on this project include temporary seeding with mulching, preservation of existing vegecation, and other approved measures.

4. LIST OF STRUCTURAL PRACTICES

Structural practices used on this project include silt fence, culvert inlet/outlet protection measures, and other approved measures.

5. INSPECTION AND MAINTENANCE PROCEDURES FOR CONTROLS

Inspect, maincain, and clean all erosion and sediment control measures according to Section 157. Check, clean, and repair erosion and sediment control measures at least weekly, but also within 24 hours after a rain at 0.5 inches or more, and daily during wet weather. Clean erosion and sediment control measures when half full of sediment. Repair measures as necessary. Replace erosion and sediment control measures that cannot be maincained and those that are damaged by construction operations. If visible sedimencation is found off-site, cake immediate measures to clean up cne site. Maincain written records of inspection and repairs. Provide the CO with copies every month and the entire record at the completion of the project.

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EROSION AND SEDIMENT CONTROL NARRATIVE

STATE	PROJECT	SHEET NUMBER
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VESCH Minimum Standards (MS-19)

This section presents the guidelines & requirements identified in Chapter 6 of the Virginia Erosion & Sediment Control Handbook. All applicable minimum standards (from the Virginia Erosion & Sediment Control Regulations, MS-1MS-19 must be addressed.

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 13 days. Permanent stabilization shall be applied to areas to be left dormant for more than one year.	*1. Contractor must apply temporary seeding or other temporary stabilization to all denuded areas which will remain dormant for longer than 14 days.*
2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. Temporary protection and permanent stabilization shall be applied to all soil stockpiles onsite and borrow areas or soil intentionally transferred offsite.	*2. Not Applicable*
3. Permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.	*3. Contractor must apply topsoil and permanent seed mix, approved by the CO, to all denuded areas. No foreign soil can be brought into the project site without approval.*
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.	*4. Contractor must establish perimeter controls prior to any land disturbing activity.*
5. Stabilization measures shall be applied to earthen structures such as dams, dikes and other diversions immediately after installation.	*5. Not Applicable*
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. Sediment traps shall be constructed to control drainage areas less than three acres with minimum storage capacity of 134 cubic yards/acre of drainage area. The outfall system shall at a minimum maintain the structural integrity of the basin during a 25 year storm of 24 hours.	*6. Not Applicable*
7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within on year of permanent stabilization shall be provided with additional slope stabilization measures until the problem is corrected.	*7. Not Applicable*
8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structures.	*8. Not Applicable. All flow must remain sheet flow.*
9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided	*9. Not anticipated.*
10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.	*10. Not Applicable.*
11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.	*11. Not Applicable.*
12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non-erodible cover materials.	*12. Contractor must install in-stream protection measures to minimize channel impacts.*
13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of non-erodible material shall be provided.	*13. Not Applicable.*
14. All applicable federal, state, and local regulations pertaining to working in or crossing live watercourses shall be met.	*14. Contractor must follow all applicable federal, state, and local regulations.*
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.	*15. Contractor must immediately restabilize the areas subject to in-stream construction.*
16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:	
A. No more than 500 linear feet of trench may be opened at one time.	*A. Not applicable*
B. Excavated material shall be placed on the uphill side of trenches.	*B. Not applicable*
C. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams on off-site property.	*C. Contractor must not discharge sediment-laden runoff or groundwater. Contractor shall install and maintain sediment trapping device prior to discharge.*
D. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.	*D. Not Applicable.*
E. Re-stabilization shall be accomplished in accordance with these regulations.	*E. Contractor must re-stabilize any disturbed area until permanent stabilization is achieved.*
F. Applicable safety regulations shall be complied with.	*F. Contractor to adhere to all applicable safety regulations.*
17. Where construction vehicles access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of the day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land disturbing activities.	*17. Contractor to sweep streets and allay dust daily within the project area.*
18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the deposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.	*18. Contractor must remove temporary filter barriers following final stabilization and prior to project close out.*
19. Properties and waterways downstream from development sites shall be protected from the sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Concentrated stormwater runoff leaving a development site shall be discharged directely into adequate natural or man-made receiving channel, pipe, or storm sewer system. For those sites, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.	*19. Contractor must discharge treated or filtered runoff directly to the open space unless otherwise directed and provide adequacy of channel protection downstream from up-sized culverts.*

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COLONIAL NATIONAL HISTORICAL PARK

EROSION AND SEDIMENT CONTROL NARRATIVE

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NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

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GENERAL NOTES

Adapt the traffic control plans to meet field conditions and provide safe and efficient traffic movement, as directed by the CO. Changes may be required when physical dimensions in the detail drawings, standard details, and roadway details are not attainable, or result in duplicate or undesired overlapping of devices. Modifications may include: moving, supplementing, covering, or removing devices.

The following general notes apply at all times for the duration of the construction project, except when otherwise noted in the plans, or directed by the CO.

1. *Obtain approval from the CO for final locations and spacing of all traffic control devices.*
2. *Cover or remove all conflicting signs and remove all conflicting striping for each stage, as approved by the CO.*
3. *Use steel plates to cover trenches in the roadway which cannot be backfilled to the pavement grade by the end of the day. Properly secure the steel plates if traffic is allowed to run over them.*

TRAFFIC CONTROL PHASE I

Close Pitch and Tar Bridge, Blacks Point Bridge, and Long Bridge using Type 3 barricades with "ROAD CLOSED" sign. See traffic control plan, for Pitch and Tar Bridge, Blacks Point Bridge, and Long Bridge, Schedule A, Phase I. Finish phase I construction before moving to phase II.

TRAFFIC CONTROL PHASE II

Remove all traffic control devices from phase I construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on College Creek Bridge. Finish College Creek Bridge construction before moving to work on Mill Creek Bridge.

Remove all traffic control devices from College Creek Bridge construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on MIll Creek Bridge. Finish MIll Creek Bridge construction before moving to work on Powhatan Creek Bridge.

Remove all traffic control devices from MIll Creek Bridge construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on Powhatan Creek Bridge. Finish Powhatan Creek Bridge construction before moving to work on Isthmus Bridge.

Remove all traffic control devices from Powhatan Creek Bridge construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on Isthmus Bridge. Finish Isthmus Bridge construction before moving to phase III construction.

TRAFFIC CONTROL PHASE III

Remove all traffic control devices from phase II construction and close Jamestown Visitor Center Pedestrian Bridge using Type 3 barricades with "PEDESTRIAN BRIDGE CLOSED" sign. See traffic control plan, for Jamestown Visitor Center Pedestrian Bridge, Schedule C, Phase III. Finish all the work in phase III construction and proceed with demobilization.

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TRAFFIC CONTROL NARRATIVE

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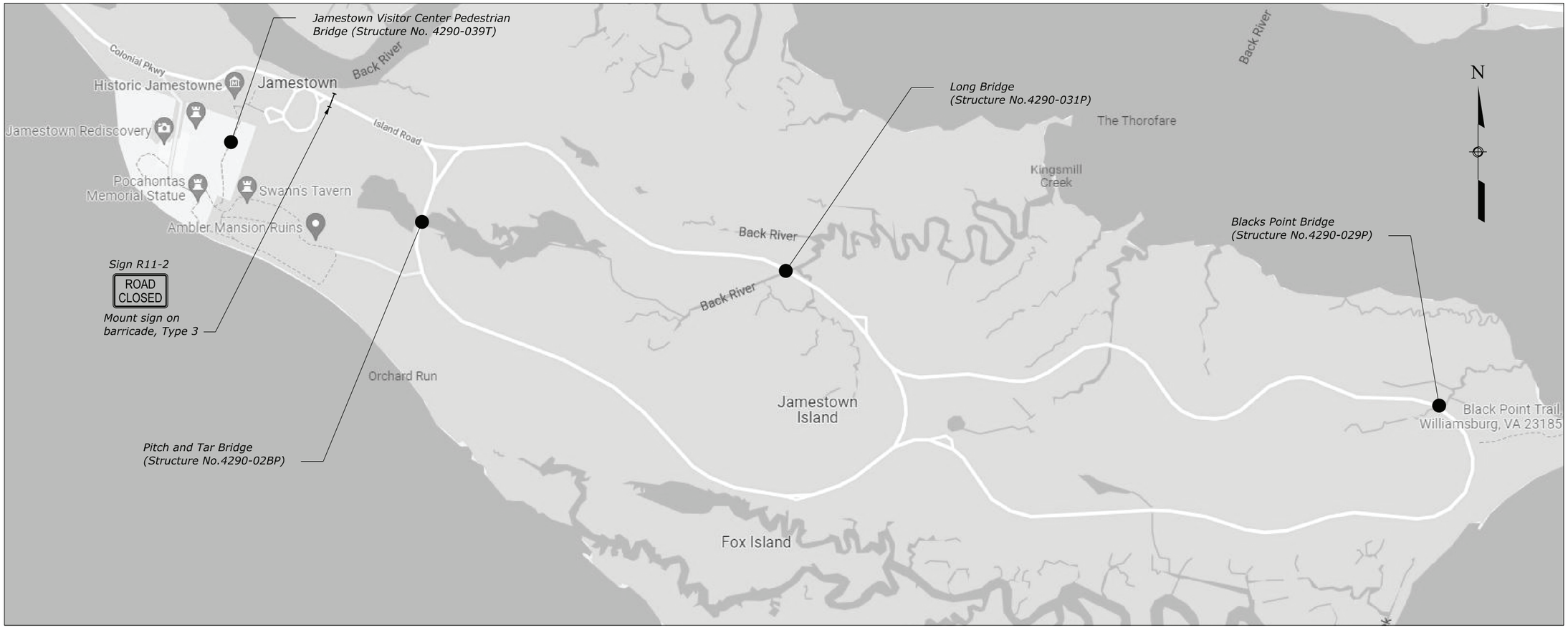
STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	N02



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TRAFFIC CONTROL PLAN

PITCH AND TAR BRIDGE, BLACK POINT BRIDGE, AND LONG BRIDGE
SCHEDULE A, PHASE I

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NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
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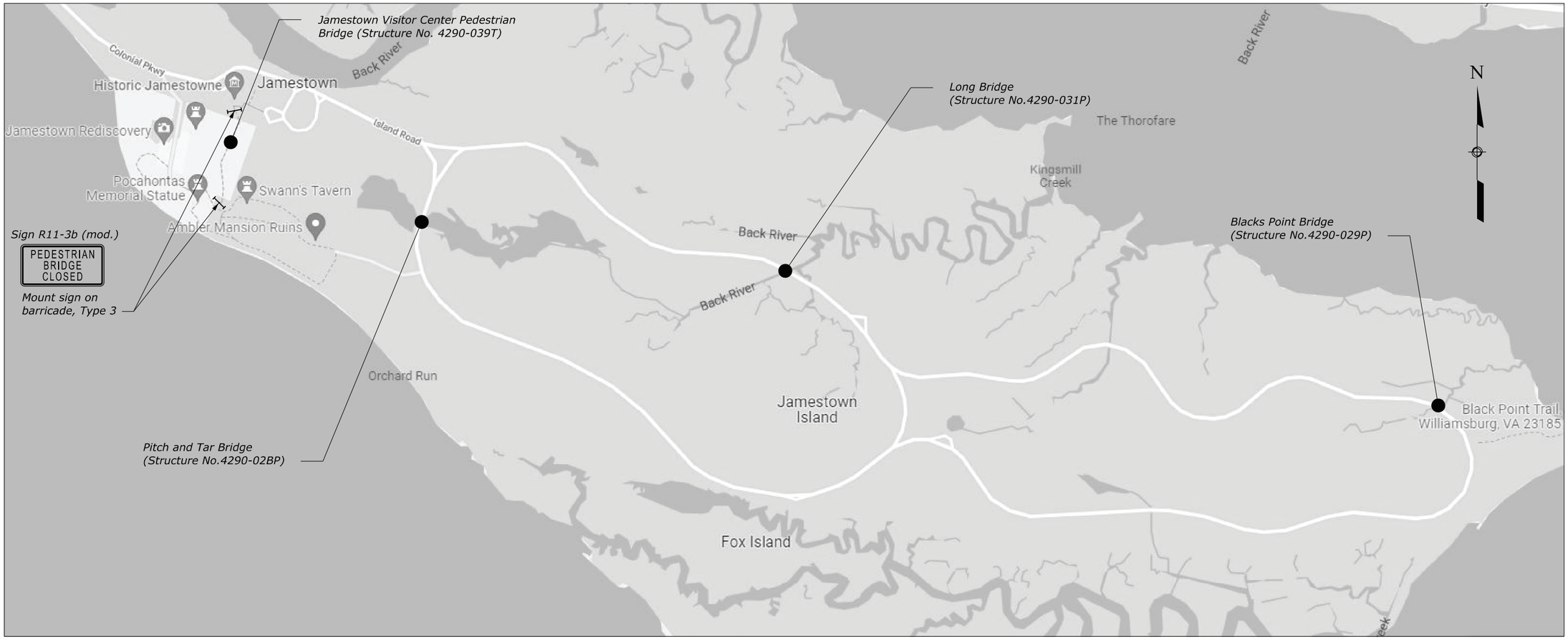

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COLONIAL NATIONAL HISTORICAL PARK

TRAFFIC CONTROL PLAN

PEDESTRIAN VISITOR CENTER BRIDGE
SCHEDULE C, PHASE III

C:\Users\kashif.khan\Desktop\01-Kashif Projects\26 COLO 1C14 1D48 1E15\000-CAAD\N03_NP COLO 1C14, 1D48, 1E15_ttc.dgn [Test concrete pad]
1 July 2022 9:45 AM

Received by VMRC August 28, 2023 /blh

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R01

GENERAL NOTES:

SPECIFICATIONS:

Design:

AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020 with 2021 Interim Revisions.

Construction:

Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14.

DESIGN LOADS:

Live Loads:

Timber Decks: H10 Truck

Dead Loads:

Concrete: 150 pcf

Timber: 50 pcf

MATERIALS:

Structural Steel:

Furnish high-strength bolts conforming to ASTM A325.
Furnish nuts conforming to ASTM A653.
Furnish washers conforming to ASTM F436.
Galvanize all bolts, nuts, and washers according to ASTM A153.

Reinforcing Steel:

Furnish reinforcing steel conforming to AASHTO M 31 (ASTM A615), Grade 60 deformed.
Provide 2-inch cover for reinforcing steel unless otherwise noted.
Use uncoated reinforcing steel unless otherwise noted.
Lap splices 30 bar diameters unless otherwise shown.

Structural Concrete:

Furnish Class HES (High Early Strength) for concrete repairs, f'c = 5000 psi at 28 days.

Timber:

Pressure treat all timber in accordance with the latest American Wood Protection Association Standard U1. Provide use category UC4C for all timber, Use waterborne copper-based solution or suspensions that do not contain arsenic and/or chromium compounds and obtain from a single approved source.

Furnish deck panels as S4S Southern Yellow Pine glued laminated, combination 47, grade N2M or better that conform to the design values from AASHTO LRFD Bridge Design Specifications, Table 8.4.1.2.3-2 - Reference Design Values for Structural Glued Laminated Softwood Timber.

Furnish curb components as S4S Southern Yellow Pine glued laminated, combination 24F-V3 or better that conform to the design values from AASHTO LRFD Bridge Design Specifications, Table 8.4.1.2.3-1 - Reference Design Values for Structural Glued Laminated Softwood Timber Combinations.

Furnish all other timber as S4S Southern Yellow Pine No. 1 or better that conforms to the design values from AASHTO LRFD Bridge Deisgn Specifications, Table 8.4.1.1.4-1 - Reference Design Values for Visually Graded Sawn Lumber (bridging).

Furnish hardware conforming to Subsection 557.07.

Paint:

Prepare and paint structural steel according to Section 563. Paint structural steel using Paint System 1 or 2.

Construction:

Verify all controlling field dimensions before ordering or fabricating any material. Where dimensions of the proposed work in this contract are dependent on the dimensions of configuration of the surrounding area, adjust dimensions of the work to fit existing conditions. Contact utility companies and locate all utilities before proceeding work.

The contractor is responsible for the stability of the structure during the construction phase.

INDEX OF BRIDGE PLAN SHEETS

4290-023P, 024P, 025P, 026P,
Structure Number : 028P, 029P, 031P, 039T

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

REHABILITATION OF COLLEGE CREEK BRIDGE, MILL CREEK BRIDGE, POWHATAN CREEK BRIDGE, ISTHMUS BRIDGE, PITCH AND TAR BRIDGE, BLACKS POINT BRIDGE, LONG BRIDGE, AND JAMESTOWN VISITOR CENTER PEDESTRIAN BRIDGE

GENERAL NOTES AND INDEX

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	1 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R02

SCOPE OF WORK:

Schedule A

Structure Number 4290-028P - Pitch and Tar Bridge

- *Remove and replace timber railing in-kind with new dimensions.*
- *Remove and replace timber deck in-kind.*
- *Tighten loose bolts and replace missing or damaged bolts/nuts.*
- *Clean and apply galvanizing spray to exterior beam bolts, nuts, and washers.*
- *Drive in uplifted deck spikes.*

Structure Number 4290-029P - Blacks Point Bridge

- *Remove and replace 12 glulam timbers.*
- *Tighten loose bolts and replace missing or damaged bolts/nuts.*
- *Clean and apply galvanizing spray to exterior beam bolts, nuts, and washers.*
- *Remove and replace pile bent cross bracing.*
- *Reattach loose superstructure bridging.*
- *Place Fiber Reinforced Polymer (FRP) pile jackets on piles according to "TIMBER PILE ENCAPSULATION" sheet.*
- *Drive in uplifted deck spikes.*

Structure Number 4290-031P - Long Bridge

- *Remove and replace 15 glulam timbers.*
- *Tighten loose bolts and replace missing or damaged bolts/nuts.*
- *Clean and apply galvanizing spray to exterior beam bolts, nuts, and washers.*
- *Place Fiber Reinforced Polymer (FRP) pile jackets on piles according to "TIMBER PILE ENCAPSULATION" sheet.*
- *Drive in uplifted deck spikes.*

Schedule B

Structure Number 4290-023P - College Creek Bridge

- *Locate and repair all deteriorated concrete at abutments, railings, and curbs.*
- *Clean and reseal joints.*
- *Clean and seal concrete deck.*
- *Place lean concrete backfill in areas of undermining near wingwalls.*
- *Remove vegetation growth along structure.*

Structure Number 4290-024P - Mill Creek Bridge

- *Locate and repair all deteriorated concrete at abutments, railings, and curbs.*
- *Clean and reseal joints.*
- *Clean and seal concrete deck.*
- *Remove vegetation growth along structure.*

Structure Number 4290-025P - Powhatan Creek Bridge

- *Locate and repair all deteriorated concrete at the bents, deck underside, and abutments.*
- *Clean and reseal joints.*
- *Remove vegetation growth along structure.*
- *Unclog weep holes at abutments.*
- *Place Fiber Reinforced Polymer (FRP) pile jackets on piles according to "CONCRETE PILE ENCAPSULATION" sheet.*

Structure Number 4290-026P - Isthmus Bridge

- *Locate and repair all deteriorated concrete at abutments, railings, deck underside, and curbs.*
- *Clean and reseal joints.*
- *Clean and seal concrete deck.*
- *Repair utility conduits.*
- *Replace missing anchor bolt nut.*
- *Remove vegetation growth along structure.*

Schedule C

Structure Number 4290-039T - Jamestown Visitor Center Pedestrian Bridge

- *Remove and replace damaged railing section with integrated lighting system in-kind.*
- *Repair fascia boards that are warped or separated from the structure.*

Schedule D

Structure Number 4290-023P - College Creek Bridge

- *Clean and paint steel superstructure.*

Structure Number 4290-024P - Mill Creek Bridge

- *Clean and paint steel superstructure.*

Structure Number 4290-026P - Isthmus Bridge

- *Clean and paint steel superstructure.*

4290-023P, 024P, 025P, 026P,
Structure Number : 028P, 029P, 031P, 039T

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

REHABILITATION OF COLLEGE CREEK BRIDGE, MILL CREEK BRIDGE, POWHATAN CREEK BRIDGE, ISTHMUS BRIDGE, PITCH AND TAR BRIDGE, BLACKS POINT BRIDGE, LONG BRIDGE, AND JAMESTOWN VISITOR CENTER PEDESTRIAN BRIDGE

SCOPE OF WORK

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	2 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R03

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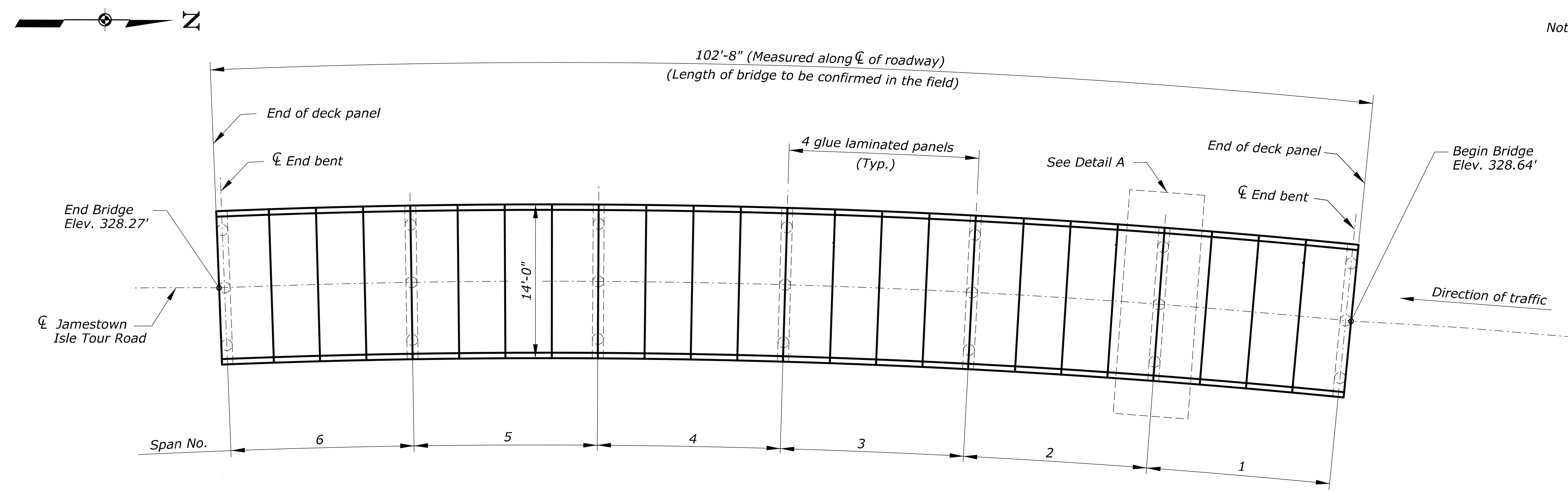
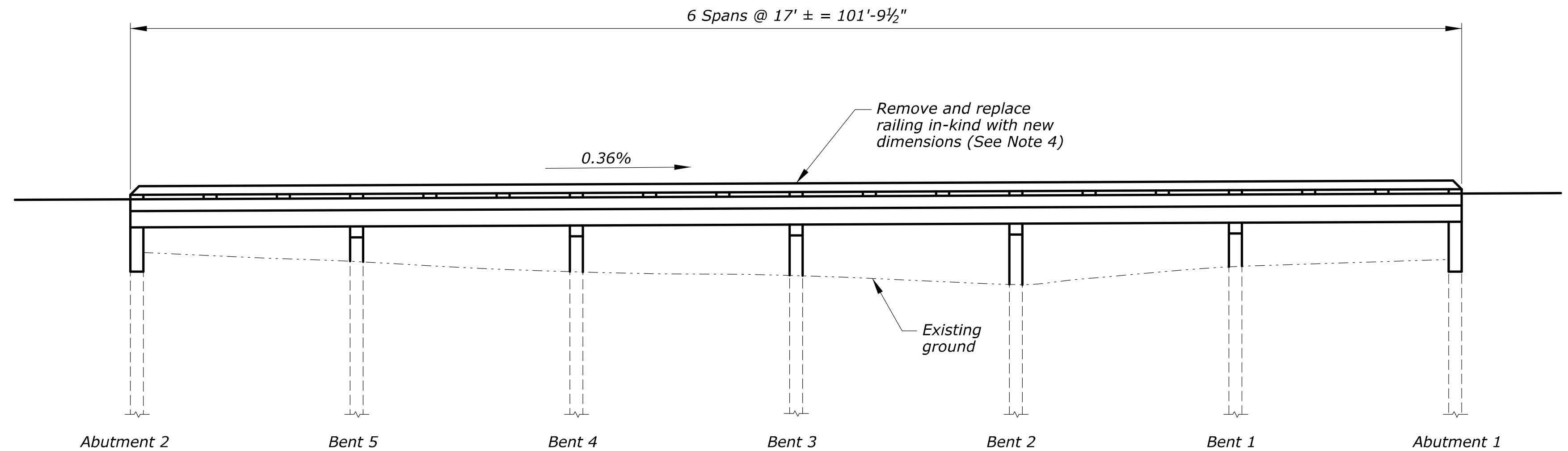


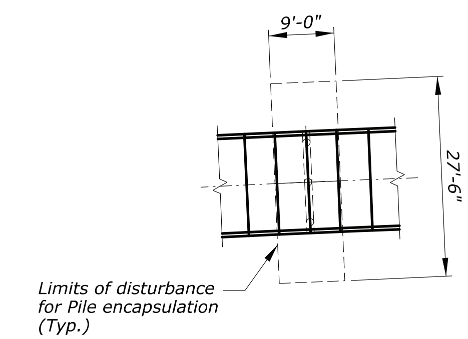
PLAN

Notes:

1. Tighten loose bolts and replace missing or damaged bolts/nuts.
2. Clean and apply galvanizing spray to beam bolts, nuts, and washers according to Section 555 and manufacturer's recommendations.
3. See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.
4. Replace railing in-kind with new dimensions. See "CURB DETAILS" sheet for railing details.



ELEVATION



DETAIL A

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Structure Number : 4290-028P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
PITCH AND TAR BRIDGE

PLAN AND ELEVATION
(STRUCTURE 4290-028P)

PRELIMINARY
NOT FOR CONSTRUCTION

14-Jun-2022 04:05 PM

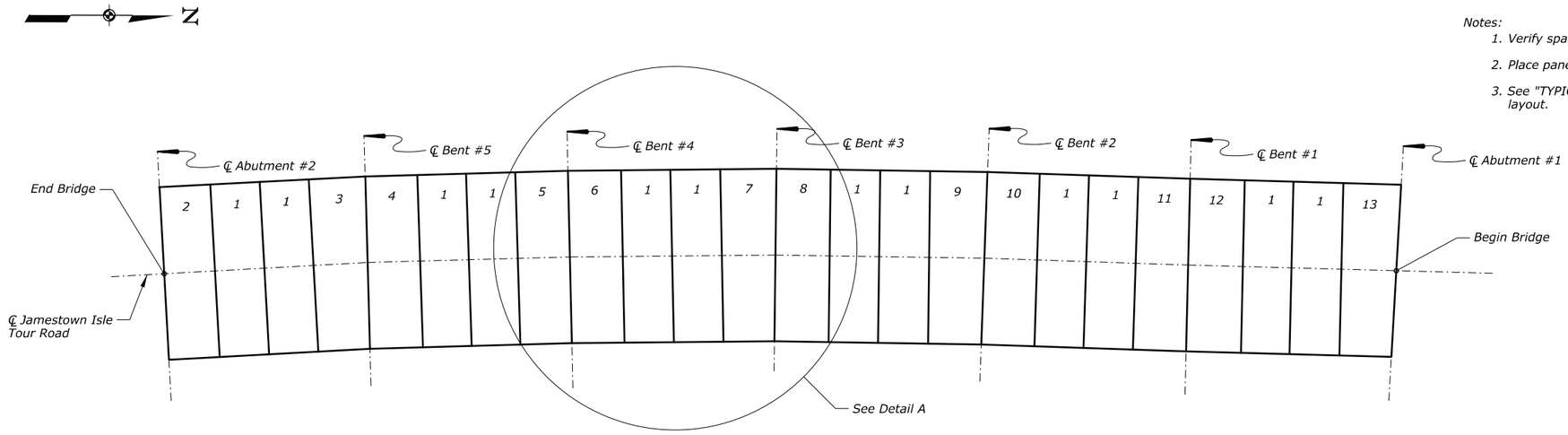
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to scale	Christopher Negley	3 of 50	June 2022	BRP-1312

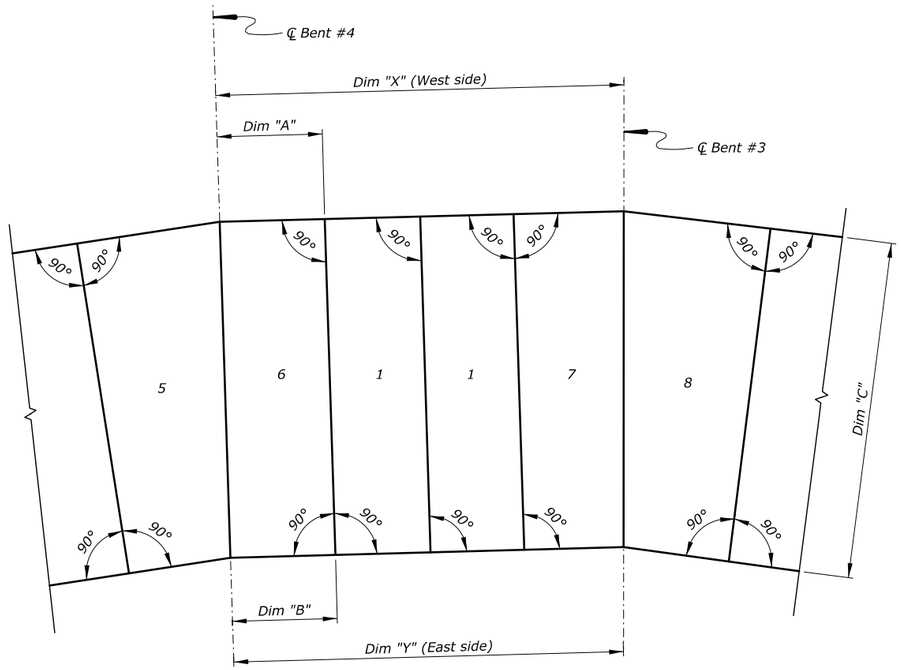
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R04

Notes:

1. *Verify span dimensions before fabricating panels.*
2. *Place panel with Dim "A" on the west side of bridge.*
3. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*



DECK PANEL PLAN



DETAIL A

Panel Dimensions			
Panel Mark	*Dim 'A' (in.)*	*Dim 'B' (in.)*	*Dim 'C' (in.)*
1	*48 1/16*	*48 1/16*	*168 1/16*
2	*60 9/16*	*56 9/16*	*168 1/16*
3	*55 2/16*	*50 13/16*	*168 1/16*
4	*51 14/16*	*52 9/16*	*168 1/16*
5	*53 9/16*	*50 11/16*	*168 1/16*
6	*53 14/16*	*51 12/16*	*168 1/16*
7	*54 13/16*	*50 13/16*	*168 1/16*
8	*52 13/16*	*54 7/16*	*168 1/16*
9	*55 4/16*	*51 9/16*	*168 1/16*
10	*51 3/16*	*52 4/16*	*168 1/16*
11	*51 3/16*	*52 4/16*	*168 1/16*
12	*53 12/16*	*53 12/16*	*168 1/16*
13	*62 6/16*	*56 10/16*	*168 1/16*

Span Dimensions		
Span No.	*Dim 'X' (in.)*	*Dim 'Y' (in.)*
1	*212 3/16*	*206 7/16*
2	*198 7/16*	*200 9/16*
3	*204 2/16*	*202 1/16*
4	*204 12/16*	*198 10/16*
5	*201 8/16*	*199 5/16*
6	*211 12/16*	*203 7/16*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-028P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
PITCH AND TAR BRIDGE

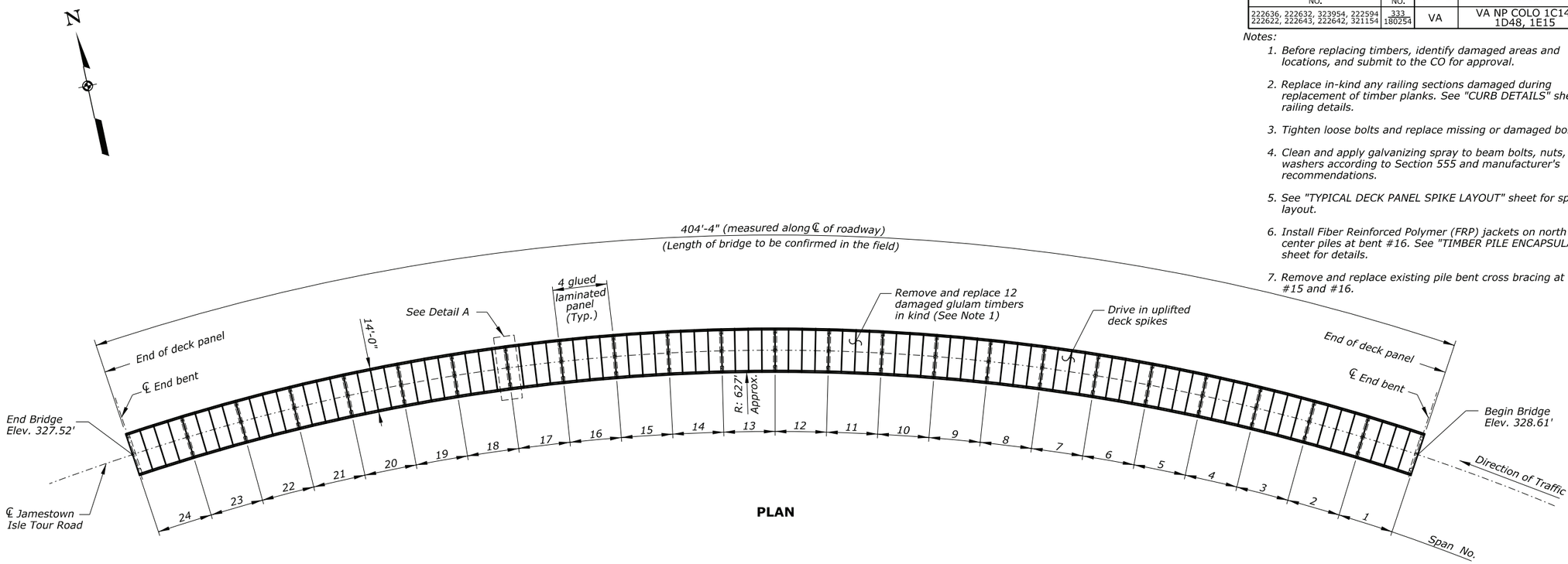
DECK PANEL LAYOUT (STRUCTURE 4290-028P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	4 of 50	June 2022	BRP-1312

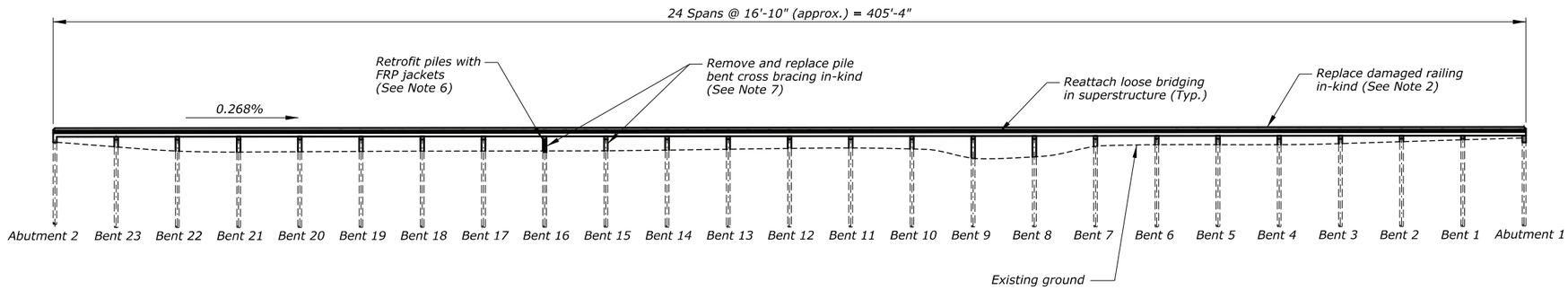
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R05

Notes:

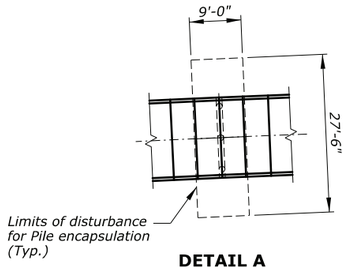
1. *Before replacing timbers, identify damaged areas and locations, and submit to the CO for approval.*
2. *Replace in-kind any railing sections damaged during replacement of timber planks. See "CURB DETAILS" sheet for railing details.*
3. *Tighten loose bolts and replace missing or damaged bolts/nuts.*
4. *Clean and apply galvanizing spray to beam bolts, nuts, and washers according to Section 555 and manufacturer's recommendations.*
5. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*
6. *Install Fiber Reinforced Polymer (FRP) jackets on north and center piles at bent #16. See "TIMBER PILE ENCAPSULATION" sheet for details.*
7. *Remove and replace existing pile bent cross bracing at bents #15 and #16.*



PLAN



ELEVATION



DETAIL A

Structure Number : 4290-029P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

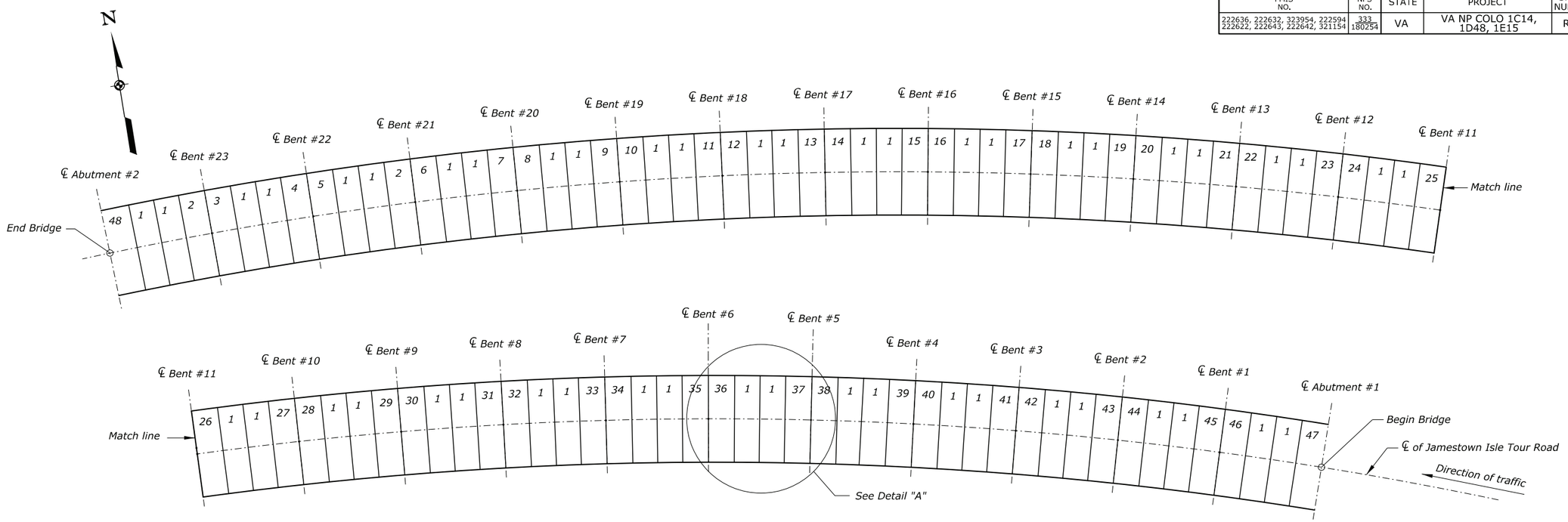
SCHEDULE A
BLACKS POINT BRIDGE

PLAN AND ELEVATION (STRUCTURE 4290-029P)

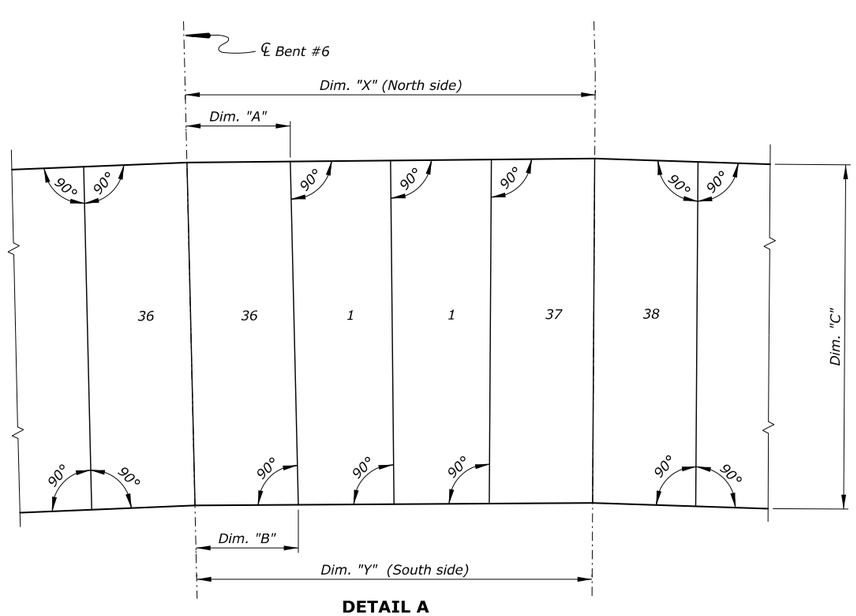
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	5 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R06



DECK PANEL PLAN
(Stringer lines, not shown)



DETAIL A

Notes:

1. *Verify span dimensions before fabricating panels.*
2. *Place panel with Dim "A" on the north side of bridge.*
3. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-029P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
BLACKS POINT BRIDGE

DECK PANEL LAYOUT - 1
(STRUCTURE 4290-029P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	6 of 50	June 2022	BRP-1312

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PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R07

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
1	48 1/16	48 1/16	168 1/16
2	53 10/16	53 10/16	168 1/16
3	55 4/16	50 10/16	168 1/16
4	53 7/16	52 7/16	168 1/16
5	54 15/16	51 14/16	168 1/16
6	54 12/16	49 10/16	168 1/16
7	52 9/16	51 7/16	168 1/16
8	54	51 10/16	168 1/16
9	52 9/16	52 9/16	168 1/16
10	56	51 15/16	168 1/16
11	54 10/16	52 10/16	168 1/16
12	53 1/16	49 10/16	168 1/16
13	51 15/16	50 6/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
14	57 3/16	52 6/16	168 1/16
15	56 5/16	53 1/16	168 1/16
16	50 9/16	50 9/16	168 1/16
17	51 9/16	49 7/16	168 1/16
18	54 10/16	52	168 1/16
19	54 7/16	52 6/16	168 1/16
20	53 9/16	51 3/16	168 1/16
21	52 6/16	51 14/16	168 1/16
22	54 10/16	50 15/16	168 1/16
23	55 8/16	50 14/16	168 1/16
24	50 4/16	53 3/16	168 1/16
25	52 7/16	50 1/16	168 1/16
26	55 8/16	52 13/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
27	54 15/16	53 15/16	168 1/16
28	53 4/16	50 13/16	168 1/16
29	53 9/16	50 13/16	168 1/16
30	54 8/16	53	168 1/16
31	54 12/16	53	168 1/16
32	53 1/16	50 3/16	168 1/16
33	52 13/16	50 13/16	168 1/16
34	56 10/16	54 8/16	168 1/16
35	55 7/16	54 2/16	168 1/16
36	54 14/16	49 14/16	168 1/16
37	54 2/16	51	168 1/16
38	53 7/16	51 7/16	168 1/16
39	51 9/16	51 9/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
40	54 10/16	49 1/16	168 1/16
41	53 11/16	50 4/16	168 1/16
42	51 12/16	51 10/16	168 1/16
43	52 9/16	50 11/16	168 1/16
44	54 13/16	54 13/16	168 1/16
45	55 9/16	53 10/16	168 1/16
46	56 10/16	47 7/16	168 1/16
47	57 6/16	59 13/16	168 1/16
48	59 8/16	59 8/16	168 1/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
1	210 2/16	203 6/16
2	206 7/16	204 8/16
3	200 6/16	198 7/16
4	204 6/16	195 6/16
5	201	199
6	205 1/16	196 15/16
7	208 1/16	204 11/16
8	201 15/16	197 1/16
9	205 5/16	202 1/16
10	202 14/16	197 10/16
11	206 8/16	202 13/16
12	198 12/16	199 5/16
13	206 3/16	197 15/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
14	201 15/16	199 2/16
15	205 2/16	200 8/16
16	198 4/16	196 1/16
17	209 9/16	201 7/16
18	201	196 1/16
19	206 11/16	200 10/16
20	202 10/16	200 4/16
21	203 6/16	197 2/16
22	204 10/16	201 9/16
23	204 12/16	199 2/16
24	209 3/16	209 3/16

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-029P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

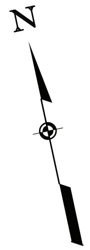
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
BLACK POINT BRIDGE

DECK PANEL LAYOUT - 2
(STRUCTURE 4290-029P)

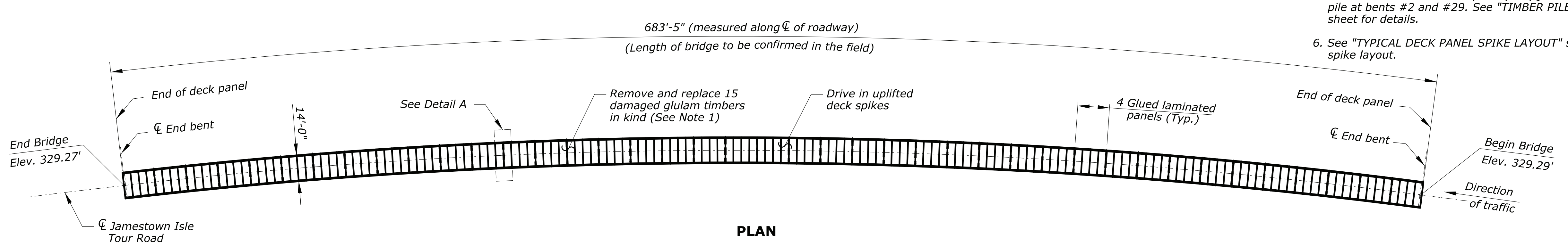
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	7 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R08

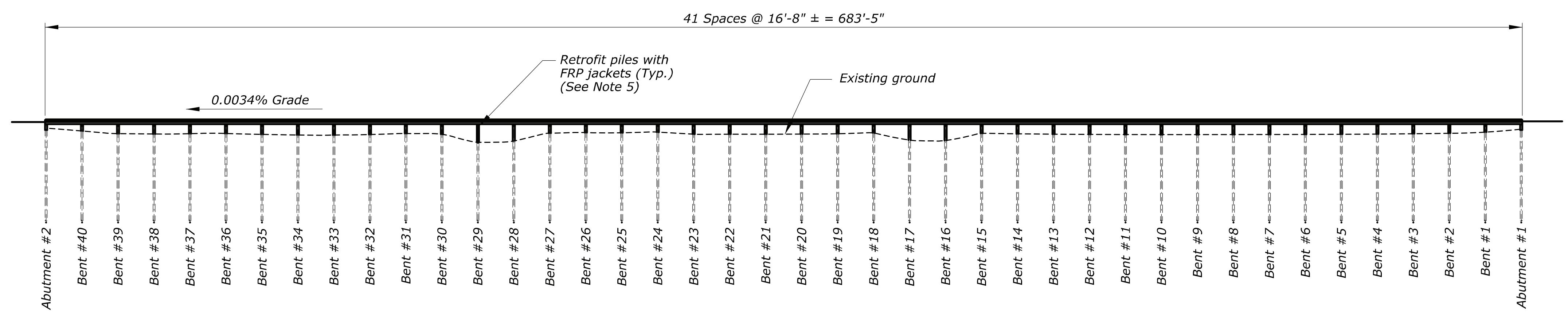


Notes:

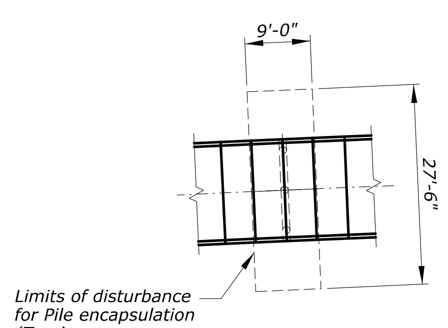
1. Before replacing timbers, identify damaged areas and locations, and submit to the CO for approval.
2. Replace in-kind any railing sections damaged during replacement of timber planks. See "CURB DETAILS" sheet for railing details.
3. Tighten loose bolts and replace missing or damaged bolts/nuts.
4. Clean and apply galvanizing spray to beam bolts, nuts, and washers according to Section 555 and manufacturer's recommendations.
5. Install Fiber Reinforced Polymer (FRP) jackets on the center pile at bents #2 and #29. See "TIMBER PILE ENCAPSULATION" sheet for details.
6. See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for details spike layout.



PLAN



ELEVATION



DETAIL A

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
LONG BRIDGE

PLAN AND ELEVATION
(STRUCTURE 4290-031P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	8 of 50	June 2022	BRP-1312

ACTUAL FILE:2_RX_PROJ_NAME_BLANK_SHT.DGN

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14-Jun-2022 04:05 PM

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R09

ACTUAL FILE:R45-B COLO 1B38 1C14 1D48 - DECK-PANEL-LAYOUT 1.DGN

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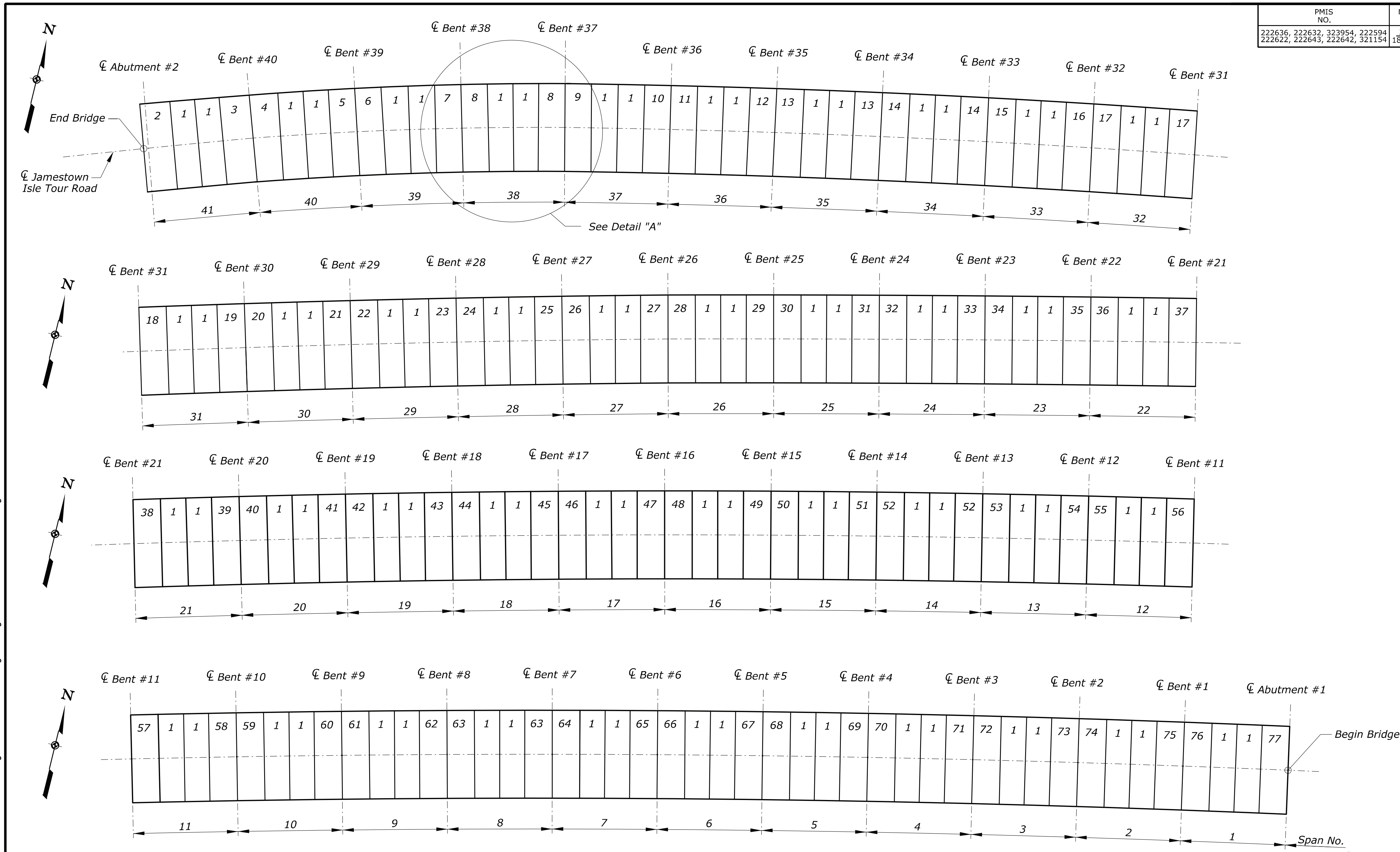
14-Jun-2022 04:05 PM



Structure Number : 4290-031P

DECK PANEL PLAN

(Stringer lines, not shown)

PRELIMINARY NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

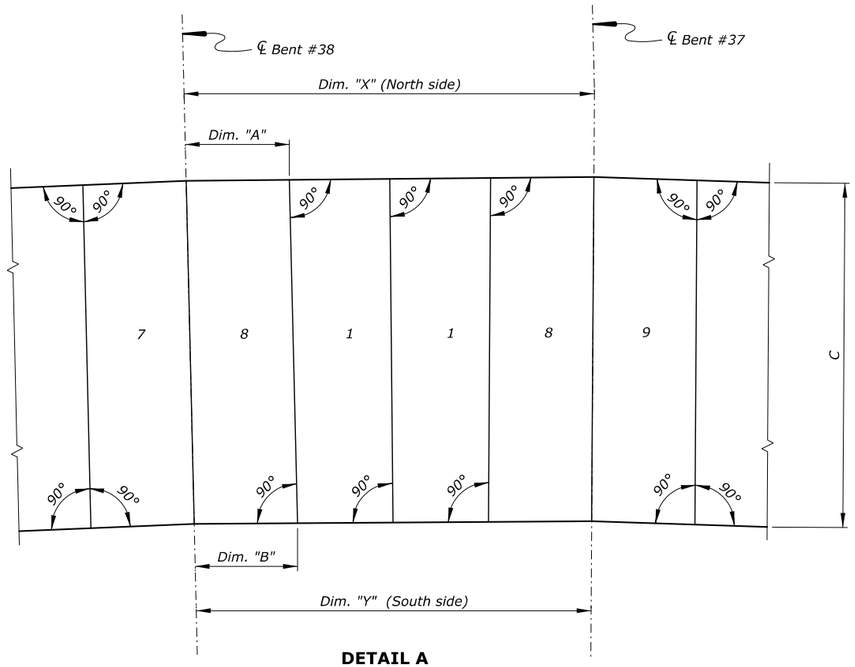
SCHEDULE A
LONG BRIDGE

DECK PANEL LAYOUT - 1
(STRUCTURE-031P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	9 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R10



DETAIL A

Notes:

1. *Verify span dimensions before fabricating panels.*
2. *Place panel with Dim "A" on the north side of bridge.*
3. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
1	212 7/16	209 11/16
2	198 1/16	201 11/16
3	204 11/16	205 8/16
4	209 3/16	202 6/16
5	208 10/16	207 8/16
6	199 2/16	201
7	201 12/16	200 12/16
8	203 4/16	201 10/16
9	207 9/16	207 13/16
10	199 10/16	200 14/16
11	203 9/16	199 3/16
12	208 4/16	205 3/16
13	200	198 13/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
14	205 14/16	212 5/16
15	199 3/16	195 1/16
16	208 11/16	208 7/16
17	202 12/16	204 7/16
18	207 3/16	203 4/16
19	202 1/16	204
20	202 13/16	200 6/16
21	208 2/16	206 4/16
22	201 10/16	200 14/16
23	208 7/16	201 5/16
24	201 12/16	202 6/16
25	201 15/16	205 1/16
26	200 11/16	197 11/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
27	207 11/16	200 15/16
28	198 12/16	208 2/16
29	203 9/16	204 2/16
30	213 2/16	203 4/16
31	201 1/16	204 13/16
32	203 4/16	199 10/16
33	205 6/16	203 14/16
34	202 1/16	205 8/16
35	202 13/16	204 2/16
36	203 4/16	199 7/16
37	204 7/16	201 11/16
38	201 14/16	197 3/16
39	205 5/16	199 2/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
40	204 1/16	198 6/16
41	210 14/16	210 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
1	48 1/16	48 1/16	168 1/16
2	60 1/16	60 4/16	168 1/16
3	54 12/16	53 12/16	168 1/16
4	55 3/16	50	168 1/16
5	52 13/16	52 5/16	168 1/16
6	54 2/16	52 1/16	168 1/16
7	55 2/16	50 15/16	168 1/16
8	52 15/16	50 9/16	168 1/16
9	54	52 15/16	168 1/16
10	54 6/16	52 11/16	168 1/16
11	54 5/16	51 4/16	168 1/16
12	52 13/16	52 2/16	168 1/16
13	53 6/16	54	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
14	53	54 12/16	168 1/16
15	55 9/16	52 15/16	168 1/16
16	53 12/16	54 14/16	168 1/16
17	53 9/16	51 12/16	168 1/16
18	53 14/16	53 6/16	168 1/16
19	51 2/16	55 6/16	168 1/16
20	57 1/16	54 9/16	168 1/16
21	60	52 10/16	168 1/16
22	52 1/16	55 12/16	168 1/16
23	55 7/16	52 5/16	168 1/16
24	51 3/16	56 4/16	168 1/16
25	51 8/16	55 13/16	168 1/16
26	58	50 3/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
27	53 11/16	54 12/16	168 1/16
28	52 11/16	50 12/16	168 1/16
29	51 15/16	50 14/16	168 1/16
30	54 2/16	53 12/16	168 1/16
31	51 13/16	55 4/16	168 1/16
32	54 1/16	51 9/16	168 1/16
33	51 10/16	54 12/16	168 1/16
34	56 11/16	52 1/16	168 1/16
35	55 11/16	53 3/16	168 1/16
36	52 3/16	53	168 1/16
37	53 7/16	51 13/16	168 1/16
38	54 6/16	56 15/16	168 1/16
39	57 11/16	53 4/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
40	52 4/16	53 4/16	168 1/16
41	54 8/16	51 2/16	168 1/16
42	52 4/16	54 12/16	168 1/16
43	53 12/16	53 4/16	168 1/16
44	54	55 1/16	168 1/16
45	57 2/16	52 1/16	168 1/16
46	52 6/16	55 5/16	168 1/16
47	54 5/16	53 1/16	168 1/16
48	56 10/16	56	168 1/16
49	56	56 7/16	168 1/16
50	50 4/16	50 10/16	168 1/16
51	52 14/16	48 6/16	168 1/16
52	54 15/16	58 2/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
53	53 6/16	50 3/16	168 1/16
54	50 9/16	52 10/16	168 1/16
55	55 15/16	54 7/16	168 1/16
56	56 4/16	54 12/16	168 1/16
57	53 2/16	52	168 1/16
58	54 5/16	51 2/16	168 1/16
59	50 14/16	53 7/16	168 1/16
60	52 10/16	51 6/16	168 1/16
61	54 13/16	56	168 1/16
62	56 11/16	55 12/16	168 1/16
63	53 9/16	52 13/16	168 1/16
64	52 15/16	52	168 1/16
65	53 1/16	52 11/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
66	52 5/16	52 5/16	168 1/16
67	50 12/16	52 10/16	168 1/16
68	57 10/16	54 8/16	168 1/16
69	54 15/16	56 15/16	168 1/16
70	56 9/16	53	168 1/16
71	56 9/16	53 6/16	168 1/16
72	52 2/16	56 15/16	168 1/16
73	56 8/16	52 8/16	168 1/16
74	51 15/16	51 15/16	168 1/16
75	50	53 11/16	168 1/16
76	56 11/16	52 3/16	168 1/16
77	59 11/16	61 7/16	168 1/16

Structure Number : 4290-031P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
LONG BRIDGE

DECK PANEL LAYOUT - 2 (STRUCTURE 4290-031P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	10 of 50	June 2022	BRP-1312

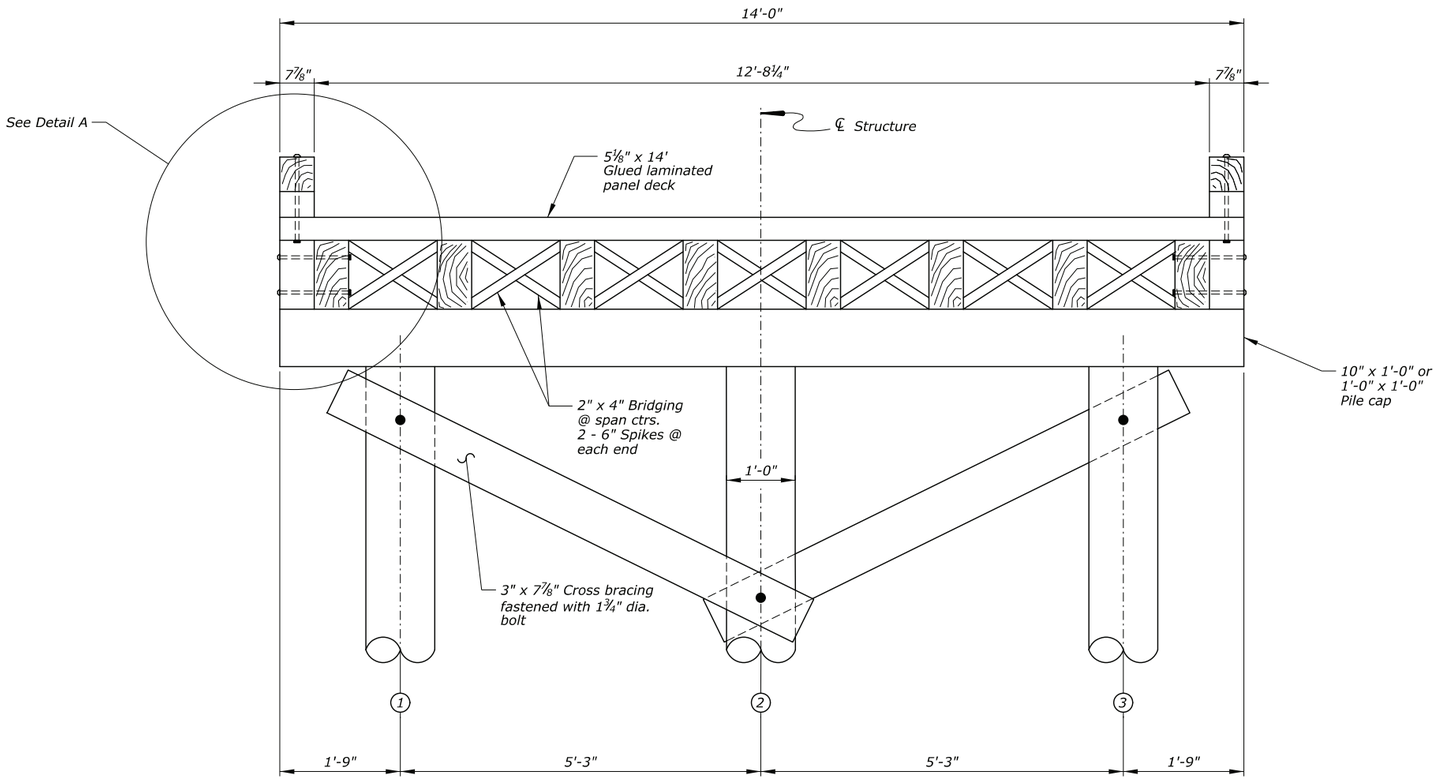
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R11

Notes:

1. *See "CURB DETAILS" sheet for Detail A.*
2. *All dimensions are to be verified in the field.*

Key:

(#) *Pile number*



TYPICAL SECTION
(Looking in the direction of traffic)

Structure Number : 4290-028P, 4290-029P, 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

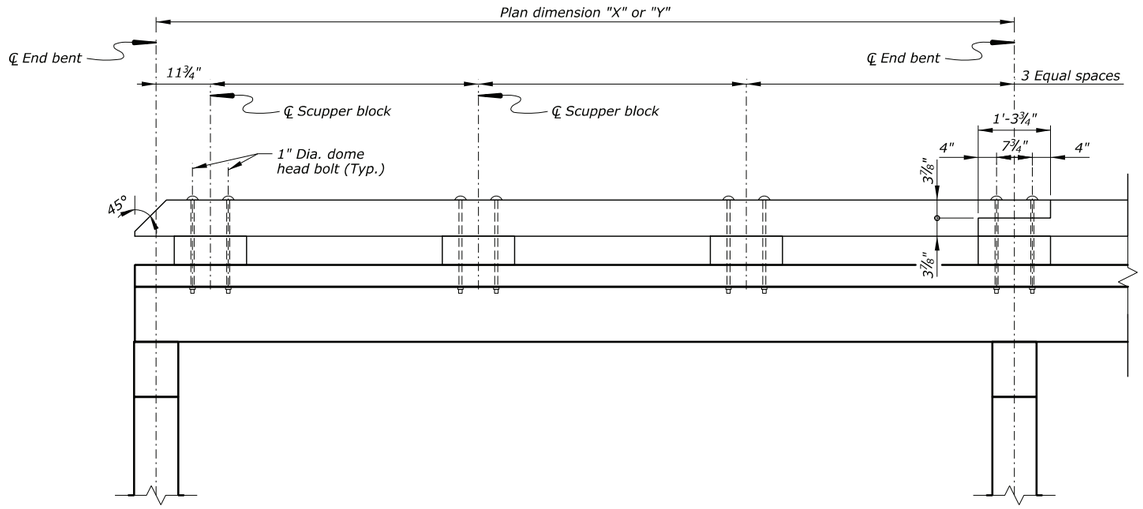
SCHEDULE A
PITCH AND TAR BRIDGE,
BLACKS POINT BRIDGE,
AND LONG BRIDGE

TIMBER BRIDGE TYPICAL SECTION

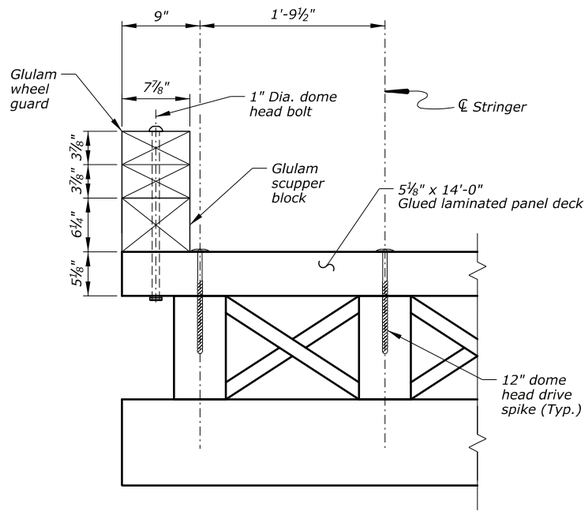
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	11 of 50	June 2022	BRP-1312

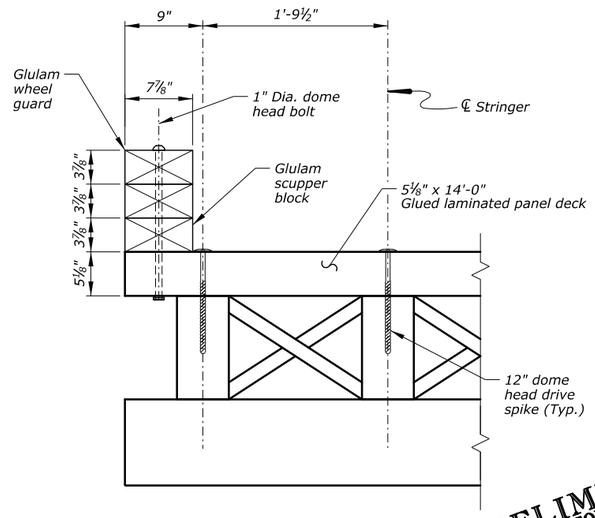
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R12



CURB ELEVATION
(Exterior Span)



DETAIL A
(Structure 4290-028P)



DETAIL A
(Structure 4290-029P and 4290-031P)

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-028P, 4290-029P, 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
PITCH AND TAR BRIDGE,
BLACKS POINT BRIDGE,
AND LONG BRIDGE

CURB DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	12 of 50	June 2022	BRP-1312

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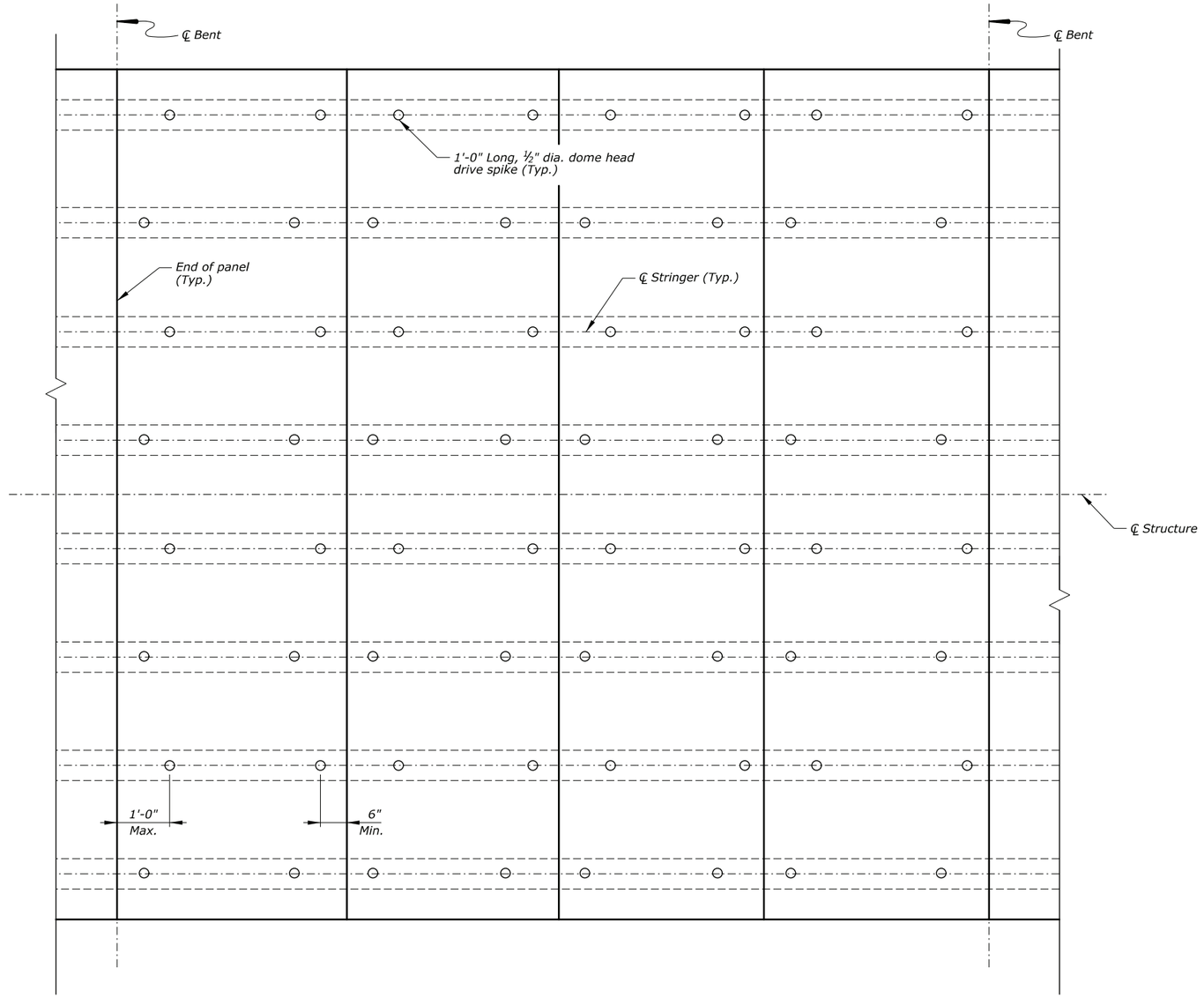
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R13



TYPICAL DECK PANEL SPIKE LAYOUT

Notes:

1. *Verify deck panel spike locations in the field before installing material.*

Structure Number : 4290-028P, 4290-029P, 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

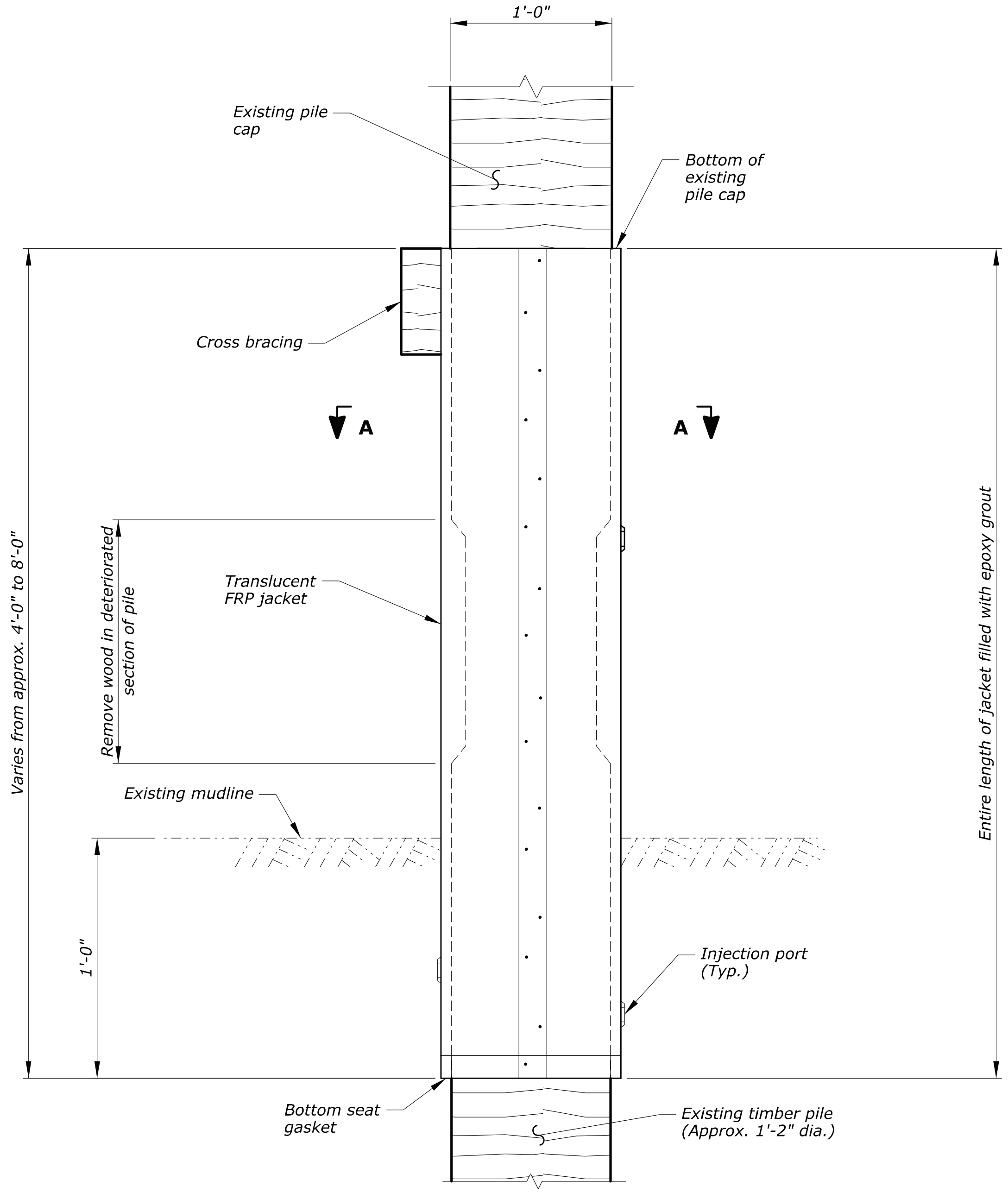
SCHEDULE A
PITCH AND TAR BRIDGE,
BLACKS POINT BRIDGE,
AND LONG BRIDGE

TYPICAL DECK PANEL SPIKE LAYOUT

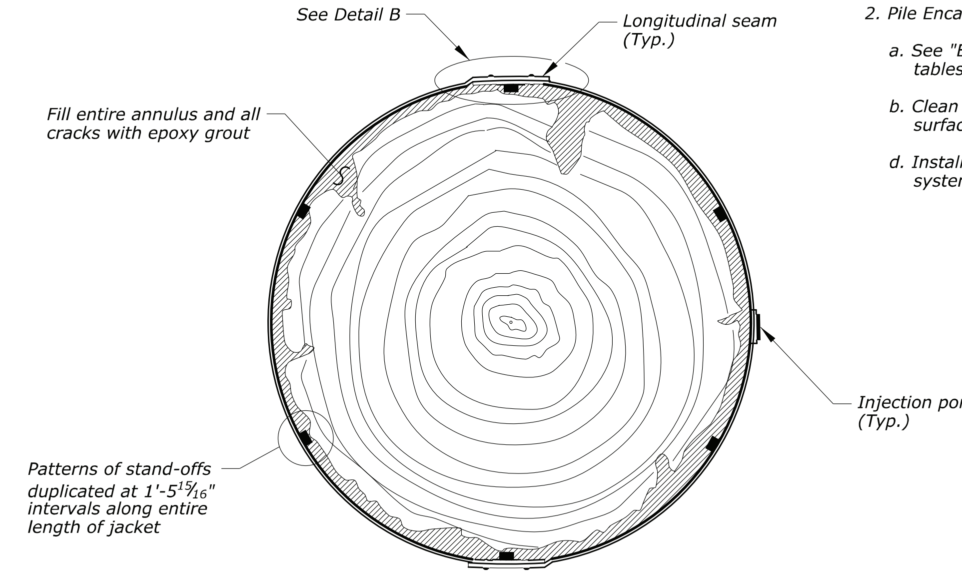
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	13 of 50	June 2022	BRP-1312

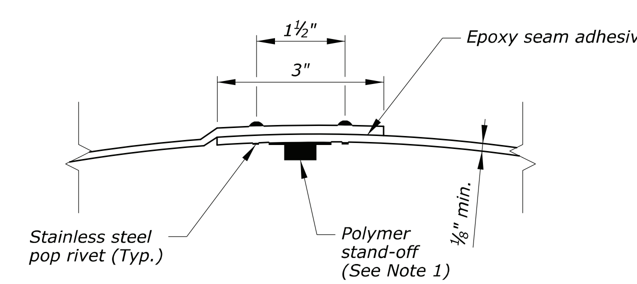
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 / 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R14



PILE ENCAPSULATION



SECTION A-A



DETAIL B

Notes:

1. Furnish polymer stand-offs according to manufacturer's recommendations.
2. Pile Encapsulation Procedures:
   a. See "ESTIMATED PILE ENCAPSULATION QUANTITIES" tables for the recommended lists of bents and piles.
   b. Clean the piles identified for repair to the bare timber surface.
   d. Install Fiber Reinforced Polymer (FRP) pile encapsulation system according to Section 576.

ESTIMATED PILE ENCAPSULATION QUANTITIES (STRUCTURE 4290-029P)

Bent Number	Pile Number	Approx. Length of FRP (ft.) per Bent
16	2,3	16
	Total:	16

ESTIMATED PILE ENCAPSULATION QUANTITIES (STRUCTURE 4290-031P)

Bent Number	Pile Number	Approx. Length of FRP (ft.) per Bent
2	2	8
29	2	8
	Total:	16

* See "PLAN AND ELEVATION" and "TIMBER BRIDGE TYPICAL SECTION" sheets for pile bents and piles number convention.

Structure Number : 4290-029P, 4290-031P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

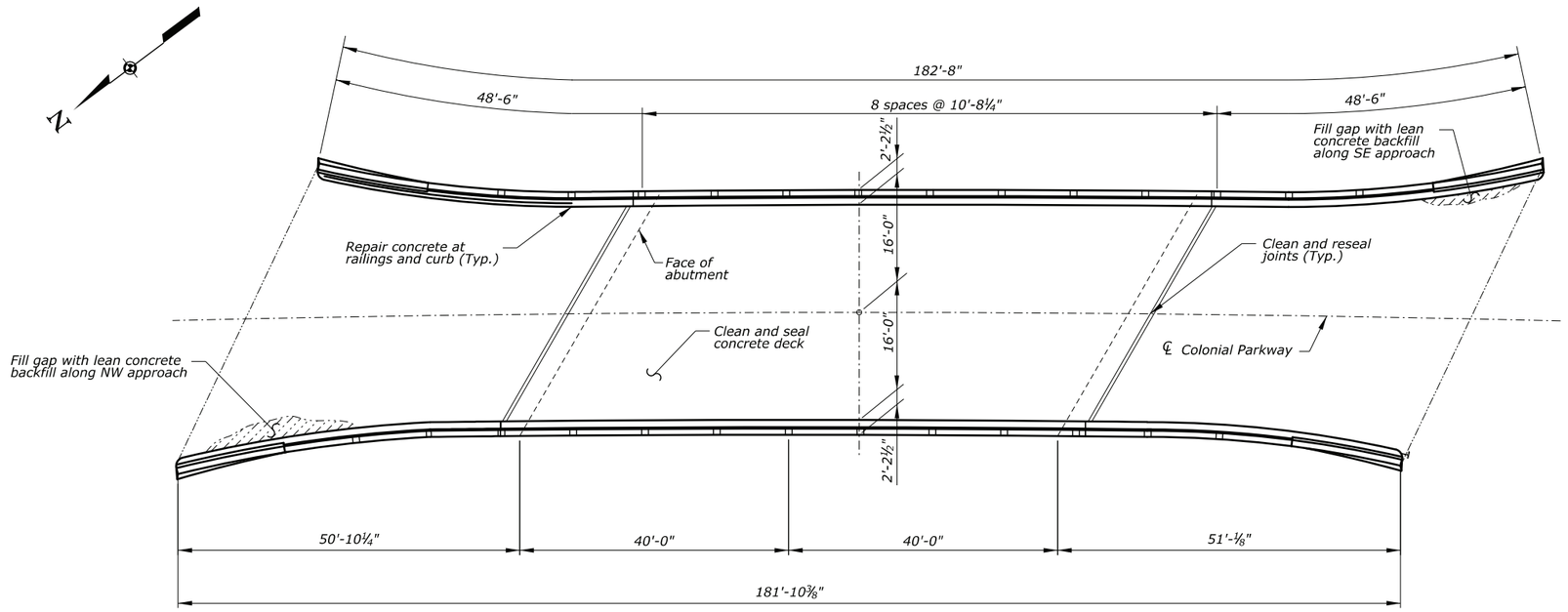
SCHEDULE A
BLACKS POINT BRIDGE
AND LONG BRIDGE

TIMBER PILE ENCAPSULATION

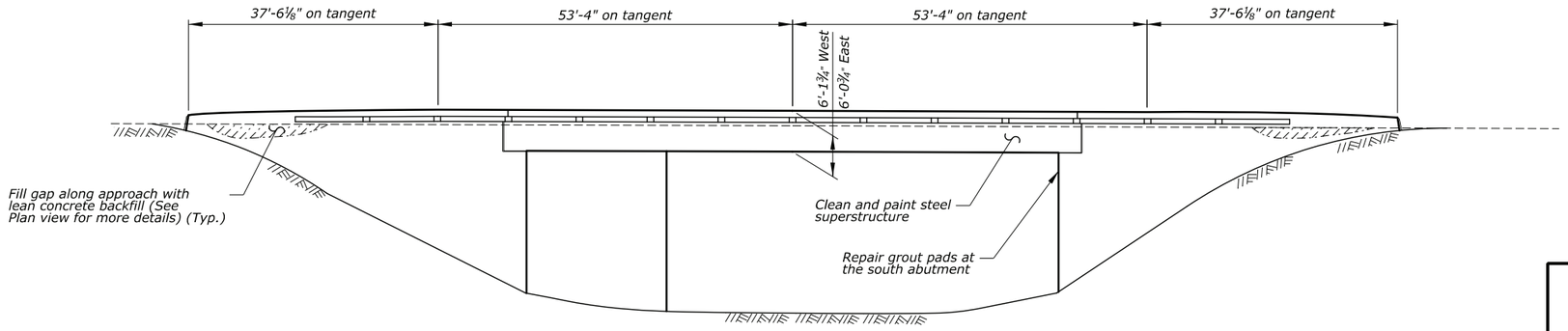
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN/CC	DL	Not to Scale	Christopher Negley	14 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R15



PLAN



ELEVATION

Notes:

1. *See "JOINT DETAILS" sheet for joint details.*
2. *Clean and paint all steel surfaces according to Section 563.*
3. *Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.*
4. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.*
5. *Clean and coat all exposed reinforcement using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*
6. *Remove vegetation on or within 5 feet of the structure.*

ESTIMATED CONCRETE REPAIR

Approximate location	*Units*	*Quantity*
Spalling at grout pads at the south abutment	*SQFT*	*5*
Spalling at Railings and curb	*SQFT*	*4*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*4*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-023P

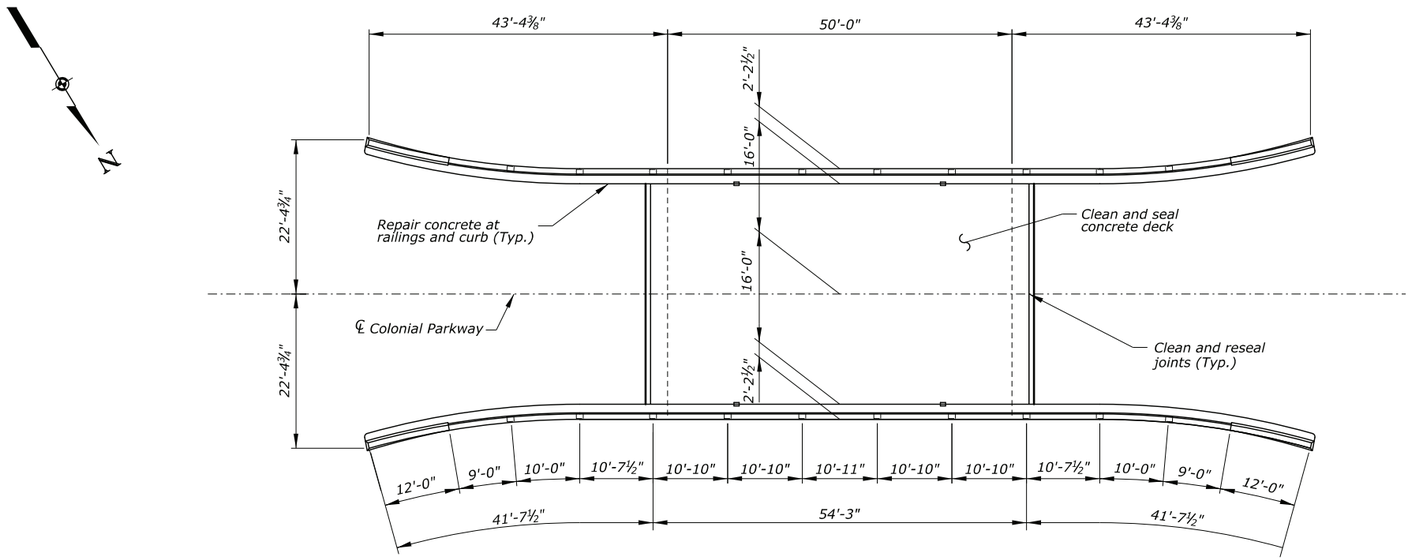
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

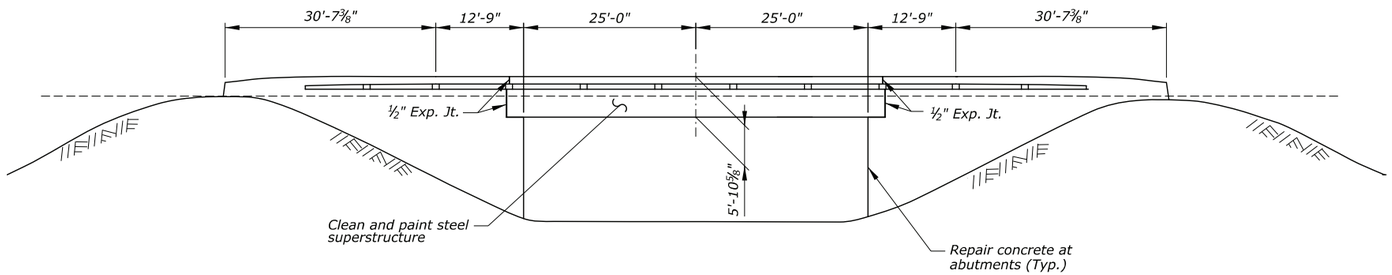
SCHEDULE B AND D
COLLEGE CREEK BRIDGE

PLAN AND ELEVATION (STRUCTURE 4290-023P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	15 of 50	June 2022	BRP-1312



PLAN



ELEVATION

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R16

Notes:

1. *See "JOINT DETAILS" sheet for joint details.*
2. *Clean and paint all steel surfaces according to Section 563.*
3. *Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.*
4. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.*
5. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*
6. *Remove vegetation on or within 5 feet of the structure.*

ESTIMATED CONCRETE REPAIR		
Approximate location	*Units*	*Quantity*
Spalling at both abutments	*SQFT*	*10*
Spalling at Railings and curb	*SQFT*	*4*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*4*

Structure Number : 4290-024P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

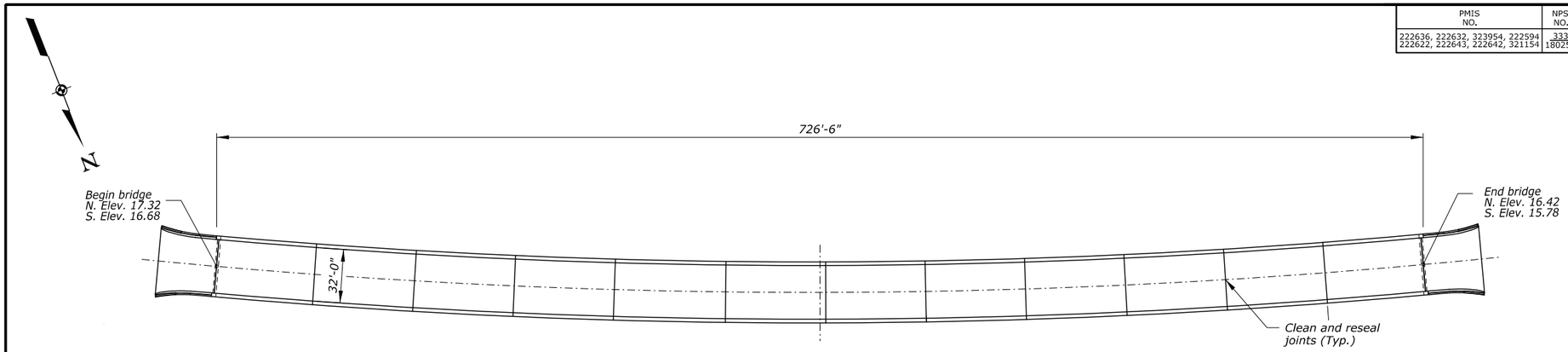
SCHEDULE B AND D
MILL CREEK BRIDGE

PLAN AND ELEVATION (STRUCTURE 4290-024P)

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	16 of 50	June 2022	BRP-1312

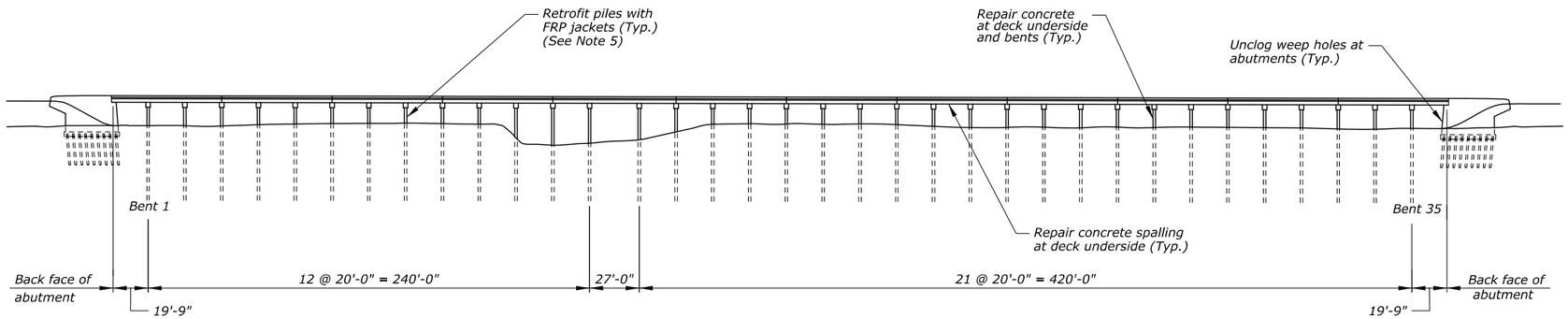
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R17



PLAN

Notes:

1. *See "JOINT DETAILS" sheet for joint details.*
2. *Remove vegetation on or within 5 feet of the structure.*
3. *Refer to "CONCRETE REPAIR DETAILS " sheet for all concrete repairs.*
4. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval.*
5. *See "CONCRETE PILE ENCAPSULATION" sheet for pile encapsulation details.*
6. *Furnish Class HES (High Early Strength) for concrete repairs, f'c = 5000 psi at 28 days.*



NORTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

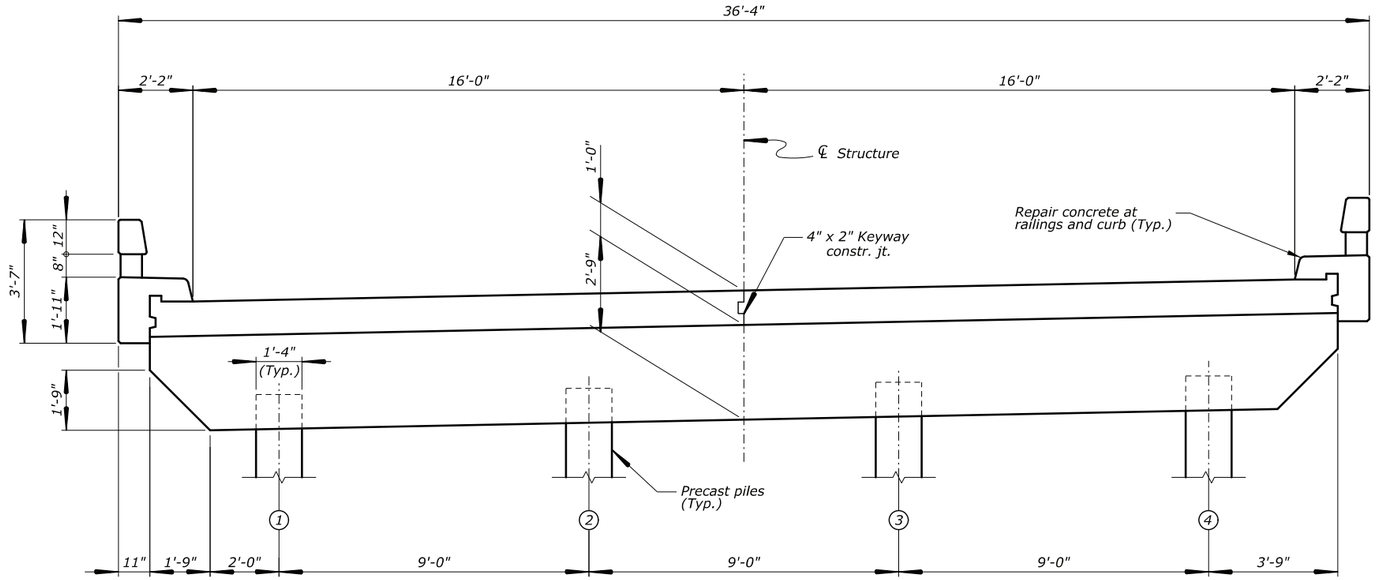
SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

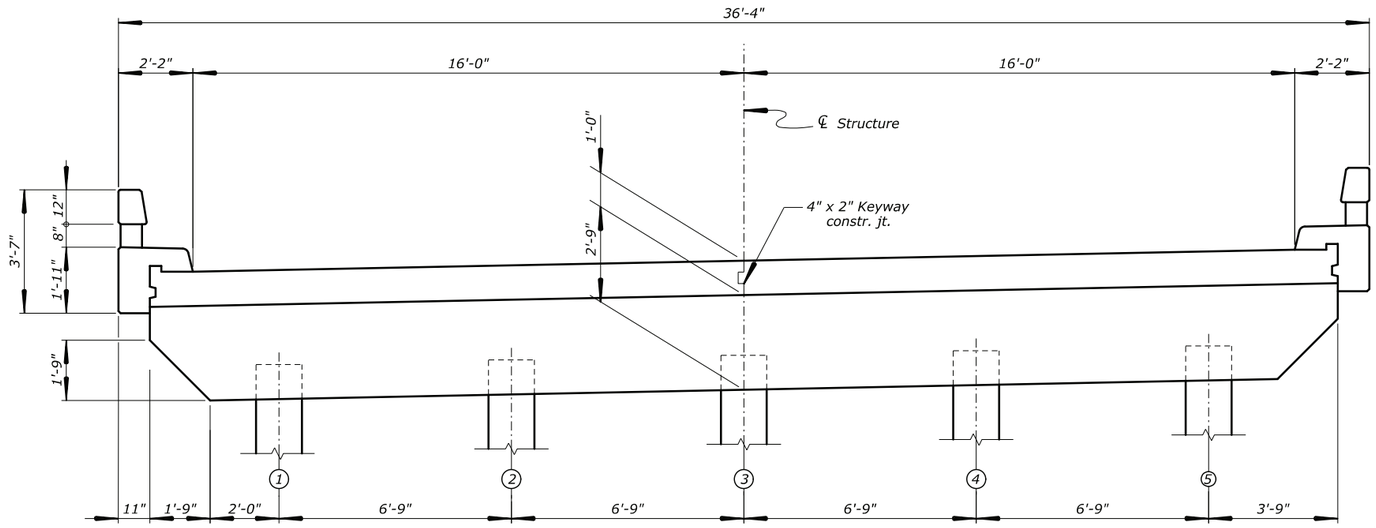
PLAN AND ELEVATION (STRUCTURE 4290-025P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	17 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R18



TYPICAL SECTION
(Pile Bents 1-12 and 15-36)
Scale: ½" = 1'-0"



TYPICAL SECTION
(Pile Bents 13 and 14)
Scale: ½" = 1'-0"

Notes:

1. Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.
2. Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.
3. Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.

Key:

(#) Pile number

ESTIMATED CONCRETE REPAIR		
Approximate location	*Units*	*Quantity*
Spalling at Railings and curb	*SQFT*	*10*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*10*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

TYPICAL SECTION (STRUCTURE 4290-025P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	As Shown	Christopher Negley	18 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

M:\PROJECTS\colo\c14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

14-Jun-2022 04:05 PM

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R19

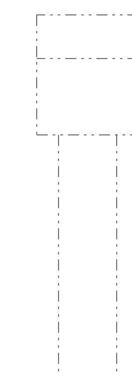
Notes:

1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

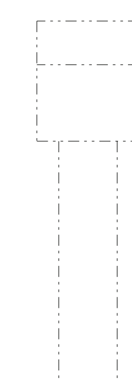
- Spall *- Crack* *- Exposed Reinforcement*

EAST ELEVATION



NORTH ELEVATION

WEST ELEVATION



SOUTH ELEVATION

PRELIMINARY NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

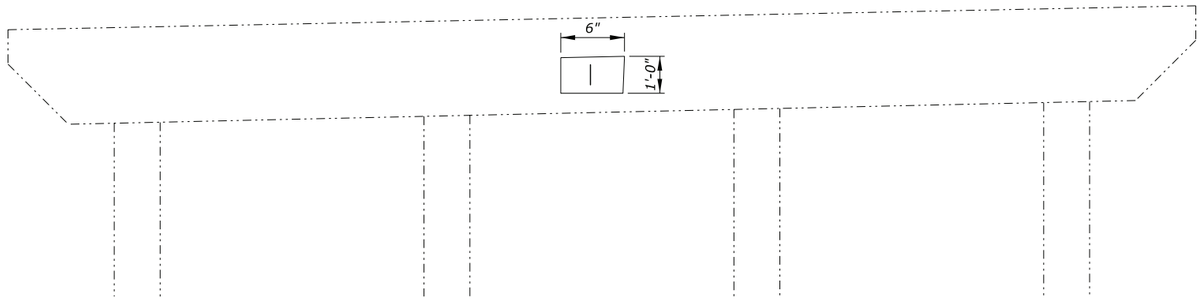
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 7

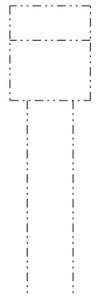
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	19 of 50	June 2022	BRP-1312

Received by VMRC August 28, 2023 /blh

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R20



EAST ELEVATION



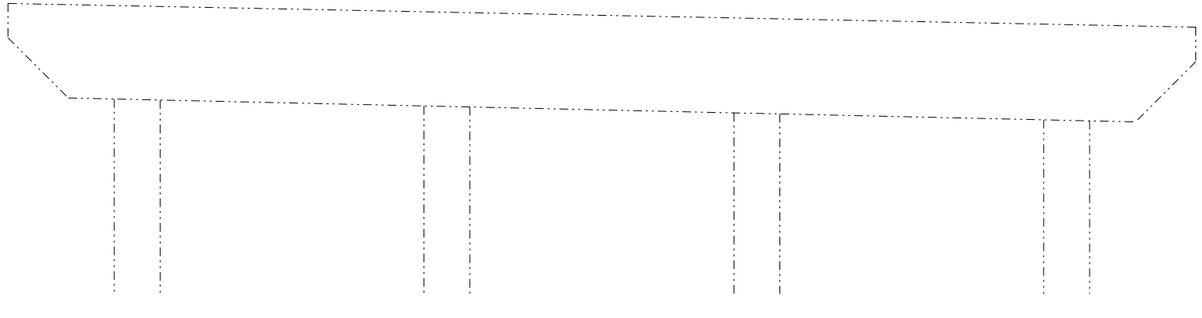
NORTH ELEVATION

Notes:

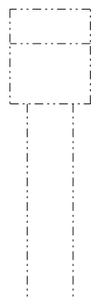
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

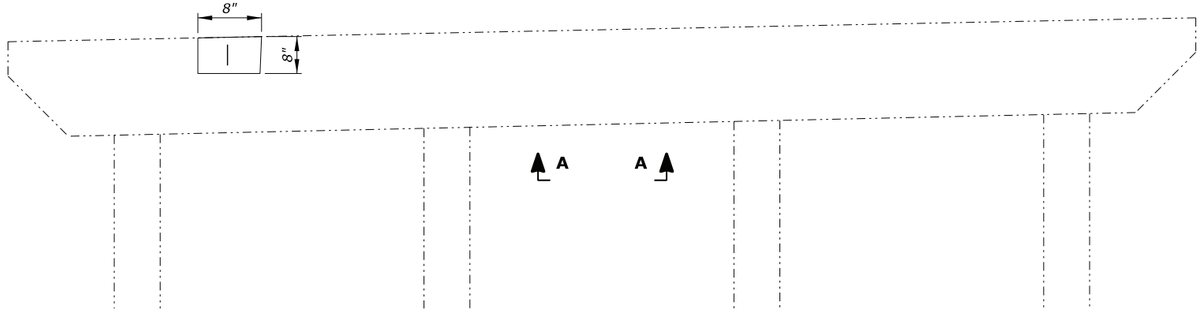
SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

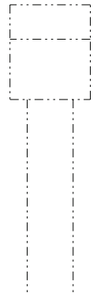
CONCRETE REPAIR - BENT 8

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	20 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R21



EAST ELEVATION



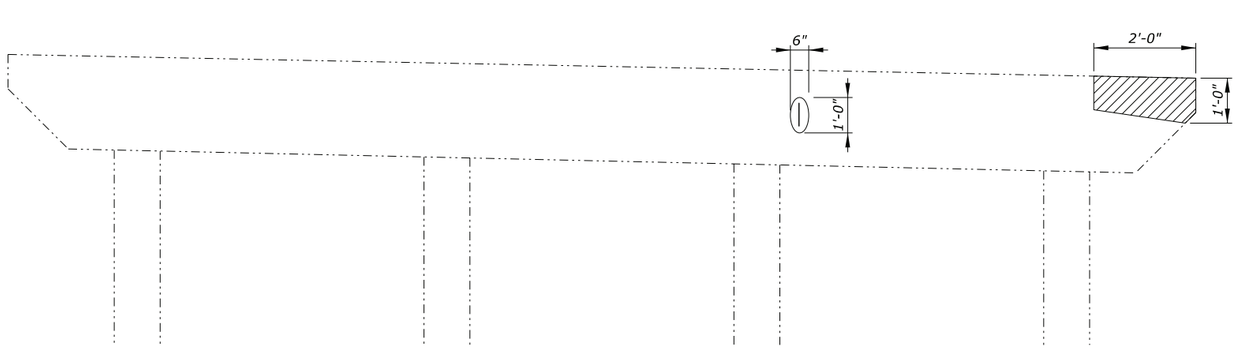
NORTH ELEVATION

Notes:

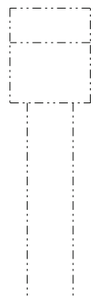
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

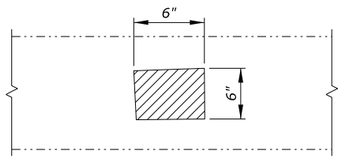
- *Spall*
- *Crack*
- *Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION



VIEW A-A

Structure Number : 4290-025P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

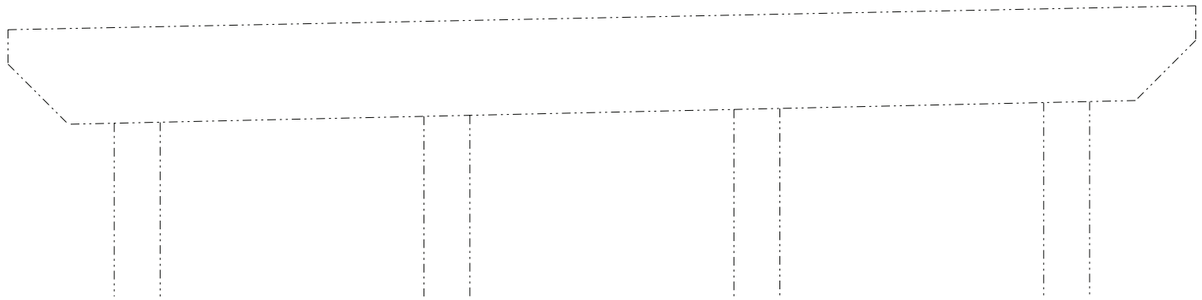
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

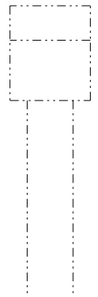
CONCRETE REPAIR - BENT 9

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	21 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R22



EAST ELEVATION



NORTH ELEVATION

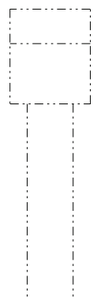
Notes:

1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

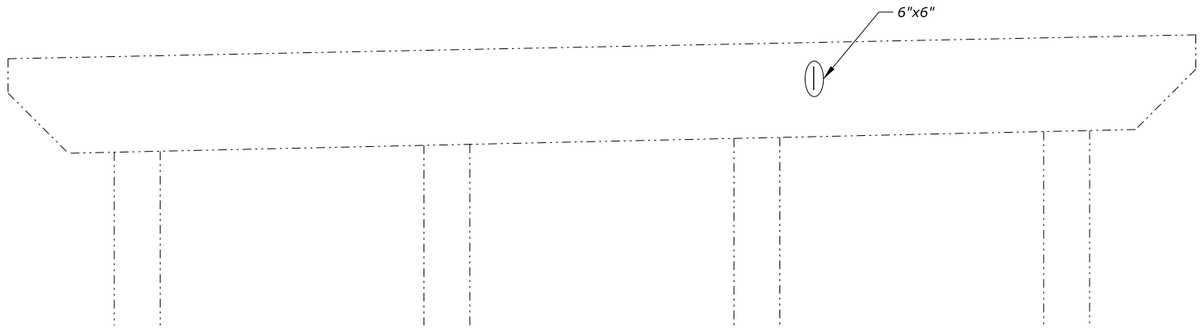
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 10

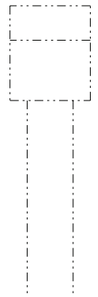
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	22 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R23



EAST ELEVATION



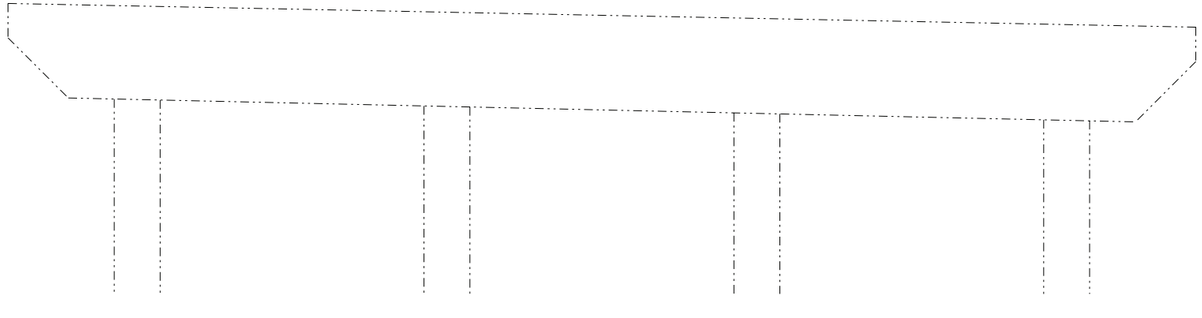
NORTH ELEVATION

Notes:

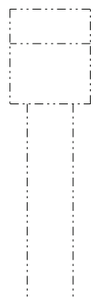
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

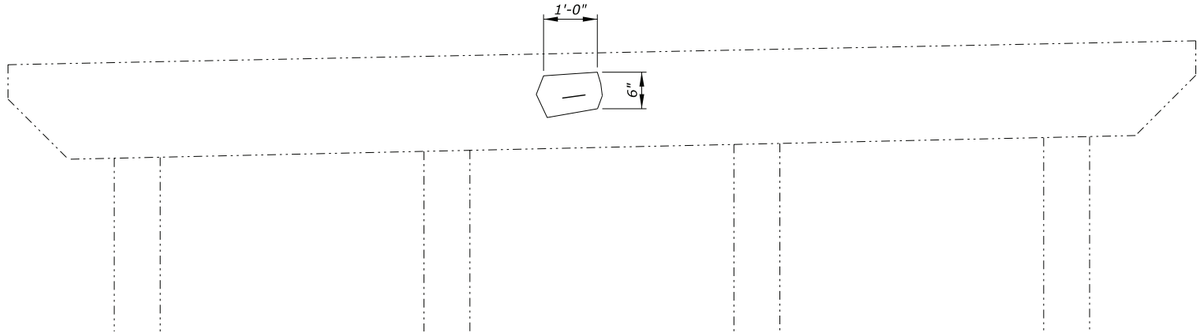
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 11

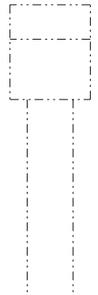
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	23 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R24



EAST ELEVATION



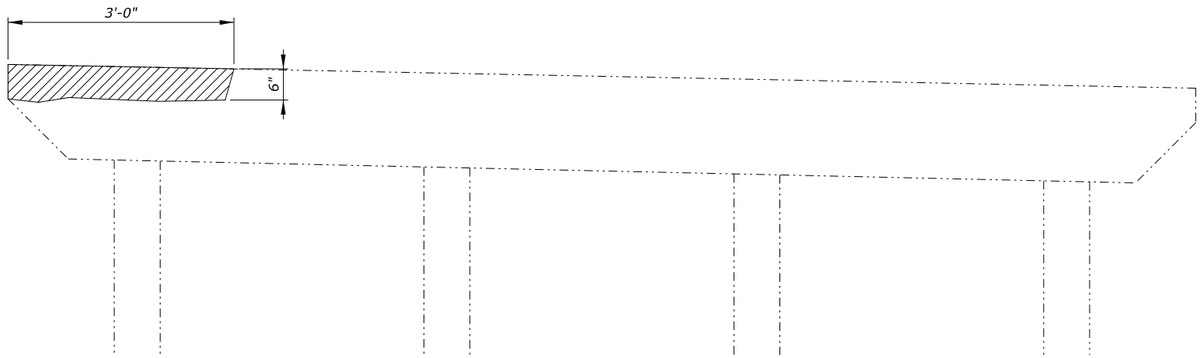
NORTH ELEVATION

Notes:

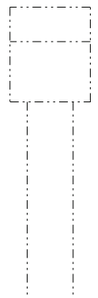
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 12

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	24 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

M:\PROJECTS\colo\c14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

14-Jun-2022 04:05 PM

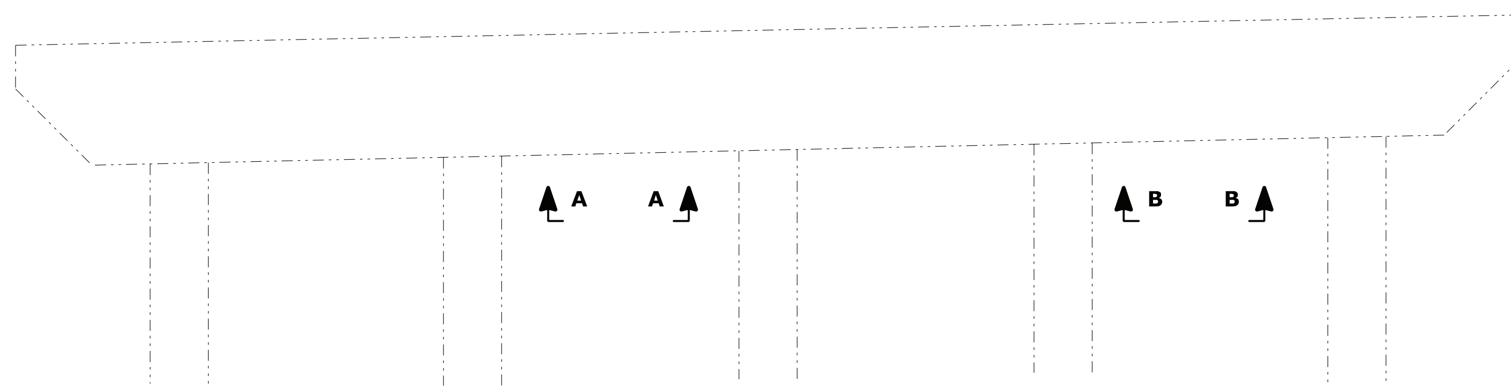
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R25

Notes:

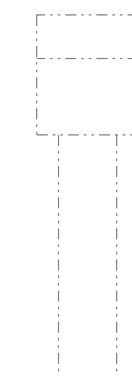
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

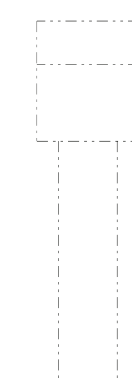


EAST ELEVATION

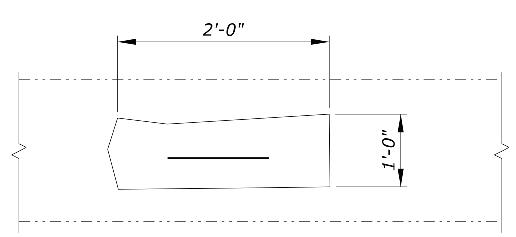


NORTH ELEVATION

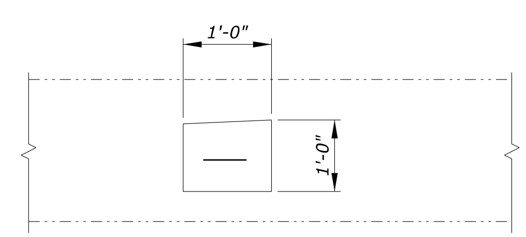
WEST ELEVATION



SOUTH ELEVATION



VIEW A-A



VIEW B-B

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

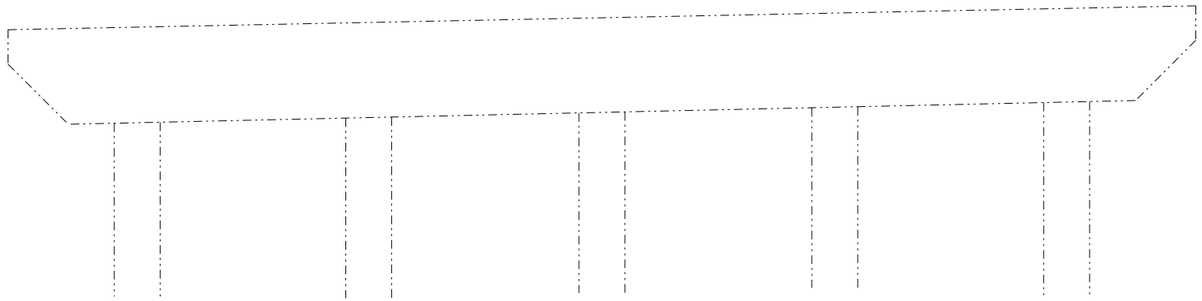
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 13

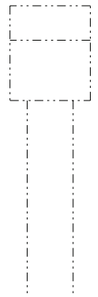
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	25 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R26



EAST ELEVATION



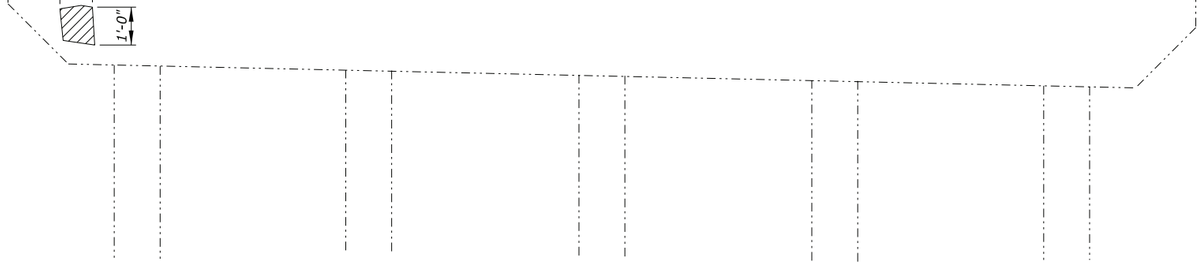
NORTH ELEVATION

Notes:

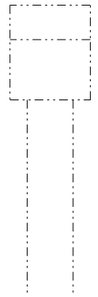
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY NOT FOR CONSTRUCTION

CONCRETE REPAIR - BENT 14

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	26 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

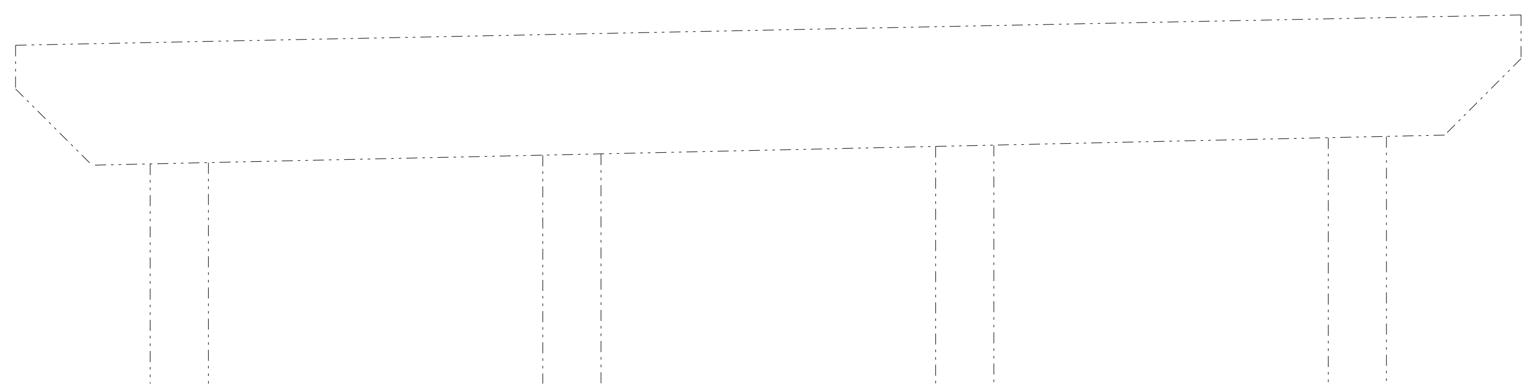
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R27

Notes:

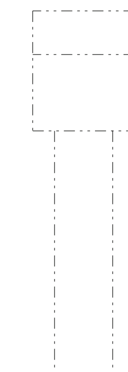
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

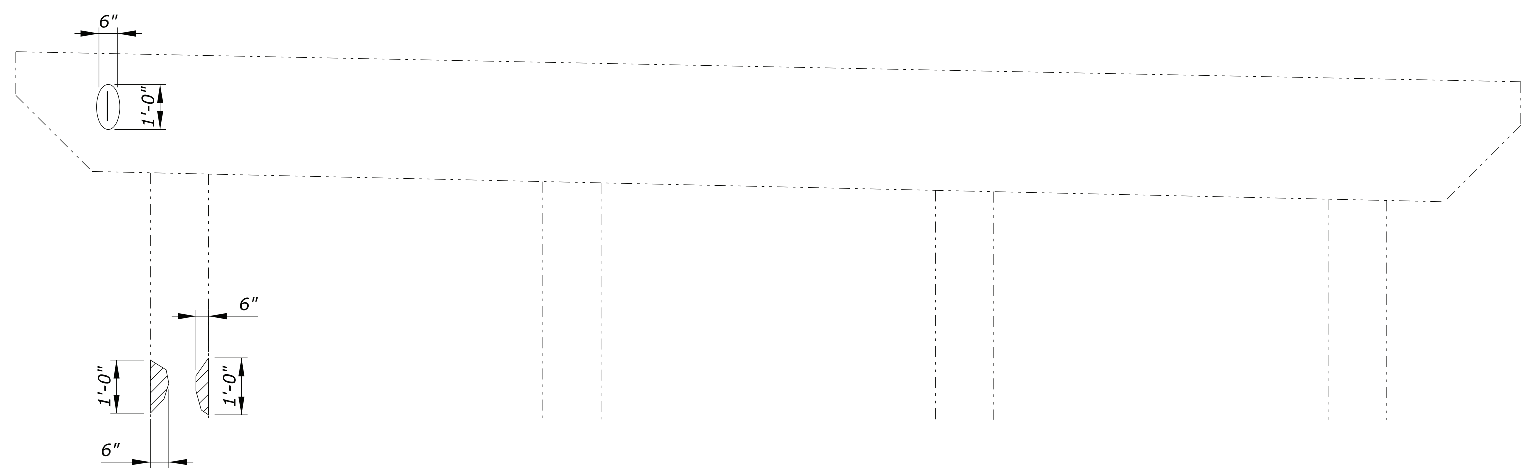
- Spall *- Crack* *- Exposed Reinforcement*



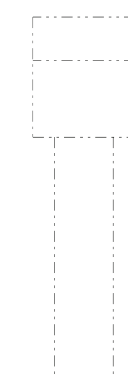
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 16

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	27 of 50	June 2022	BRP-1312

M:\PROJECTS\colo\c14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

14-Jun-2022 04:05 PM

Received by VMRC August 28, 2023 /blh

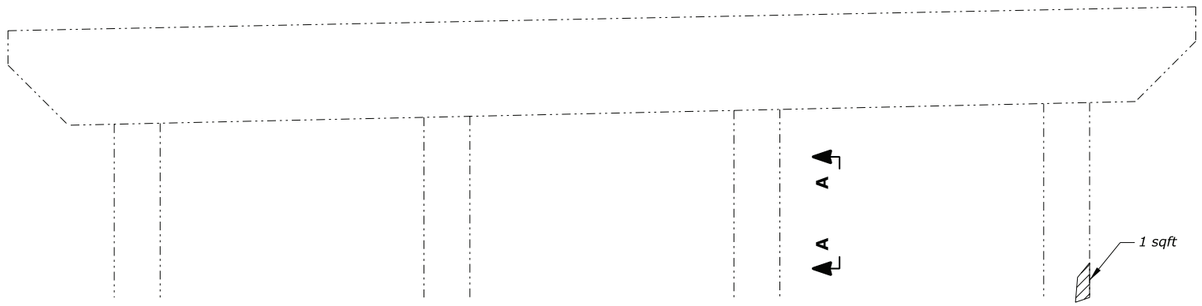
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R28

Notes:

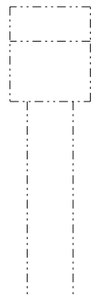
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

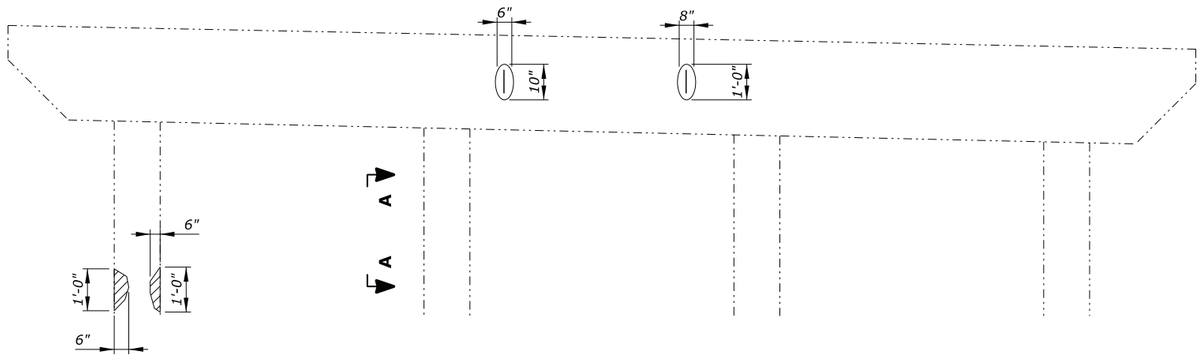
- *Spall*
- *Crack*
- *Exposed Reinforcement*



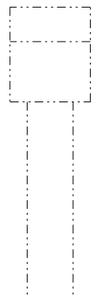
EAST ELEVATION



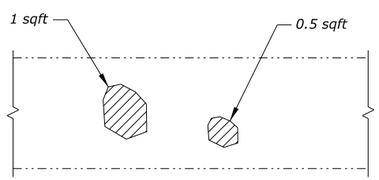
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



VIEW A-A

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

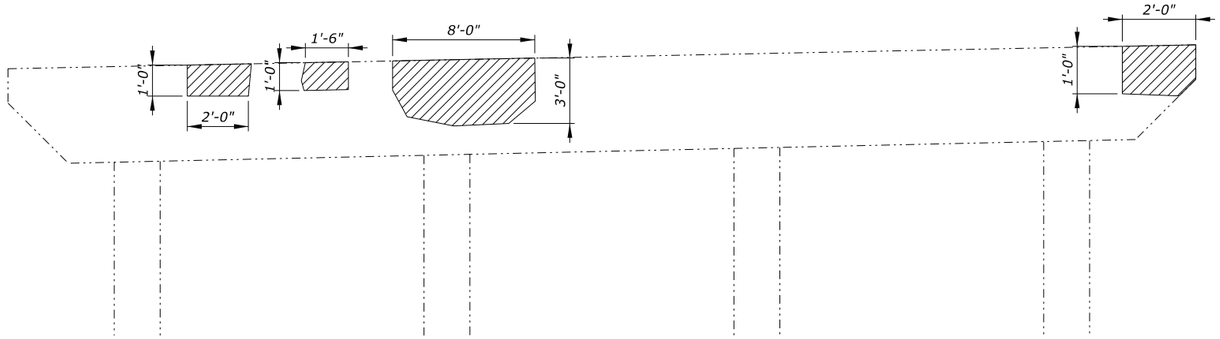
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 17

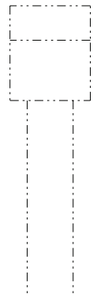
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	28 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R29



EAST ELEVATION



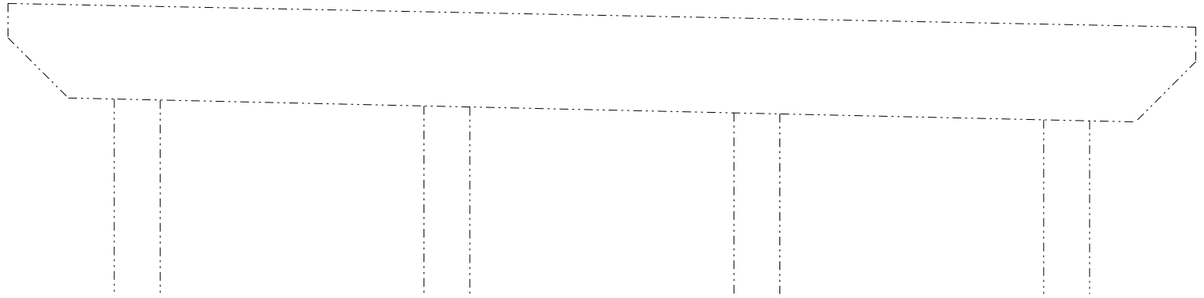
NORTH ELEVATION

Notes:

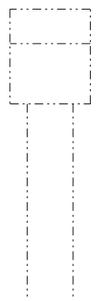
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

PRELIMINARY NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

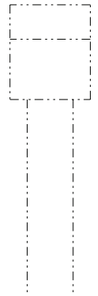
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 18

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	29 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R30

EAST ELEVATION



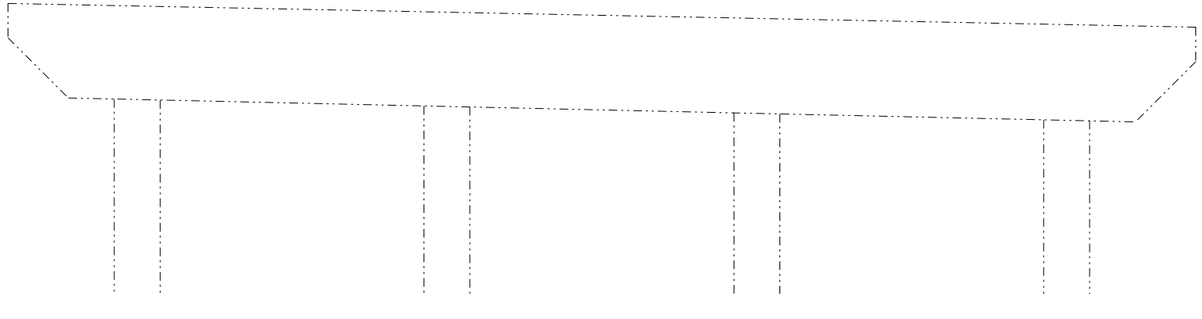
NORTH ELEVATION

Notes:

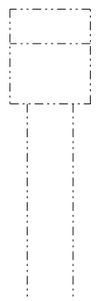
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

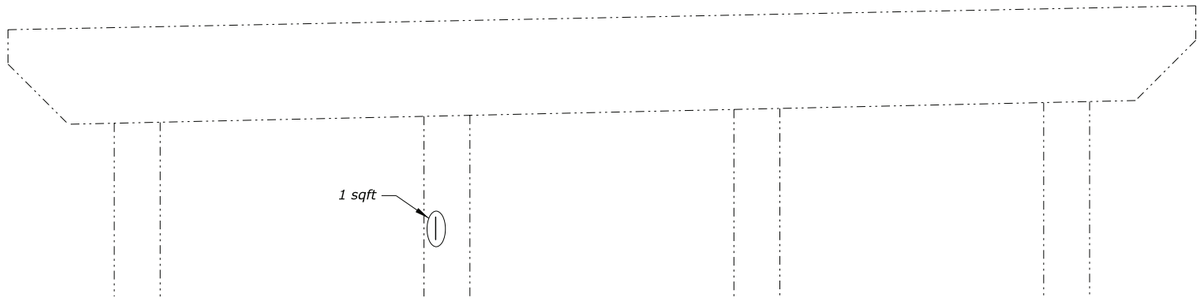
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 19

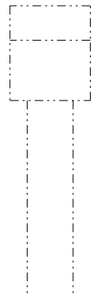
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	30 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R31



EAST ELEVATION



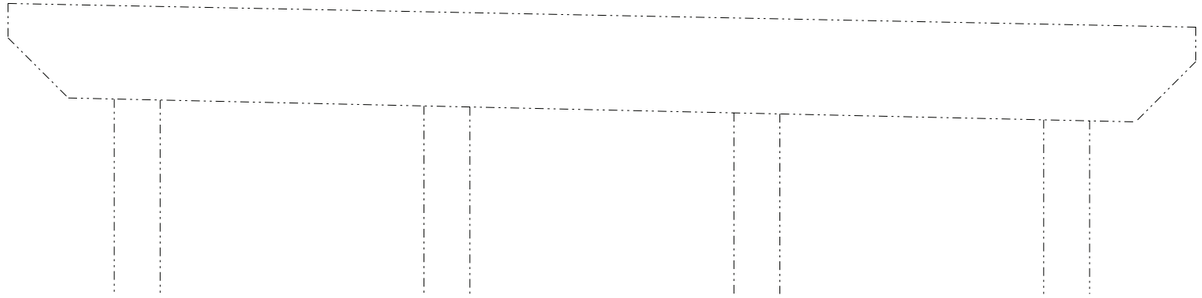
NORTH ELEVATION

Notes:

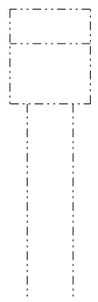
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

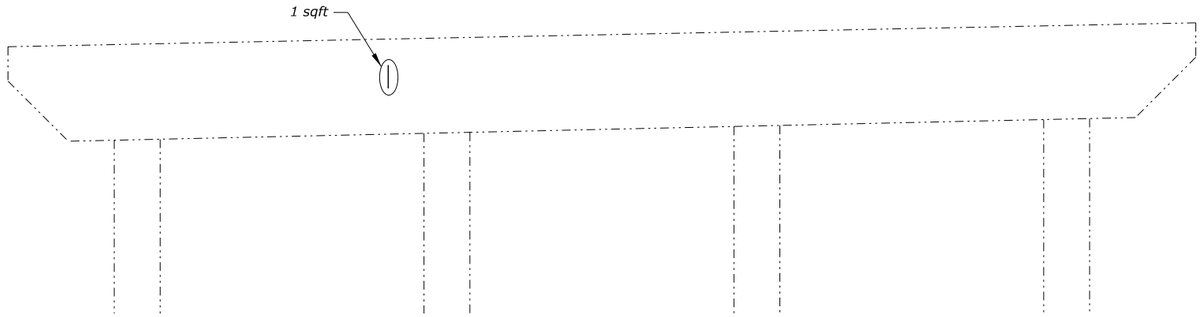
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 20

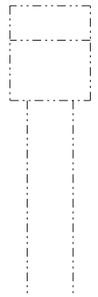
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	31 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R32



EAST ELEVATION



NORTH ELEVATION

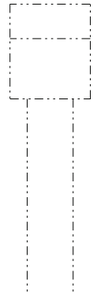
Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

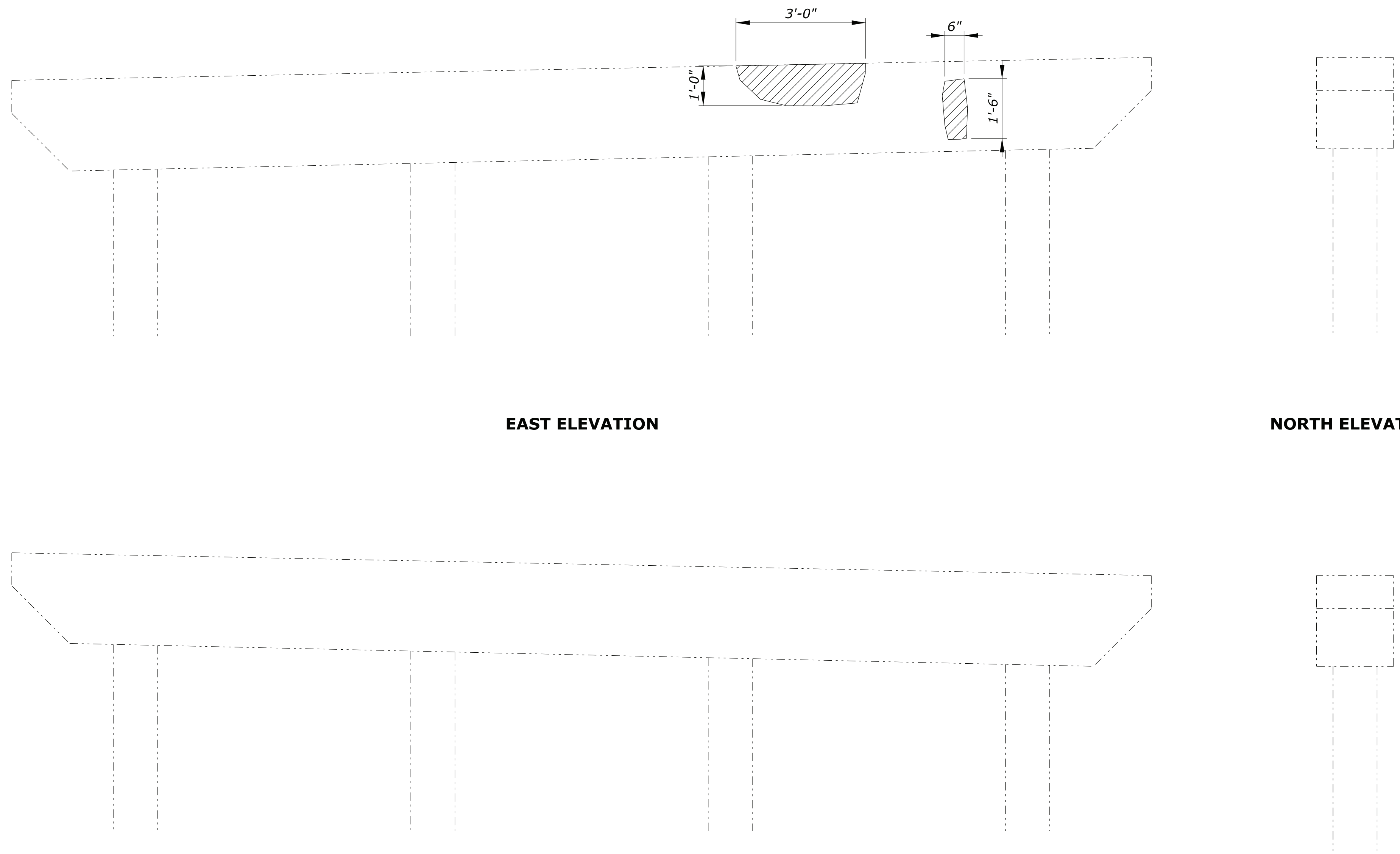
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 21

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	32 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R33



EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

SOUTH ELEVATION

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- *Spall* - *Crack* - *Exposed Reinforcement*

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 24

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

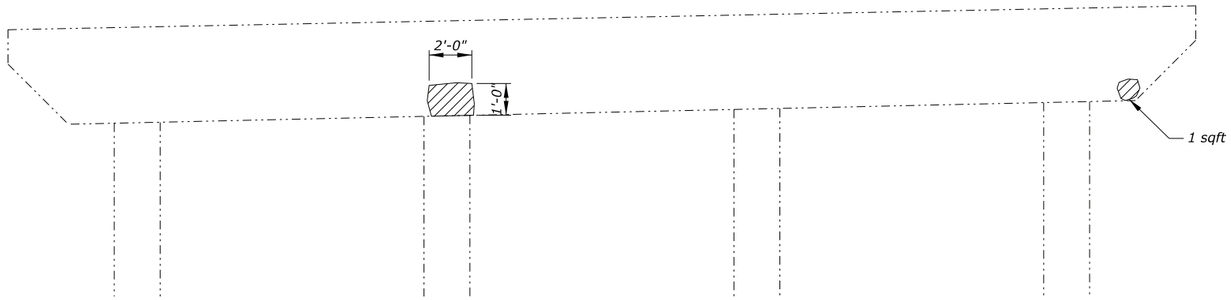
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	33 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

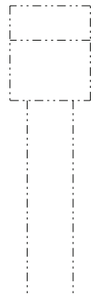
M:\PROJECTS\colo\c14_1d48_1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

14-Jun-2022 04:05 PM

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R34



EAST ELEVATION



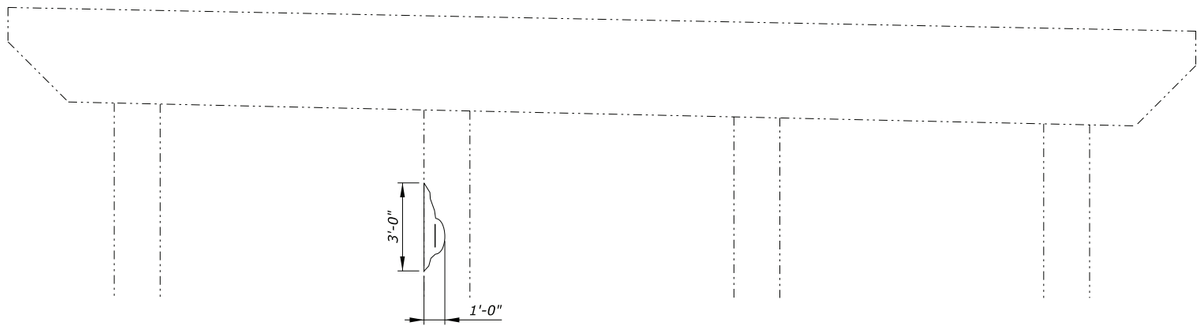
NORTH ELEVATION

Notes:

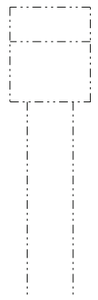
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

CONCRETE REPAIR - BENT 26

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	34 of 50	June 2022	BRP-1312

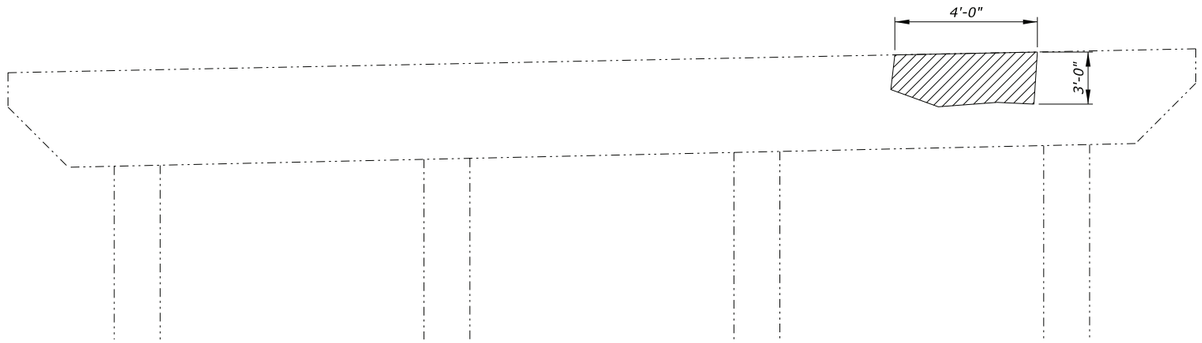
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R35

Notes:

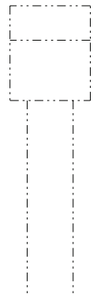
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

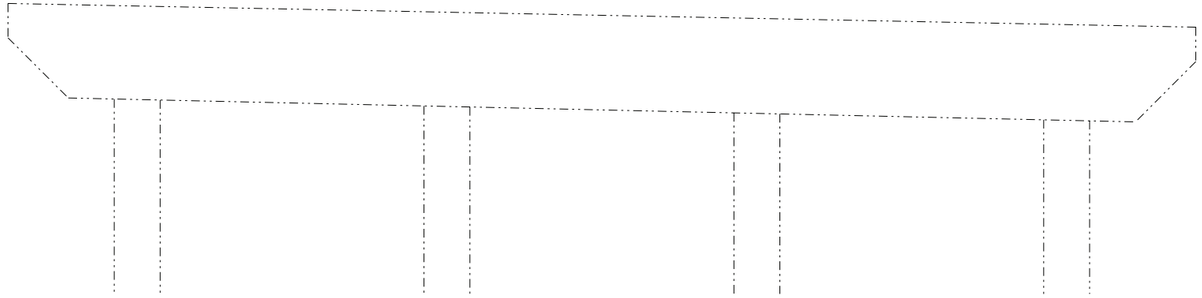
- Spall *- Crack* *- Exposed Reinforcement*



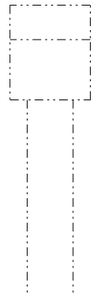
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

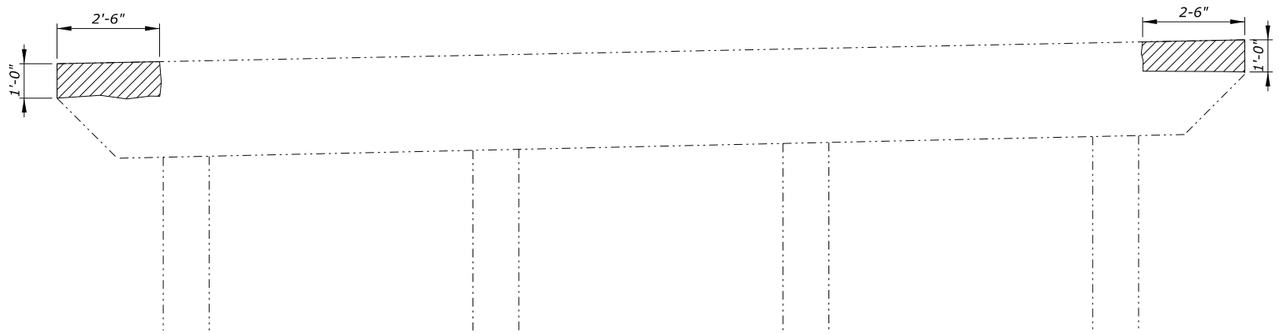
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 27

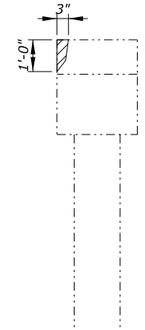
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	35 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R36



EAST ELEVATION



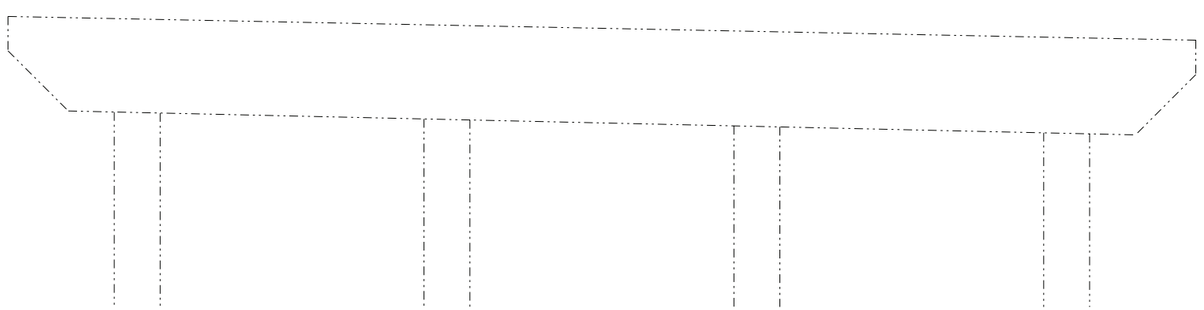
NORTH ELEVATION

Notes:

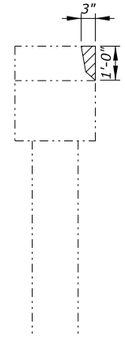
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

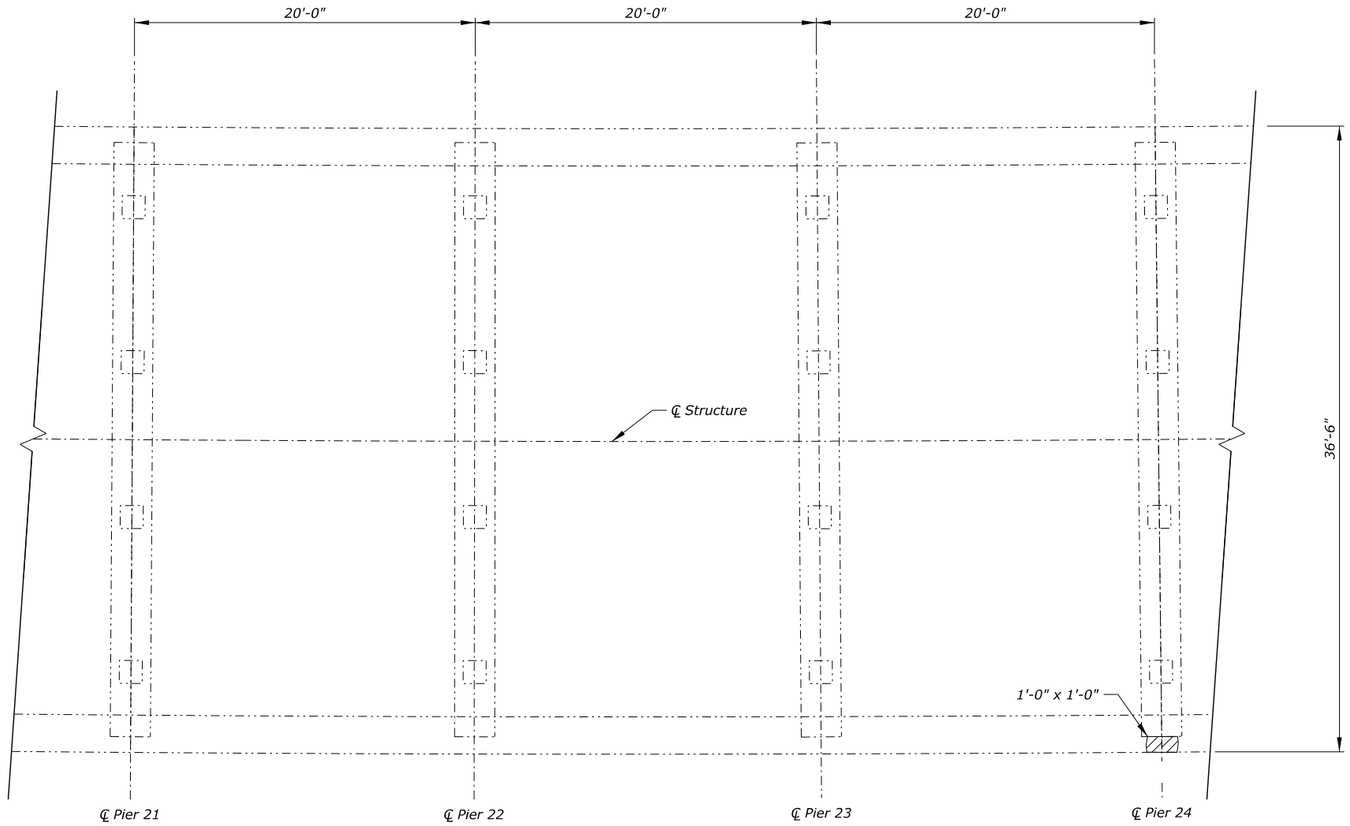
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 33

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	36 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R37



PLAN

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*

Structure Number : 4290-025P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 22-24 REFLECTIVE DECK

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	37 of 50	June 2022	BRP-1312

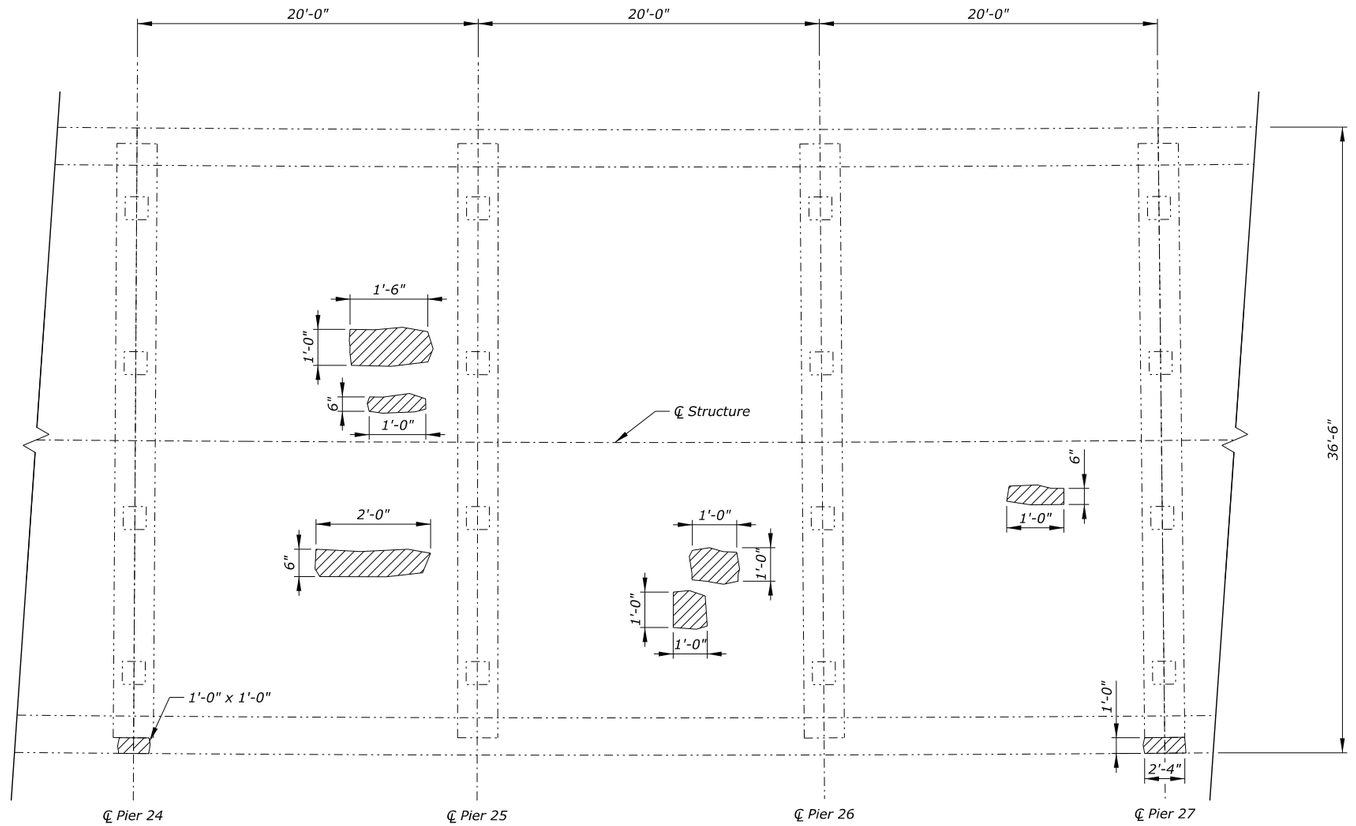
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R38

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



PLAN

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 25-27 REFLECTIVE DECK

PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	38 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

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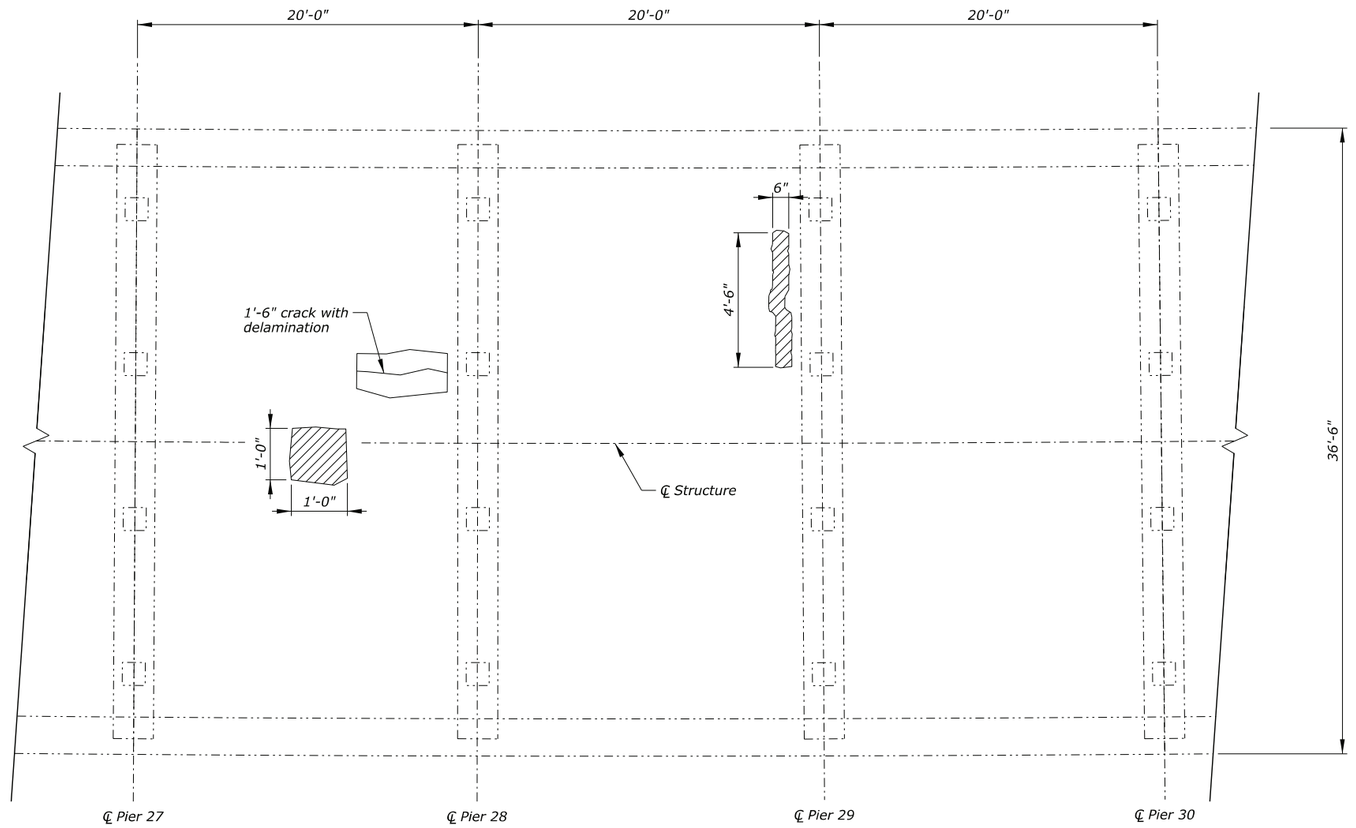
14-Jun-2022 04:05 PM

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R39



PLAN

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

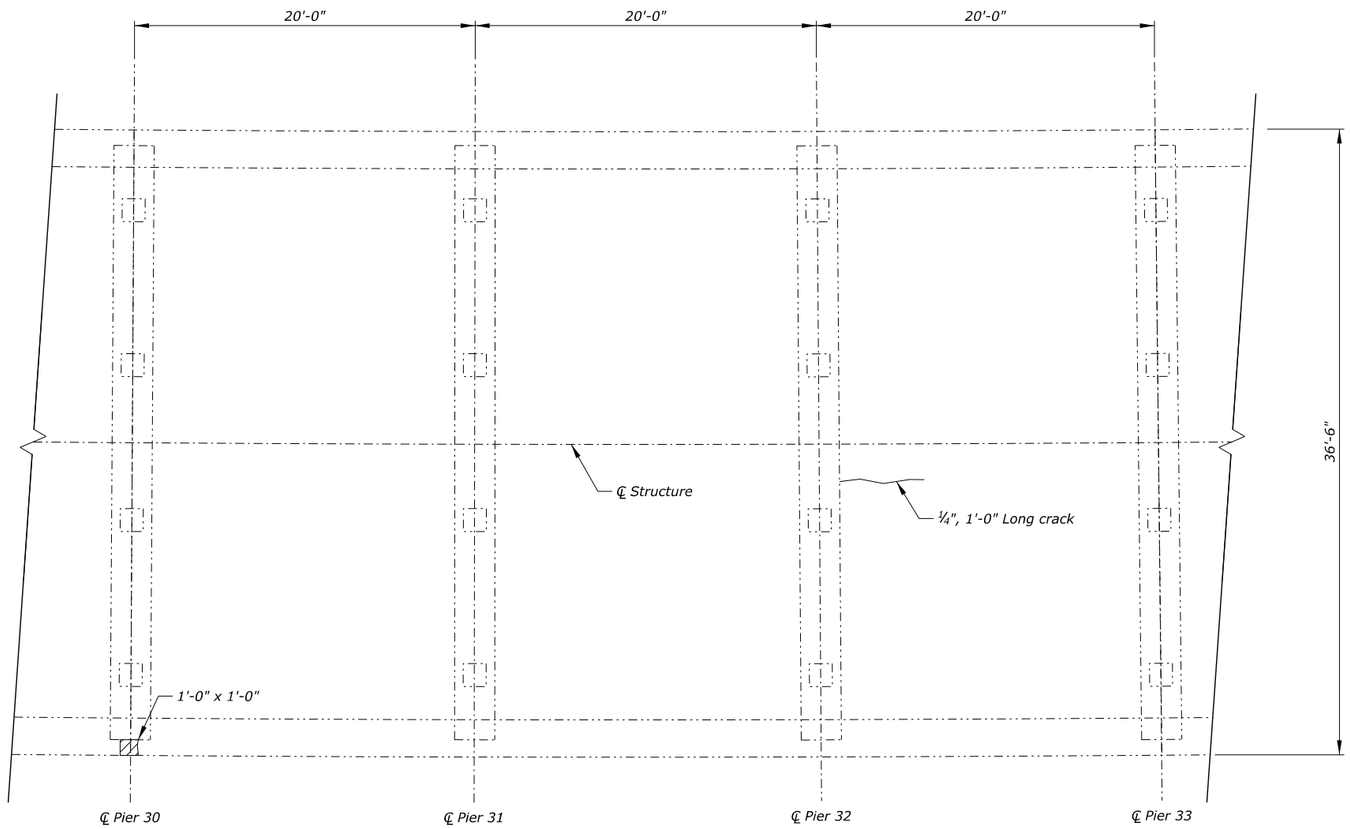
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 28-30 REFLECTIVE DECK

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	39 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R40



PLAN

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 31-33 REFLECTIVE DECK

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	40 of 50	June 2022	BRP-1312

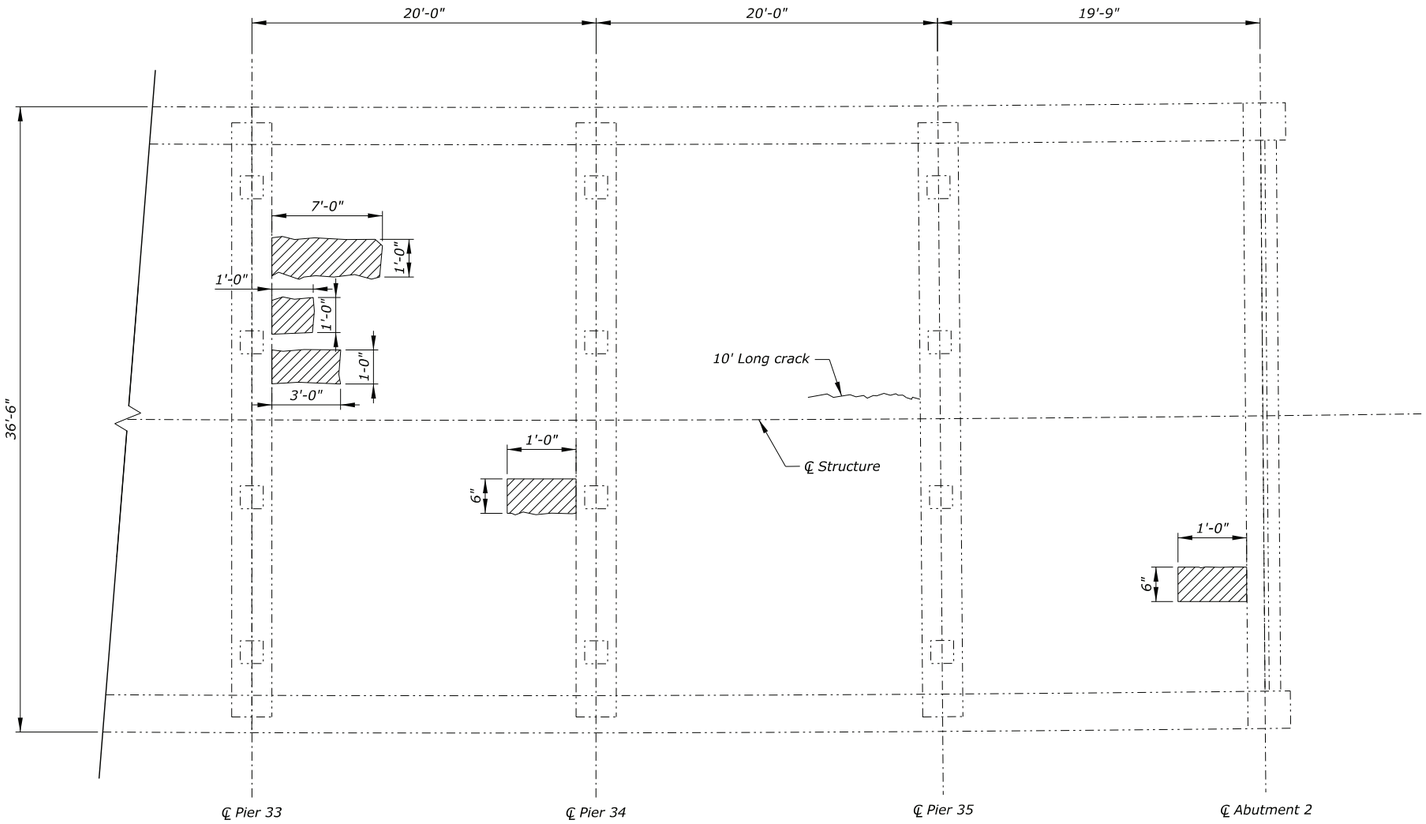
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R41

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



PLAN

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 34-36 REFLECTIVE DECK

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	41 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN
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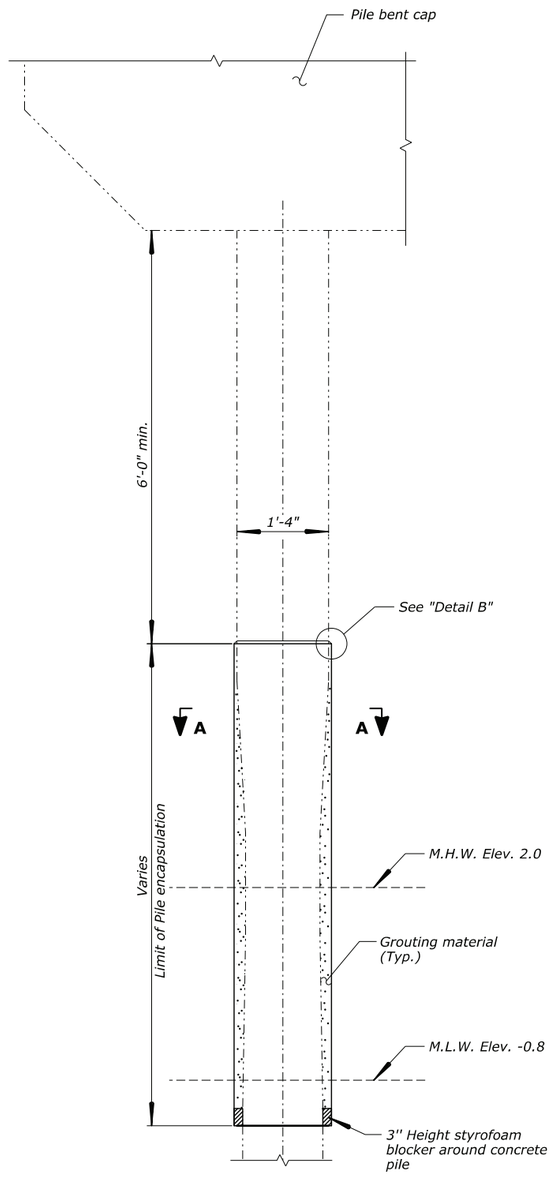
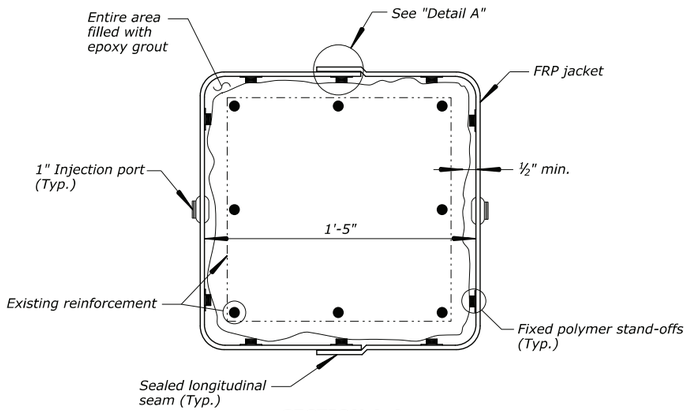
14-Jun-2022 04:05 PM

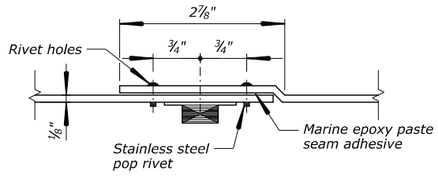
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R42



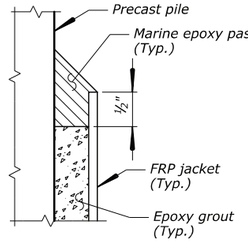
PILE ELEVATION
Scale: 1" = 1'-0"



SECTION A-A
Scale: 3" = 1'-0"
** Existing Pile width varies from 1'-1'' to 1'-4''*



DETAIL A
Not to scale



DETAIL B
Not to scale

Notes:

1. *Start Fiber Reinforced Polymer (FRP) composite shells at a minimum of 6 feet below pile cap.*
2. *Verify the locations of bents and piles with cracks and submit to the CO for approval. See "ESTIMATED CRACK REPAIR ON PILES" table for the recommended list of bents and piles. Cracks in table are primarily located at mean high water.*
3. *Refer to "CONCRETE REPAIR DETAILS" sheet for crack repair detail.*
4. *Repair cracks greater than ⅛-inch wide.*
5. *Furnish polymer stand-offs according to manufacturer's recommendations.*
6. *Pile Encapsulation Procedures:*
   a. *Verify the locations of bents and piles with spalling and submit to the CO for approval. See "ESTIMATED PILE ENCAPSULATION QUANTITIES" table for the recommended list of bents and piles.*
   b. *Clean the piles identified for repair to the bare concrete surface.*
   c. *Install fixed polymer stand-offs at 8 inches along the entire length of the jacket.*
   d. *Install Fiber Reinforced Polymer (FRP) pile encapsulation system according to Section 576.*

ESTIMATED PILE ENCAPSULATION QUANTITIES

Bent Number*	Pile Number*	Approx. Location	Approx. Length of FRP (ft.) per Bent
8	1,2,4	Deep below water	9
9	3,4	From bottom of existing jacket	4
10	3,4	From bottom of existing jacket	4
11	1,3,4	From bottom of existing jacket	6
13	1,2,3,4	3'-6" Below M.H.W.	16
14	1,4,5	3'-0" Below M.H.W.	6
15	1,2,3,4	3'-0" Below M.H.W.	12
16	1,2,3,4	3'-0" Below M.H.W.	16
		Total:	73

ESTIMATED CRACK REPAIR ON PILES

Bent Number*	Pile Number*	Total Length of Cracks (ft.)
3	1,2	3
4	1,4	5
18	2	5
26	3	2.5
	Total:	15.5

** See "PLAN AND ELEVATION" and "TYPICAL SECTION" sheets for pile bents and piles number convention.*

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

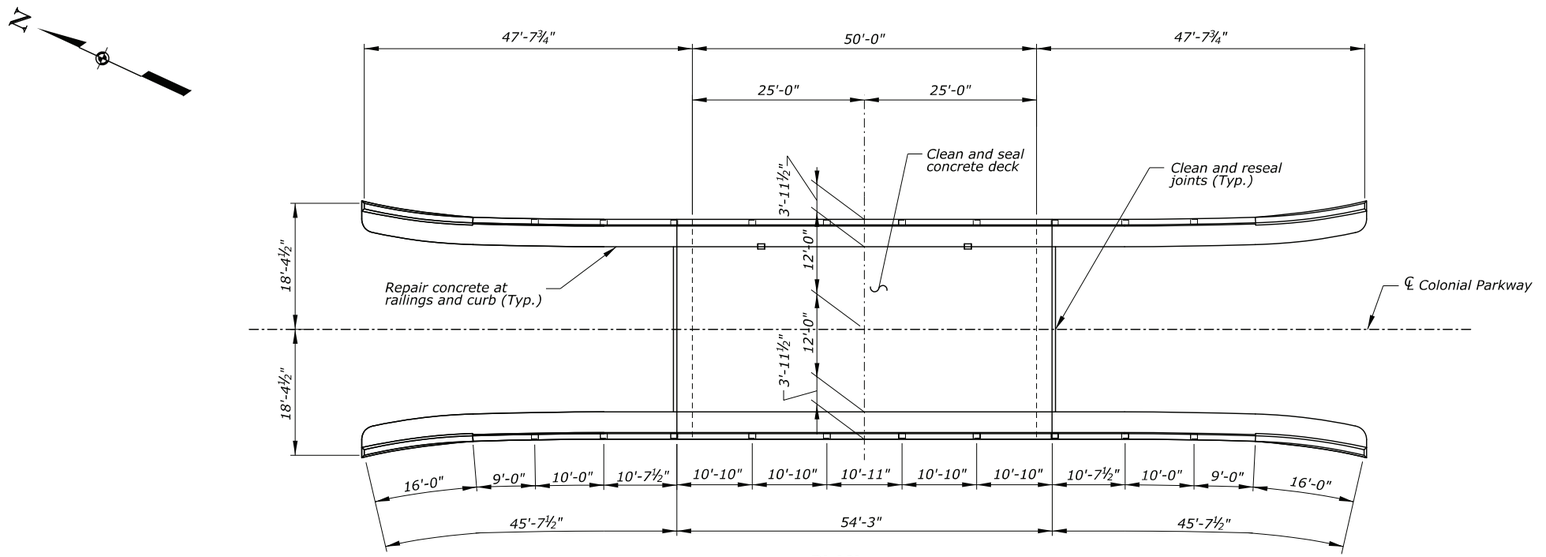
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

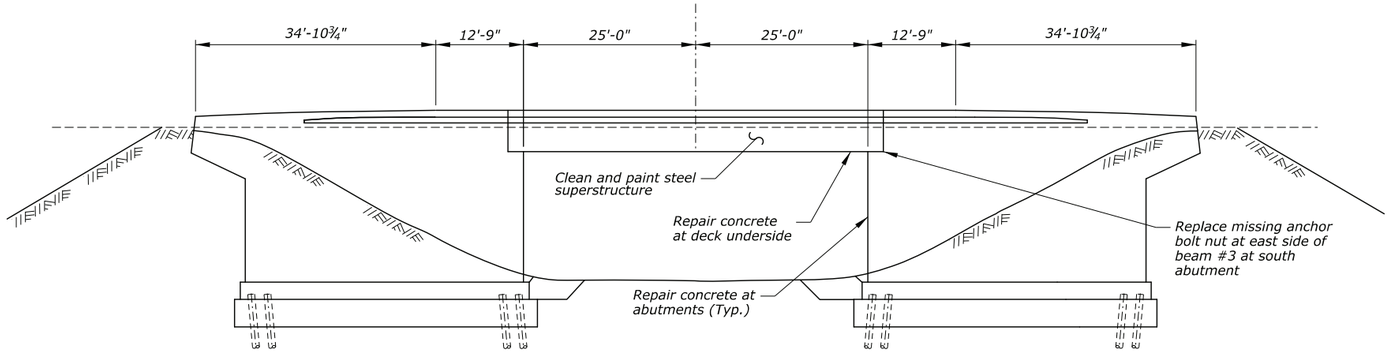
CONCRETE PILE ENCAPSULATION

PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	As Shown	Christopher Negley	42 of 50	June 2022	BRP-1312



PLAN



ELEVATION

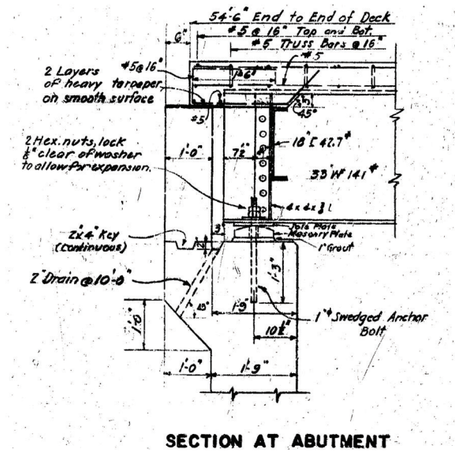
ESTIMATED CONCRETE REPAIR		
Approximate location	*Units*	*Quantity*
Spalling at both abutments	*SQFT*	*10*
Spalling at deck underside	*SQFT*	*10*
Spalling at Railings and curb	*SQFT*	*4*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*4*

PRELIMINARY
NOT FOR CONSTRUCTION

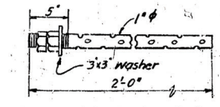
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R43

Notes:

1. *Repair 3 sagging utility conduits suspended from the deck underside. Repair a sagging utility pipe with torn insulation between beams #1 and #2.*
2. *Clean and paint all steel surfaces according to Section 563.*
3. *As-builts are shown for information only.*
4. *See "JOINT DETAILS" sheet for joint details.*
5. *Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.*
6. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.*
7. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*
8. *Remove vegetation on or within 5 feet of the structure.*



SECTION AT ABUTMENT



SWEDGED ANCHOR BOLT

Structure Number : 4290-026P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B AND D
ISTHMUS BRIDGE

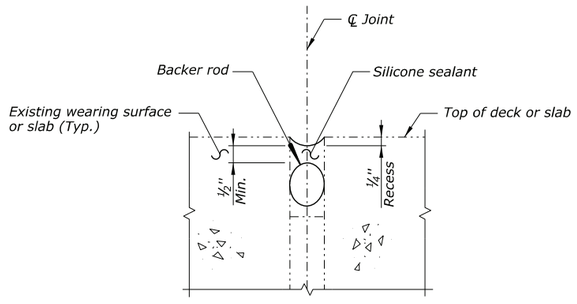
PLAN AND ELEVATION (STRUCTURE 4290-026P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	43 of 50	June 2022	BRP-1312

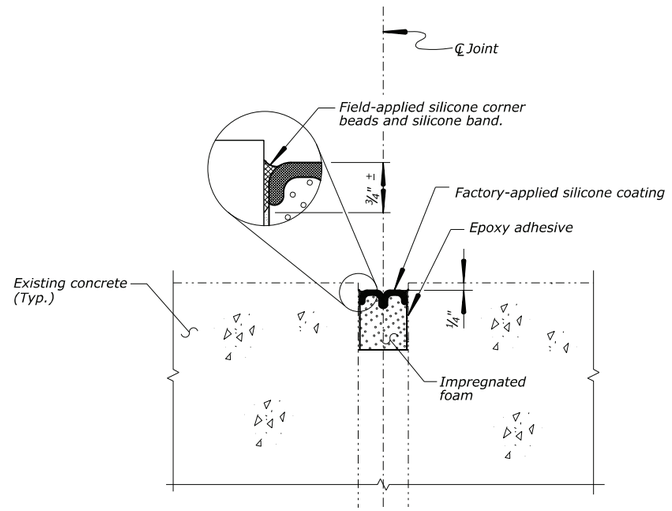
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R44

Notes:

1. *Verify dimensions before fabrication of expansion joint seal.*
2. *Install a continuous expansion joint seal.*
3. *Pourable joint sequence of work:*
   a. *Remove existing joint material, clean joint opening of debris and remove laitance with oil-free compressed air.*
   b. *Install new precompressed hybrid seal expansion joint material according to manufacturer's recommendations.*
4. *Furnish silicone joint sealant conforming to Subsection 712.01(e) for horizontal joints.*



EXISTING POURABLE SEAL JOINT
(For information only)



PRECOMPRESSED HYBRID SEAL JOINT DETAIL

Structure Number : 4290-023P, 4290-024P, 4290-025P, 4290-026P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

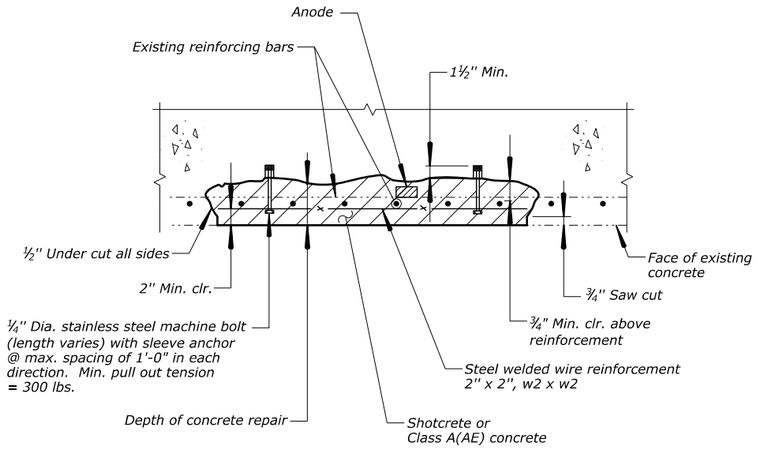
SCHEDULE B
COLLEGE CREEK BRIDGE,
MILL CREEK BRIDGE,
POWHATAN CREEK,
AND ISTHMUS BRIDGE,

JOINT DETAILS

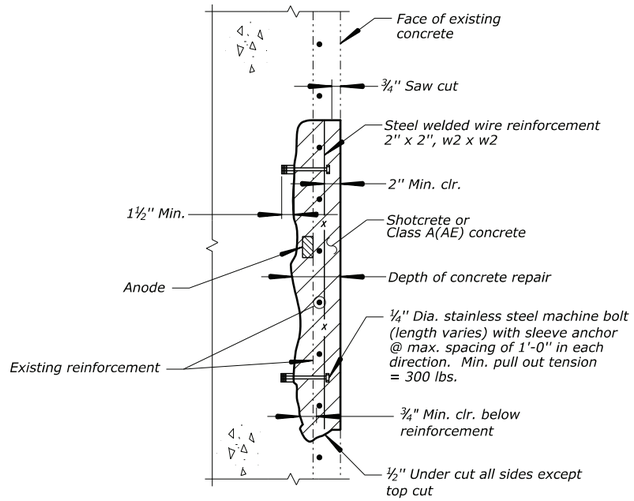
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	[illegible]	Not to Scale	Christopher Negley	44 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R45



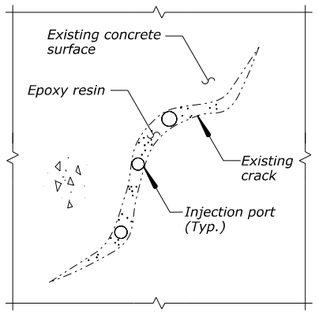
OVERHEAD CONCRETE REPAIR



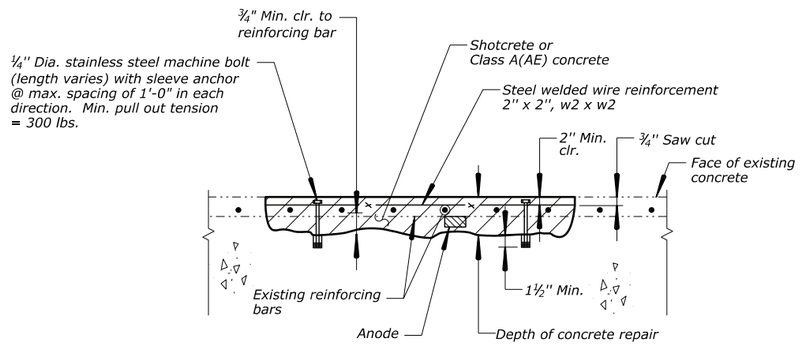
VERTICAL CONCRETE REPAIR

Notes:

1. *Concrete repairs are located on both faces of the bent and the face of each abutment, at the underside of the deck, and are approximate in size. Depth of concrete reinforcement may vary.*
2. *Perform concrete sounding throughout the concrete surface.*
3. *Saw cut 3/4-inch deep along a square or rectangular perimeter around the designated repair area as approved by the CO.*
4. *Remove loose and deteriorated concrete to sound concrete or to a depth of at least 1-inch clear of existing reinforcement, without incurring any damage to existing steel reinforcement.*
5. *Clean existing steel and concrete by wire brush, abrasive blasting, or water jetting as required according to Section 203.*
6. *Replace reinforcing steel with more than 25% section loss. Match existing reinforcing steel diameter and coating.*
7. *Fasten welded wire fabric and zinc lath to existing reinforcement and secure to concrete with machine bolts as needed.*
8. *Install Anodes for corrosion protection on repair areas according to manufacturer's recommendations, as approved by the CO.*
9. *On areas where zinc lath is used, place shotcrete on repair area up to location of zinc lath, install zinc lath according to Note 7 and continue shotcrete placement.*
10. *Moisten sound concrete surface until SSD condition is achieved and place shotcrete or Class A(AE) concrete for patching material according to Section 552.*
11. *Stain all concrete repairs to match existing concrete according to manufacturer's recommendations, as approved by the CO.*
12. *Do not permit debris to enter waterways and travel lanes.*
13. *Repair concrete cracks according to Section 561.*



CONCRETE CRACK REPAIR
(See Note 13)



HORIZONTAL CONCRETE REPAIR

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-023P, 4290-024P, 4290-025P, 4290-026P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

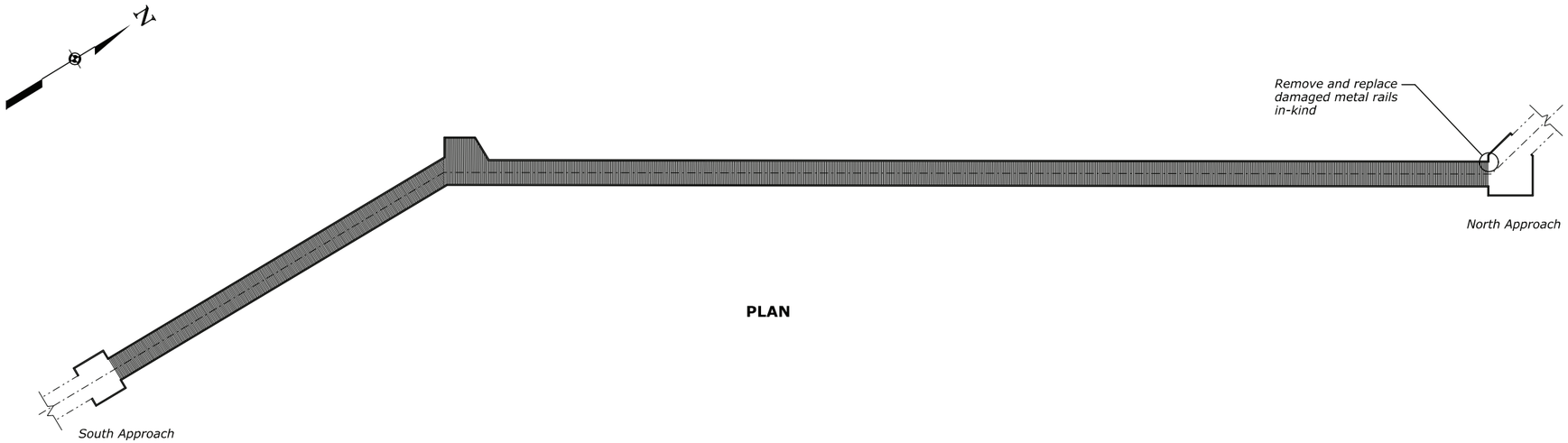
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
COLLEGE CREEK BRIDGE,
MILL CREEK BRIDGE,
POWHATAN CREEK,
AND ISTHMUS BRIDGE,

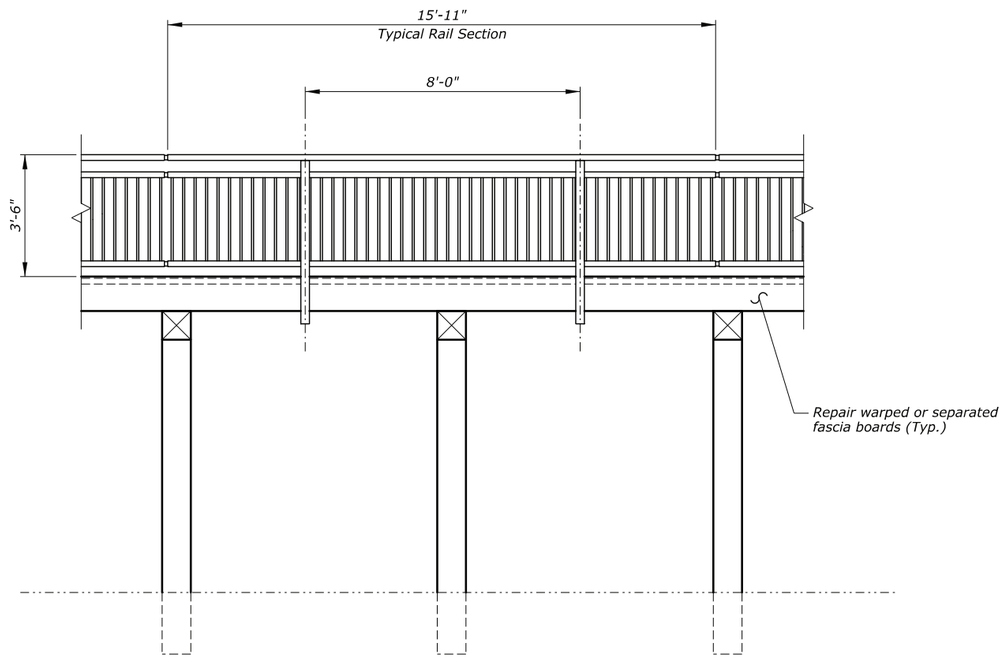
CONCRETE REPAIR DETAILS

NO.	DATE			NO.	DATE			DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	45 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R46



PLAN



TIMBER BOARDWALK ELEVATION

Notes:

1. *See "METAL RAIL DETAILS" sheet for more information on rails.*
2. *Salvage and replace integral lighting system in-kind at sections where railing is being replaced. See "METAL RAIL DETAILS" and "PARTIAL BRIDGE ELECTRICAL PLAN - NORTH SECTION" sheets for details on lighting system.*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

PLAN AND ELEVATION
(STRUCTURE 4290-039T)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	46 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY	PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
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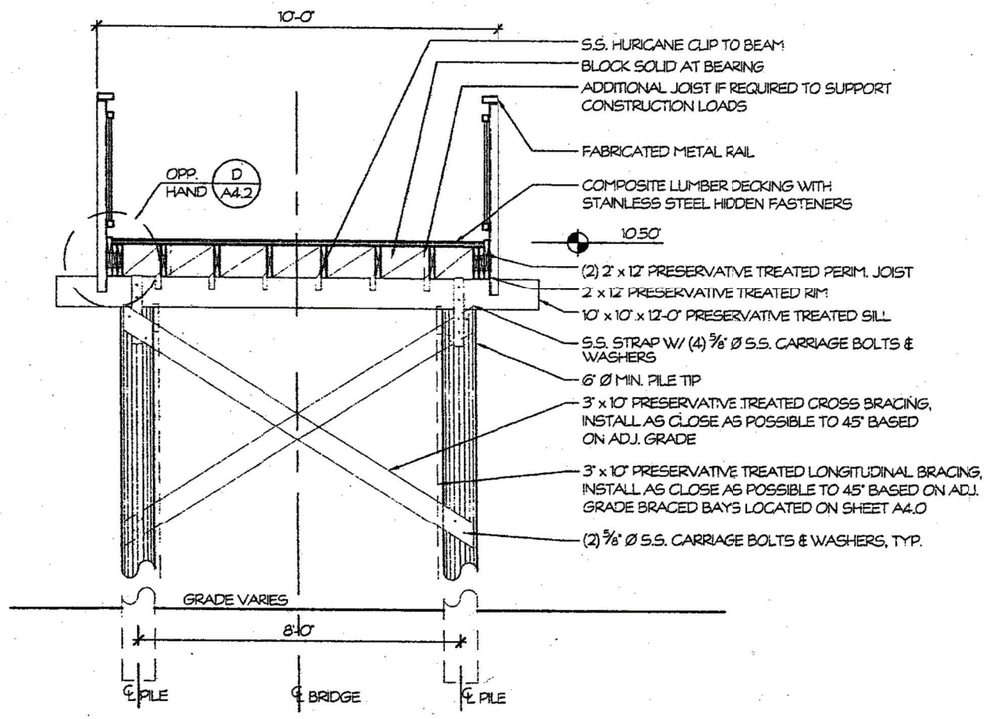
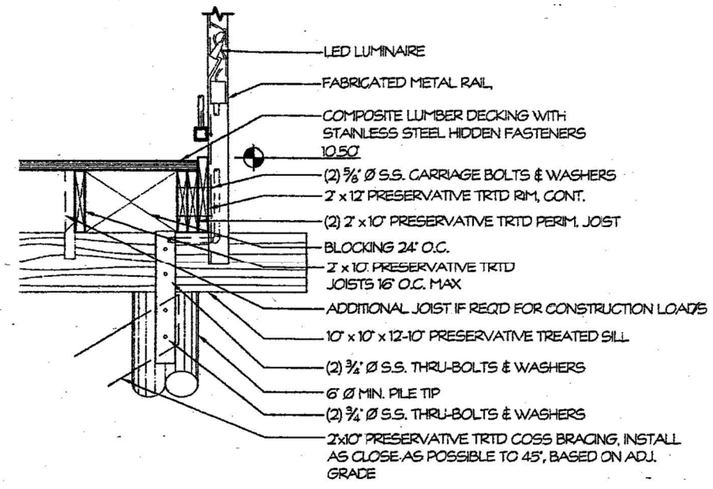


TIMBER BOARDWALK SECTION



GUARDRAIL ATTACHMENT

Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

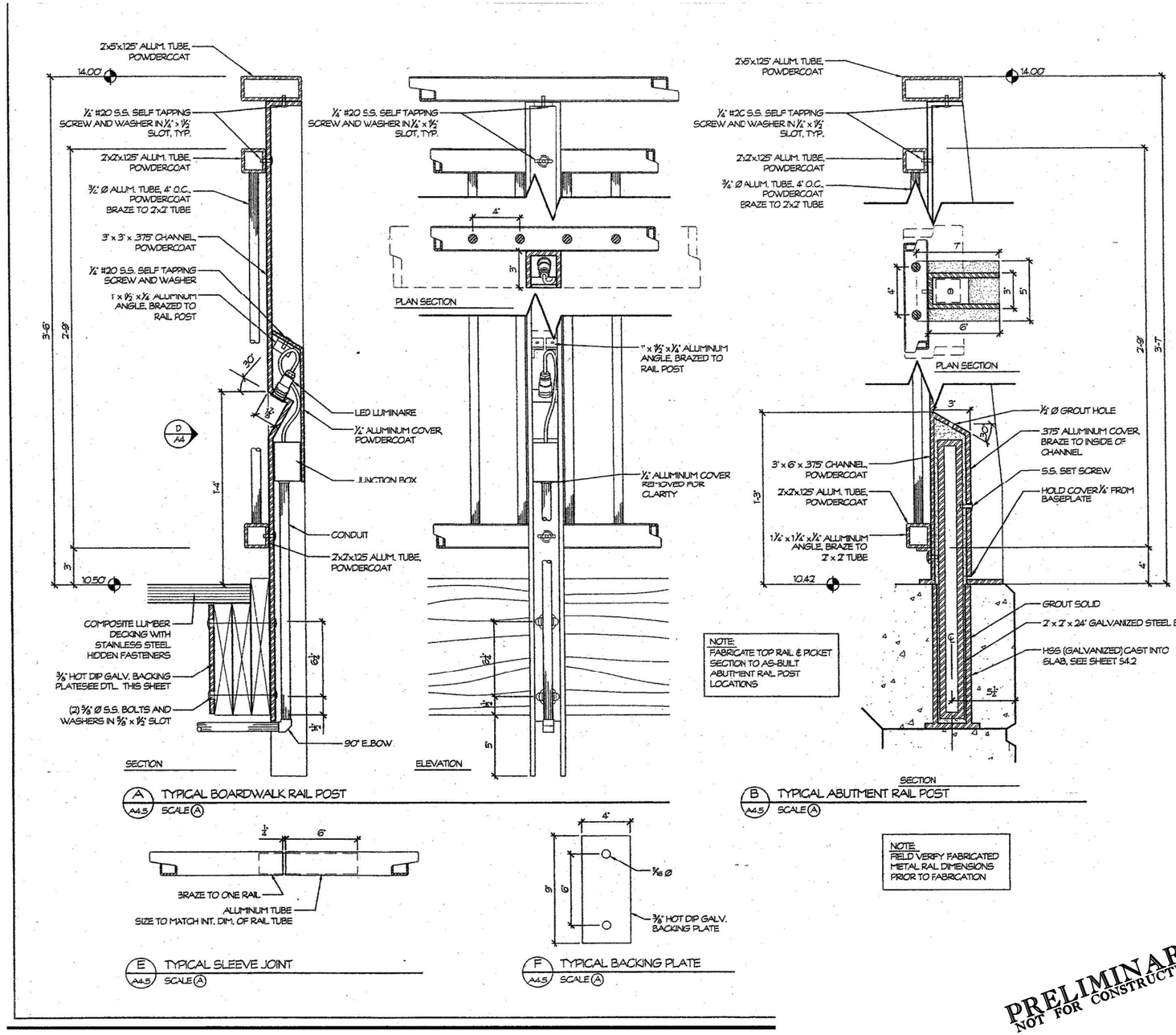
SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

TYPICAL SECTION (STRUCTURE 4290-039T)

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	47 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY	PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
	222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R48



Notes:

1. *Coordinate rail picket spacing with rail post locations to ensure pickets do not obscure built in lights.*

Structure Number : 4290-039T

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

METAL RAIL DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	48 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY	PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
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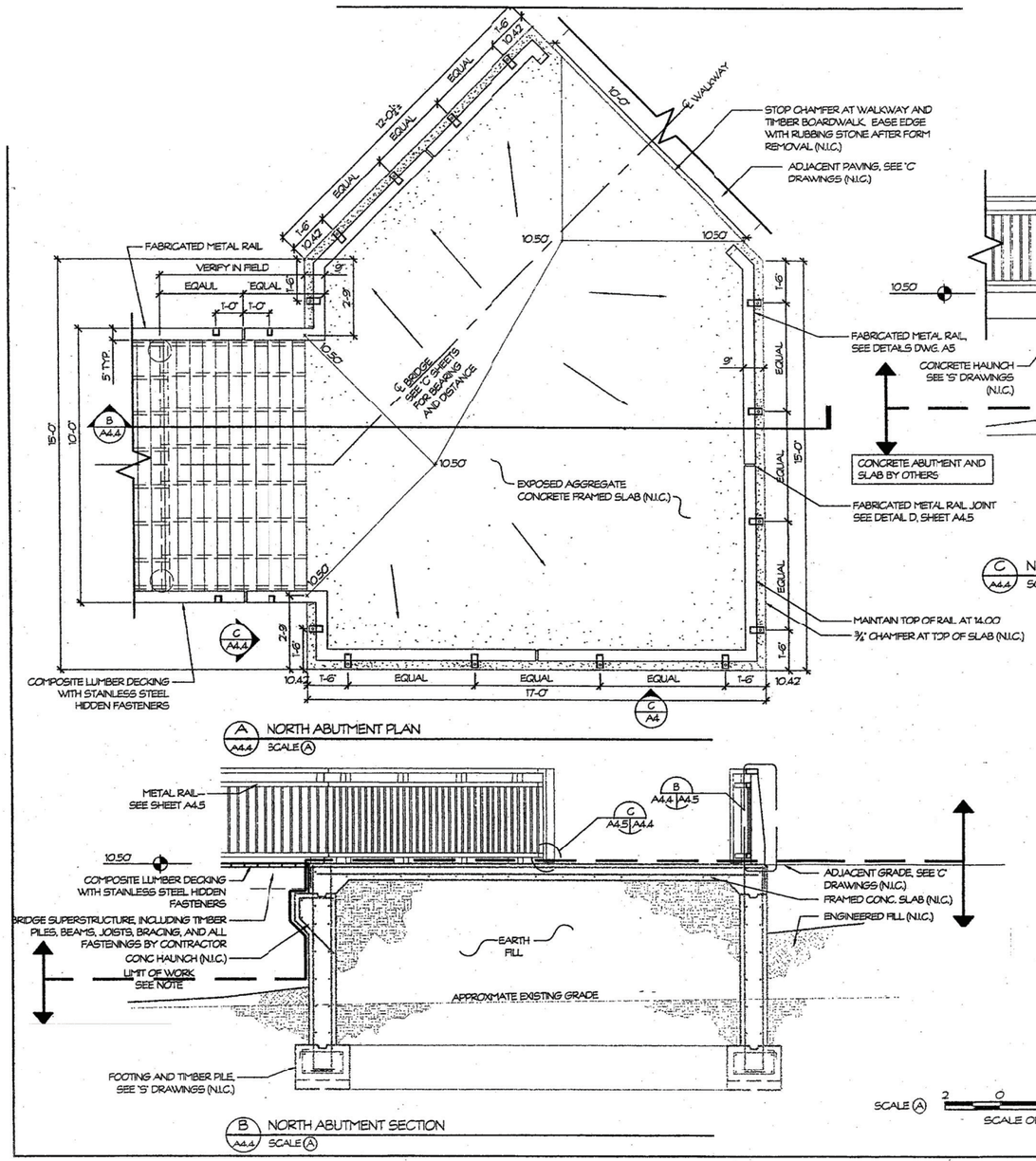


Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

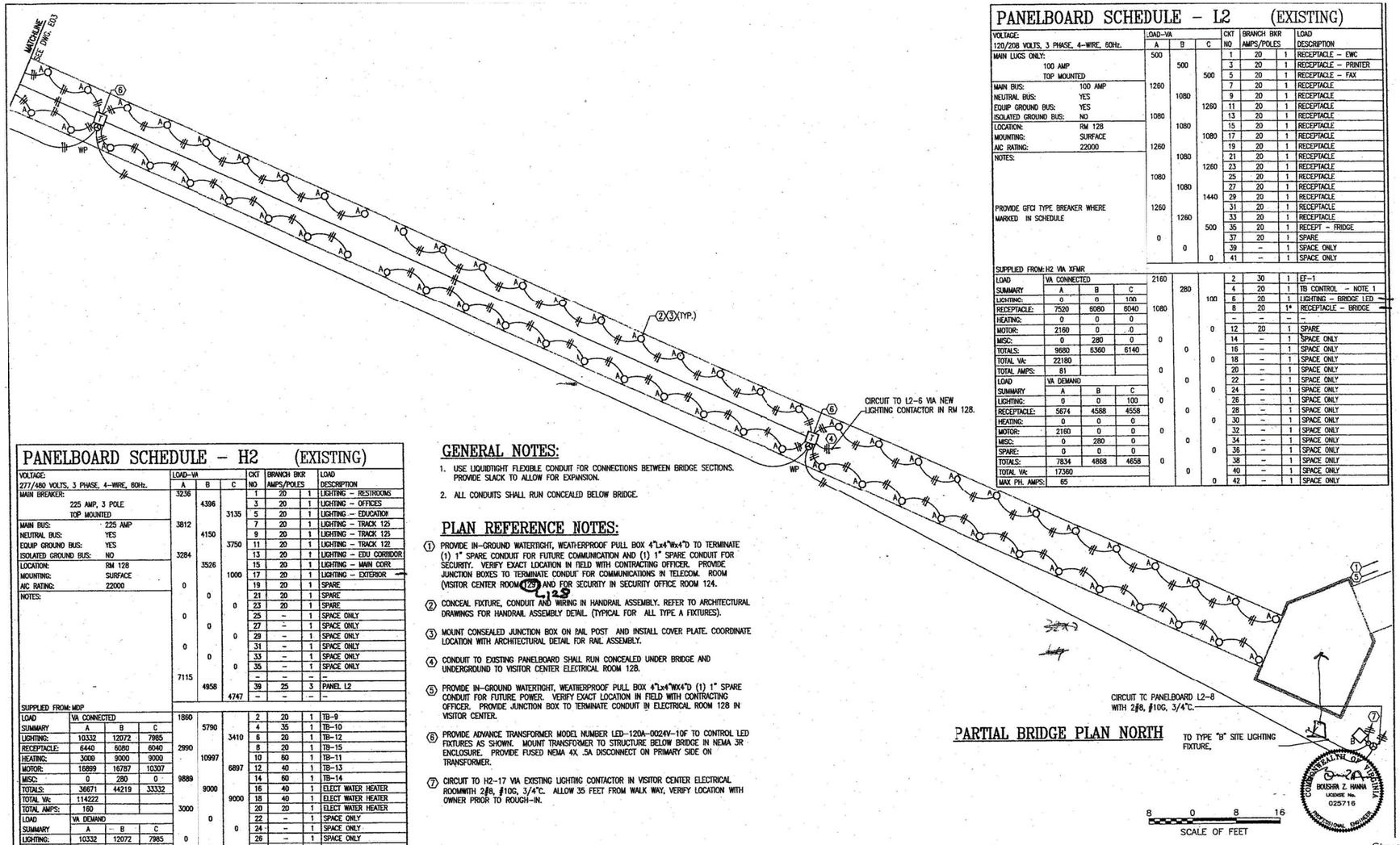
NORTH ABUTMENT RAIL DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	49 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R50



PARTIAL BRIDGE PLAN NORTH

PANELBOARD SCHEDULE – H2 (EXISTING)

VOLTAGE: 277/480 VOLTS, 3 PHASE, 4-WIRE, 60Hz.	LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
MAIN BREAKER: 225 AMP, 3 POLE TOP MOUNTED	3236			1	20	1	LIGHTING – RESTROOMS
		4396		3	20	1	LIGHTING – OFFICES
			3135	5	20	1	LIGHTING – EDUCATION
MAIN BUS: 225 AMP	3812			7	20	1	LIGHTING – TRACK 125
NEUTRAL BUS: YES		4150		9	20	1	LIGHTING – TRACK 125
EQUIP GROUND BUS: YES			3750	11	20	1	LIGHTING – TRACK 122
ISOLATED GROUND BUS: NO	3284			13	20	1	LIGHTING – EDU CORRIDOR
LOCATION: RM 128		3526		15	20	1	LIGHTING – MAIN CORR
MOUNTING: SURFACE			1000	17	20	1	LIGHTING – EXTERIOR
AIC RATING: 22000	0			19	20	1	SPARE
NOTES:		0		21	20	1	SPARE
			0	23	20	1	SPARE
	0			25	–	1	SPACE ONLY
		0		27	–	1	SPACE ONLY
			0	29	–	1	SPACE ONLY
	0			31	–	1	SPACE ONLY
		0		33	–	1	SPACE ONLY
			0	35	–	1	SPACE ONLY
	7115			–	–	–	–
		4958		39	25	3	PANEL L2
			4747	–	–	–	–

SUPPLIED FROM: MDP

LOAD SUMMARY	VA CONNECTED A	B	C
LIGHTING:	10332	12072	7985
RECEPTACLE:	6440	6080	6040
HEATING:	3000	9000	9000
MOTOR:	16899	16787	10307
MISC:	0	280	0
TOTALS:	36671	44219	33332
TOTAL VA:	114222		
TOTAL AMPS:	160		

LOAD SUMMARY	VA DEMAND A	B	C
LIGHTING:	10332	12072	7985
RECEPTACLE:	4955	4678	4647
HEATING:	3000	9000	9000
MOTOR:	16899	16787	10307
MISC:	0	280	0
SPARE:	5497	5497	5497
TOTALS:	40683	48314	37438
TOTAL VA:	126433		
MAX PH. AMPS:	174		

LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
1860			2	20	1	TB-9
	5790		4	35	1	TB-10
		3410	6	20	1	TB-12
2990			8	20	1	TB-15
	10997		10	60	1	TB-11
		6897	12	40	1	TB-13
9889			14	60	1	TB-14
	9000		16	40	1	ELECT WATER HEATER
		9000	18	40	1	ELECT WATER HEATER
3000			20	20	1	ELECT WATER HEATER
	0		22	–	1	SPACE ONLY
		0	24	–	1	SPACE ONLY
0			26	–	1	SPACE ONLY
	0		28	–	1	SPACE ONLY
		0	30	–	1	SPACE ONLY
0			32	–	1	SPACE ONLY
	0		34	–	1	SPACE ONLY
		0	36	–	1	SPACE ONLY
0			38	–	1	SPACE ONLY
	0		40	–	1	SPACE ONLY
		0	42	–	1	SPACE ONLY

PANELBOARD SCHEDULE – L2 (EXISTING)

VOLTAGE: 120/208 VOLTS, 3 PHASE, 4-WIRE, 60Hz.	LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
MAIN LUGS ONLY: 100 AMP TOP MOUNTED	500			1	20	1	RECEPTACLE – EWC
		500		3	20	1	RECEPTACLE – PRINTER
			500	5	20	1	RECEPTACLE – FAX
MAIN BUS: 100 AMP	1260			7	20	1	RECEPTACLE
NEUTRAL BUS: YES		1080		9	20	1	RECEPTACLE
EQUIP GROUND BUS: YES			1260	11	20	1	RECEPTACLE
ISOLATED GROUND BUS: NO	1080			13	20	1	RECEPTACLE
LOCATION: RM 128		1080		15	20	1	RECEPTACLE
MOUNTING: SURFACE			1080	17	20	1	RECEPTACLE
AIC RATING: 22000	1260			19	20	1	RECEPTACLE
NOTES:		1080		21	20	1	RECEPTACLE
			1260	23	20	1	RECEPTACLE
	1080			25	20	1	RECEPTACLE
		1080		27	20	1	RECEPTACLE
			1440	29	20	1	RECEPTACLE
PROVIDE GFCI TYPE BREAKER WHERE MARKED IN SCHEDULE	1260			31	20	1	RECEPTACLE
		1260		33	20	1	RECEPTACLE
			500	35	20	1	RECEPT – FRIDGE
	0			37	20	1	SPARE
		0		39	–	1	SPACE ONLY
			0	41	–	1	SPACE ONLY

SUPPLIED FROM: H2 VIA XFMR

LOAD SUMMARY	VA CONNECTED A	B	C
LIGHTING:	0	0	100
RECEPTACLE:	7520	6080	6040
HEATING:	0	0	0
MOTOR:	2160	0	0
MISC:	0	280	0
TOTALS:	9680	5360	6140
TOTAL VA:	22180		
TOTAL AMPS:	81		

LOAD SUMMARY	VA DEMAND A	B	C
LIGHTING:	0	0	100
RECEPTACLE:	5674	4588	4558
HEATING:	0	0	0
MOTOR:	2160	0	0
MISC:	0	280	0
SPARE:	0	0	0
TOTALS:	7834	4868	4658
TOTAL VA:	17360		
MAX PH. AMPS:	85		

LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
2160			2	30	1	EF-1
	280		4	20	1	TB CONTROL – NOTE 1
		100	6	20	1	LIGHTING – BRIDGE LED
1080			8	20	1*	RECEPTACLE – BRIDGE
		0	–	–	–	–
			12	20	1	SPARE
0			14	–	1	SPACE ONLY
	0		16	–	1	SPACE ONLY
		0	18	–	1	SPACE ONLY
0			20	–	1	SPACE ONLY
	0		22	–	1	SPACE ONLY
		0	24	–	1	SPACE ONLY
0			26	–	1	SPACE ONLY
	0		28	–	1	SPACE ONLY
		0	30	–	1	SPACE ONLY
0			32	–	1	SPACE ONLY
	0		34	–	1	SPACE ONLY
		0	36	–	1	SPACE ONLY
0			38	–	1	SPACE ONLY
	0		40	–	1	SPACE ONLY
		0	42	–	1	SPACE ONLY

GENERAL NOTES:

1. USE LIQUIDTIGHT FLEXIBLE CONDUIT FOR CONNECTIONS BETWEEN BRIDGE SECTIONS. PROVIDE SLACK TO ALLOW FOR EXPANSION.
2. ALL CONDUITS SHALL RUN CONCEALED BELOW BRIDGE.

PLAN REFERENCE NOTES:

① PROVIDE IN-GROUND WATERTIGHT, WEATHERPROOF PULL BOX 4"Lx4"Wx4"D TO TERMINATE (1) 1" SPARE CONDUIT FOR FUTURE COMMUNICATION AND (1) 1" SPARE CONDUIT FOR SECURITY. VERIFY EXACT LOCATION IN FIELD WITH CONTRACTING OFFICER. PROVIDE JUNCTION BOXES TO TERMINATE CONDUIT FOR COMMUNICATIONS IN TELECOM. ROOM (VISITOR CENTER ROOM 129 AND FOR SECURITY IN SECURITY OFFICE ROOM 124. 125

② CONCEAL FIXTURE, CONDUIT AND WIRING IN HANDRAIL ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS FOR HANDRAIL ASSEMBLY DETAIL. (TYPICAL FOR ALL TYPE A FIXTURES).

③ MOUNT CONSEALED JUNCTION BOX ON RAIL POST AND INSTALL COVER PLATE. COORDINATE LOCATION WITH ARCHITECTURAL DETAIL FOR RAIL ASSEMBLY.

④ CONDUIT TO EXISTING PANELBOARD SHALL RUN CONCEALED UNDER BRIDGE AND UNDERGROUND TO VISITOR CENTER ELECTRICAL ROOM 128.

⑤ PROVIDE IN-GROUND WATERTIGHT, WEATHERPROOF PULL BOX 4"Lx4"Wx4"D (1) 1" SPARE CONDUIT FOR FUTURE POWER. VERIFY EXACT LOCATION IN FIELD WITH CONTRACTING OFFICER. PROVIDE JUNCTION BOX TO TERMINATE CONDUIT IN ELECTRICAL ROOM 128 IN VISITOR CENTER.

⑥ PROVIDE ADVANCE TRANSFORMER MODEL NUMBER LED-120A-0024V-10F TO CONTROL LED FIXTURES AS SHOWN. MOUNT TRANSFORMER TO STRUCTURE BELOW BRIDGE IN NEMA 3R ENCLOSURE. PROVIDE FUSED NEMA 4X .5A DISCONNECT ON PRIMARY SIDE ON TRANSFORMER.

⑦ CIRCUIT TO H2-17 VIA EXISTING LIGHTING CONTACTOR IN VISITOR CENTER ELECTRICAL ROOMWITH 2#8, #10G, 3/4"C. ALLOW 35 FEET FROM WALK WAY, VERIFY LOCATION WITH OWNER PRIOR TO ROUGH-IN.

N

PRELIMINARY NOT FOR CONSTRUCTION

Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

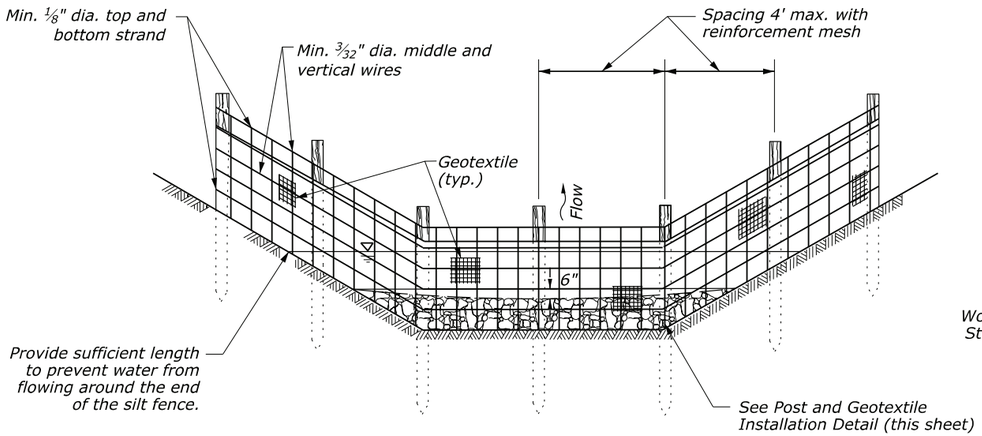
SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

PARTIAL BRIDGE ELECTRICAL PLAN - NORTH SECTION

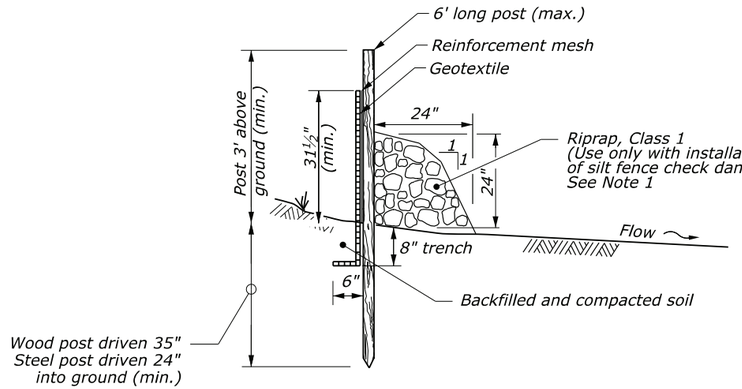
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	50 of 50	June 2022	BRP-1312

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

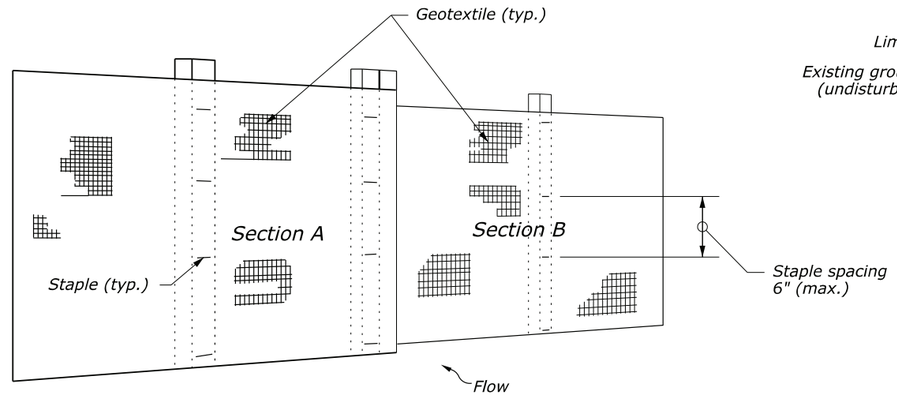
STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S01



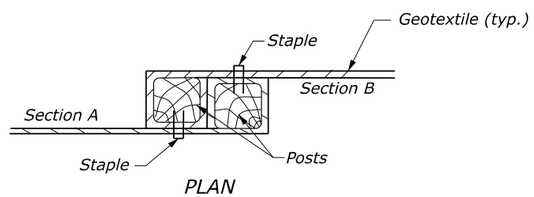
WIRE-BACKED SILT FENCE WITH CHECK DAM



POST AND GEOTEXTILE INSTALLATION

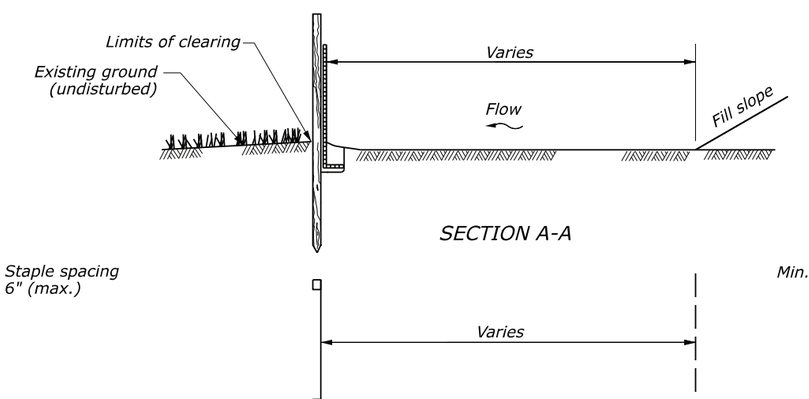


ELEVATION

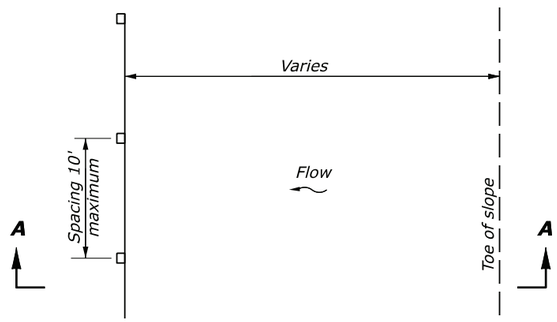


PLAN

JOINING TWO ADJACENT SILT FENCE SECTIONS
(See Note 4)

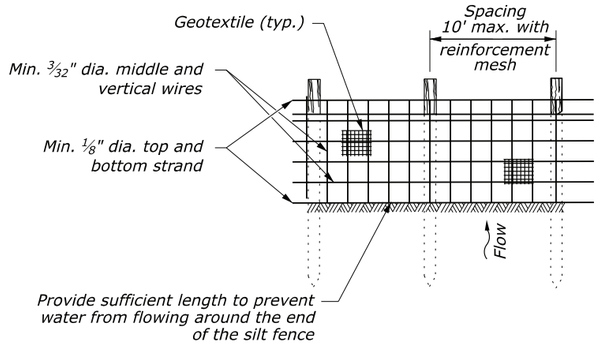


SECTION A-A



PLAN

WIRE-BACKED SILT FENCE INSTALLATION AT TOE OF FILL



ELEVATION

NOTES:

1. Install silt fence with Class 1 riprap only in low-flow drainage ditches where shown on the Erosion and Sediment Control Plan.
2. Install pre-assembled silt fence according to the manufacturer's recommendations.
3. Install silt fence along ground contours. Curve ends of silt fence upgrade to prevent water from running around the ends.
4. Attach geotextile and reinforcement mesh so they do not slide down posts. Provide detail for attaching to steel posts to the CO for approval.
5. Use reinforcement mesh that is a minimum of 32 inches in width and has a minimum of 6 line wires with 12-inch stay spacing.
6. Use geotextile that is a minimum of 45 inches in width and fasten adequately to the reinforcement mesh as directed by the CO.
7. Use 60-inch minimum height steel posts of the self-fastener angle steel type.
8. Use 70-inch minimum height by 3-inch diameter wood posts.
9. Extend reinforcement mesh and geotextile into trench.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

WIRE-BACKED SILT FENCE

DETAIL APPROVED FOR USE	DETAIL
APPROVED: MARCH 2015 REVISED: SEPTEMBER 2020	E157-02

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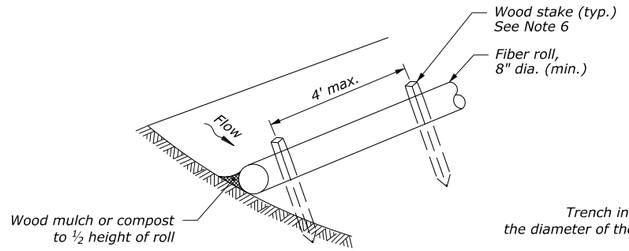
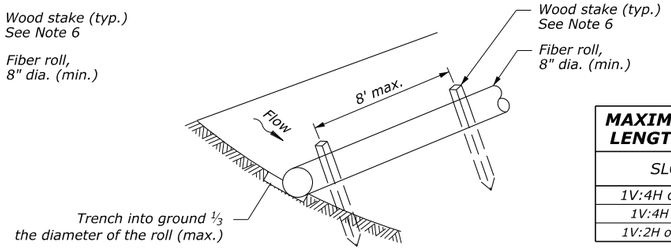
1 July 2022 10:01 AM

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S02



UNTRENCHED INSTALLATION

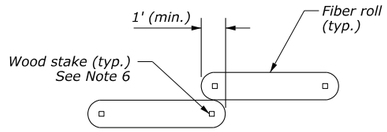


ENTRENCHED INSTALLATION

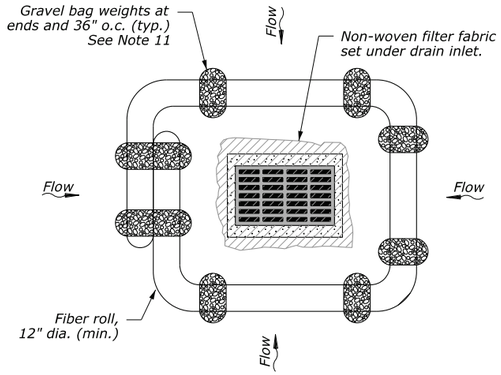
MAXIMUM ALLOWABLE SLOPE LENGTH ABOVE FIBER ROLLS

SLOPE	MAX INTERVAL
1V:4H or Flatter	20 ft
1V:4H - 1V:2H	15 ft
1V:2H or Steeper	10 ft

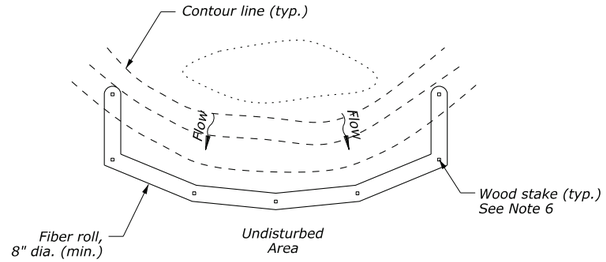
FIBER ROLL ISOMETRIC VIEW



FIBER ROLL OVERLAP



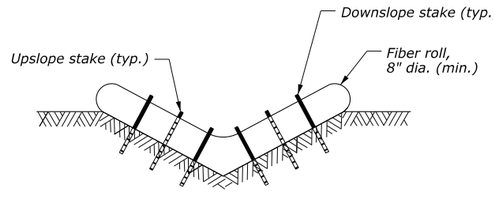
INLET PROTECTION



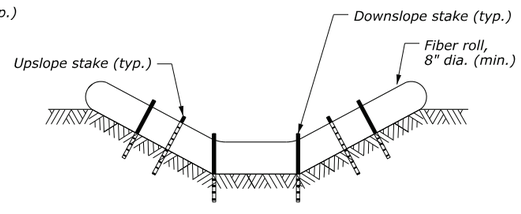
PLAN VIEW

NOTES:

1. Provide fiber rolls meeting the requirements of Subsection 713.12.
2. Use fiber rolls with a minimum 8-inch diameter. For drain inlet protection, use fiber rolls with a minimum 12-inch diameter.
3. Prior to installation, clear all obstructions including rocks, clods, and debris greater than 1-inch that may interfere with proper function of the fiber roll.
4. For untrenched installation, blow or hand place mulch or compost on uphill side of the slope along the fiber roll.
5. Place fiber rolls on level grade and parallel to contours. Extend both ends of the fiber roll at least 8 feet upslope at 45 degrees to the main alignment.
6. Use wood stakes with a minimum nominal cross section of 2-inch x 2-inch and of sufficient length to attain a minimum of 12 inches into the ground and 3 inches protruding above the roll. Furnish wood stakes meeting the requirements of Subsection 713.08(a).
7. When more than one fiber roll is needed, overlap ends 12 inches minimum and stake.
8. Remove sediment deposits when accumulation is one-half the height of the exposed fiber roll.
9. Replace biodegradable fiber rolls 6 months after installation and photodegradable fiber rolls 12 months after installation.
10. When fiber rolls are required on paved surfaces, use gravel bags to support them as shown on the inlet protection detail.
11. Provide gravel bag weights meeting the requirements of Subsection 713.13.

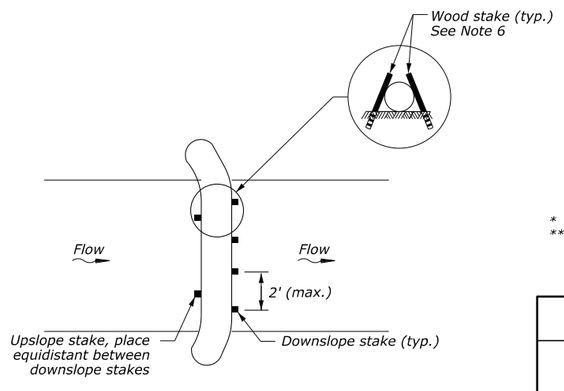


V-DITCH



TRAPEZOIDAL DITCH

FIBER ROLL CHECK DAM CROSS SECTIONS



FIBER ROLL CHECK DAM PLAN VIEW

FIBER ROLL CHECK DAM SPACING TABLE

DITCH GRADE *	CHECK DAM SPACING (S)**	
	8" HIGH	12" HIGH
2%	33'	50'
3%	22'	33'
4%	16'	25'
5%	13'	20'

* Do not install check dams on grades below 2%
** Adjust spacing as approved based on site conditions

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

FIBER ROLL

DETAIL APPROVED FOR USE
APPROVED: MAY 2016
REVISED: SEPTEMBER 2020

DETAIL
E157-04

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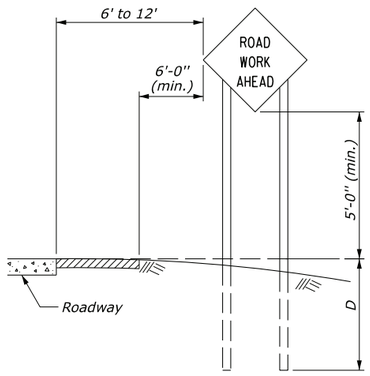
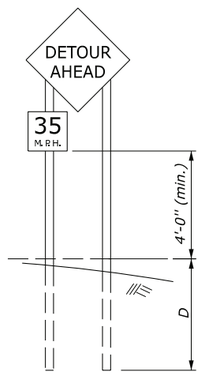
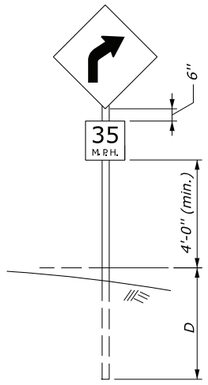
29 June 2021 1:41 PM

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

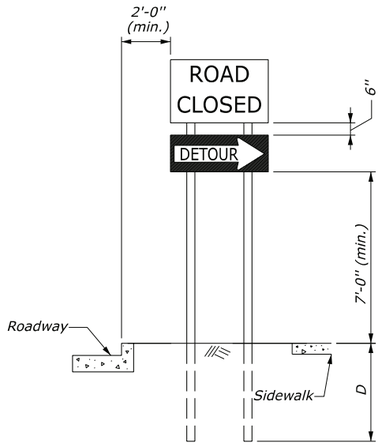
STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S03







RURAL AREA

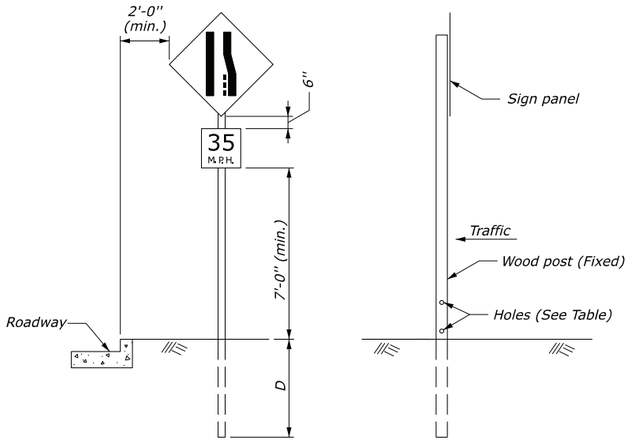


URBAN AREA

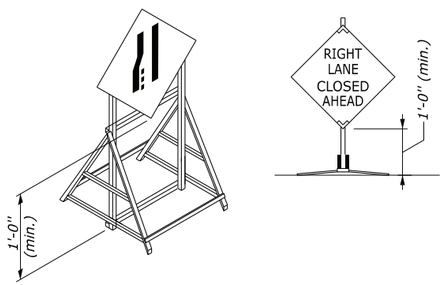
NOTES:

1. *Mount signs that are wider than 3 feet or larger than 10 square feet on double posts.*
2. *All lumber dimensions are nominal.*
3. *Submit alternate details for portable signs. Ensure sign mounts hold the sign face in a vertical plane. Portable signs may be mounted lower than fixed signs when approved by the CO. Ensure all portable sign supports meet the requirements of the NCHRP Report 350 for crashworthiness.*
4. *When parking is permitted within 200 feet of the sign, mount the sign a minimum of 7 feet above the pavement surface.*
5. *When approved by the CO and the Utility Company, utility poles may be used for sign mounting.*
6. *For 4- by 6-inch and greater posts, see the Breakaway Sign Support View. If breakaway design cannot be used due to post spacing, place the sign outside the clearzone or shield with a barrier. Do not place holes in posts of non-breakaway signs.*
7. *Signs requiring 6- by 6-inch and greater posts are considered non-breakaway if multiple posts are required and the posts cannot be spaced a minimum of 7 feet apart.*

FIXED ROADWAY SIGNS



BREAKAWAY SIGN SUPPORT
(FIXED SIGNS 4" X 6" AND GREATER POSTS)
(See Notes 6 and 7)



PORTABLE SIGNS
(See Notes 3 and 4)

POST SIZE TABLE

POST SIZE	D	HOLE DIAMETER	MAXIMUM SIGN AREA (SQFT)			
			1 Post	2 Post	3 Post	4 Post
4" x 4"	4'	None Required	10	20	X	X
4" x 6"	4'	1.5"	X	35	50	70
6" x 6"	5'	2"	X	50	75	100
6" x 8"	5'	3"	X	85	125	165

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

DETAIL APPROVED FOR USE
APPROVED: MAY 2011
REVISED: SEPTEMBER 2020

DETAIL
E635-01

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NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S04

LENGTH AND SPACING TABLE

APPROACH SPEED*	MINIMUM TAPER LENGTH	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	FEET	SPACING IN FEET		
20	Shifting taper formula:	115	20	40	40
25	$L = \frac{WS^2}{120}$ for S ≤ 40 MPH	155	25	50	50
30		200	30	60	60
35	$L = \frac{WS}{2}$ for S ≥ 45 MPH	250	35	70	70
40		305	40	80	80
45	Where:	360	45	90	90
50	L = Minimum length of taper	425	50	100	100
55	W = Width of offset in feet	495	55	110	110
60	S = Numerical value of posted speed limit or 85 percentile speed prior to work in miles per hour	570	60	120	120
65		645	65	130	130
70		730	70	140	140

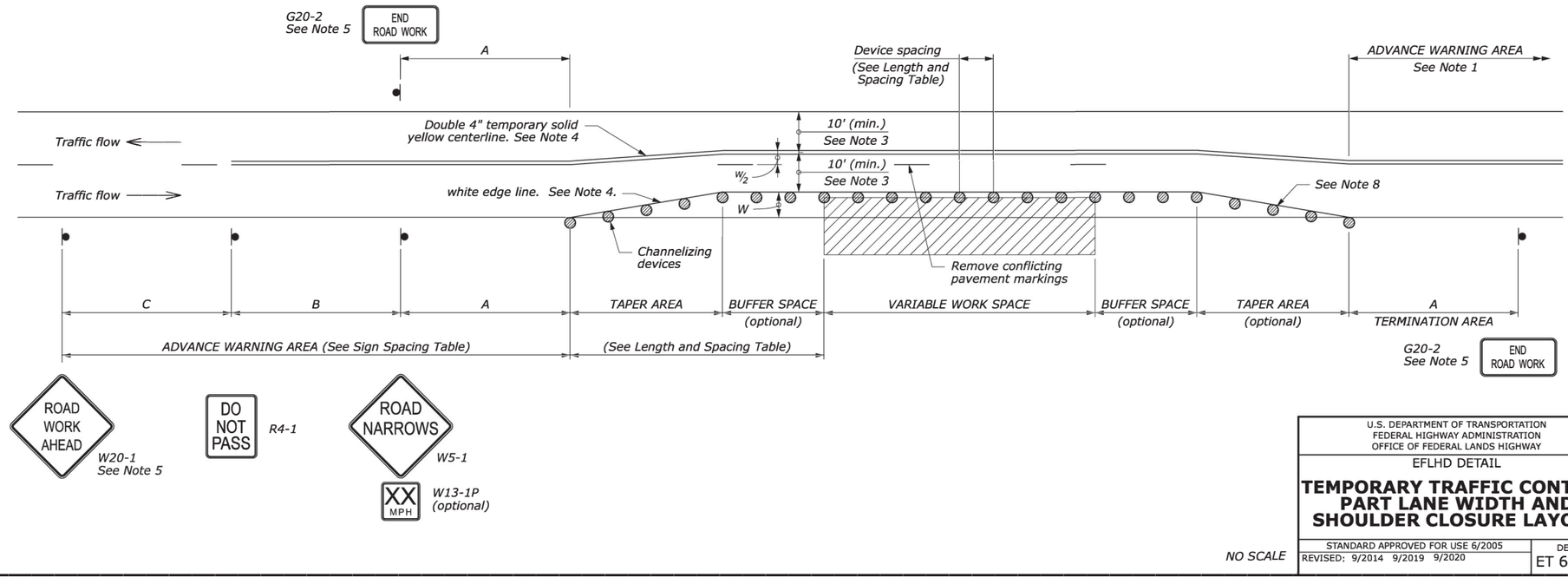
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTES:

1. Signs are shown for one direction of travel only. Place signs similar to those depicted for the opposite direction of travel.
2. Final location and spacing of traffic control devices may be changed to fit field conditions as approved by the CO.
3. Use minimum width shown unless otherwise specified in Section 156.
4. If the roadway surface is paved, install temporary pavement markings. If nearest no-passing zone is within 400 feet, extend markings to connect zones.
5. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
6. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the CO.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
8. Reduce or eliminate drums in downstream taper if necessary to provide access to work space as approved by the CO.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT

STANDARD APPROVED FOR USE 6/2005
REVISED: 9/2014 9/2019 9/2020

DETAIL ET 635-11

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28 June 2022 3:45 PM

From:	Braspennickx, Nicholle (FHWA)
To:	MRC - jpa Permits
Cc:	Weston, Dan (FHWA); Geyer, Dorothy W; Scheid, Dwayne L; McLean, Timothy R
Subject:	National Park Service, Colonial National Historical Park, James City County, Joint Application for Permit
Date:	Monday, August 28, 2023 10:09:43 AM
Attachments:	NP COLO 1C14 1D48 1E15 Bridge maintenance Jamestown Island VA (003)a.pdf
Importance:	High

Hello !

Attached is a Joint Application for Permit for bridge maintenance projects on/near Jamestown Island, on/near the James River, James City County, VA.

The plans are greater than 10MB – we will provide a file transfer protocol (ftp) site for download purposes shortly.

Sincerely,

Nicholle Braspennickx
Environmental Compliance
Federal Highway Administration, Eastern Federal Lands
703-404-6248

- DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
	JPA # **23-1994**

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☒ NWP # 3, Maintenance (*For Nationwide Permits ONLY - No DEQ-VWP permit writer will be assigned*)	Regional Permit 17 (RP-17) ☐	

County or City in which the project is located: James City County

Waterway at project site: James River

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial

Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:

   Kevin Rose, Federal Highway Admin., Eastern Federal Lands, 22001 Loudoun County Pkwy, Suite 200, Ashburn, VA 20147

   Home (____)_____
   Work (571)434-1541
   Fax (____)_____
   Cell (____)_____
   e-mail kevin.rose@dot.gov

   State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:

   National Park Service, Ms. Jerri Marr, Superintendent, National Park Service, Colonial National Historical Park, P.O. Box 210, Yorktown, VA 23690

   Home (____)_____
   Work (757)898-2410
   Fax (____)_____
   Cell (____)_____
   e-mail jerri_marr@nps.gov

   State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable):

   Contact Information:
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____

   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

This project is for the repair and rehabilitation of the 8 bridges listed below, which are located on the Colonial Parkway and the Jamestown Loop in the Colonial National Historical Park in James City County, Virginia. In water work includes pile encapsulation on Blacks Point, Long and Powhatan Bridges.

• College Creek Bridge (4290-023P). Single-span steel multi-girder structure. The bridge deck has minor cracking and the joint material shows signs of deterioration. There is delamination and spalling at abutments, bearing seats, and grout pads. Minor corrosion appears on the steel superstructure. There is a sign missing at the North abutment.
• Mill Creek Bridge (4290-024P). Single-span steel multi-girder structure. There is minor cracking on the bridge deck and cracking and delamination on the deck underside. There is delamination and spalling at abutments, bearing seats, grout pads, curbs, and railing. The joint material is deteriorated. The steel superstructure has minor corrosion.
• Powhatan Creek Bridge (4290-025P). Thirty-six span concrete slab structure. On the surface, there is deterioration of joint material with associated curb cracking. The deck underside has minor cracking and delamination. There is minor delamination and spalling at abutments, bent caps, and some piles. Previously repaired concrete is cracking or delaminated.
• Isthmus Bridge (4290-026P). Single-span steel multi-girder structure. There is minor cracking and delamination on the bridge deck and deck underside. The bridge joint material is deteriorating. Minor corrosion appears on the steel superstructure. There is delamination and spalling at abutments, including bearing seats and grout pads. A utility conduit under bridge deck and along bridge fascia is damaged.
• Pitch and Tar Bridge (4290-028P). Six-span timber multi-girder structure. There are deteriorated areas on the timber deck and curbs for the length of the bridge. A steel plate was recently installed to cover the largest deteriorated area of the deck. The ride quality for cyclists is poor.
• Blacks Point Bridge, (4290-029P). Twenty-four span timber multi-girder structure. Minor to moderate deterioration appear on all timber elements including deck and curbs. The ride quality for cyclists is poor within these deteriorated areas.
• Long Bridge (4290-031P). Forty-one span timber multi-girder structure. Minor to moderate deterioration appear on all timber elements including deck and curbs. The ride quality for cyclists is poor within these deteriorated areas. Some beams have shifted and do not fully bear on the bent caps. At Bent #36 there are missing nuts at Beam #8 splice connection. Beam #7 is not bearing on Bent #36 and cap is splintered.
• Jamestown Visitor Center Pedestrian Bridge (4290-039T). Seventy-one span multi-girder structure. There is collision damage from errant vehicle. (no water features associated with Visitor Center Ped. Br.).

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? ___ Yes* _X_ No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)
   Contractor's name* and complete mailing address:

   Contact Information:
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   email _____

   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

   Name and complete mailing address:
   The Virginia Gazette, 1430 High St. #504, Williamsburg, VA 23185

   Telephone number
   (757) 220-1736

7. Give the following project location information:
   Street Address (911 address if available) Jamestown Island
   Lot/Block/Parcel#_____
   Subdivision 1368 Colonial National Parkway
   City / County Jamestown, VA ZIP Code 23081
   Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
   37.206967 / -76.759921 (Example: 36.41600/-76.30733)

   If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

   From Richmond, VA, at I-295 & I-64 - the first bridge, College Creek Bridge is 47.7 miles. Take I-64 east/south to VA St. Rte. 199 south/west to the Interchange with Colonial National Historical Parkway. Turn South on Colonial National Historical Parkway. Continue south past Halfway Creek and the next bridge will be College Creek Bridge. Continue west on Colonial National Historic Parkway until the Mill Creek Bridge. Continue west on Colonial Nat'l Historic Pkwy until Powhatan Creek Bridge. Continue West, then south, to Isthmus Bridge. Continue East and South to Pitch and Tar Bridge. Head East on Jamestown Loop Rd. to Long Bridge. Continue east until Blacks Point Bridge.

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

   Primary purpose is to maintain the existing bridges for the traveling public (including cyclists).

Part 1 - General Information (continued)

9. Proposed use (check one):
   ___ Single user (private, non-commercial, residential)
   _X_ Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

    The project is to maintain the existing structures. Pile encapsulation would be done at low tide. Temporary access to the bridges is anticipated to be on foot, or from the deck of the bridge. There is no fill proposed outside of the existing structures, but for the grout in between the existing piles and the forms for pile encapsulation.

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes _X_No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $ 5 million
    Approximate cost of that portion of the project that is channelward of mean low water:
    $ 2.5 million

13. Completion date of the proposed work: September 2025 - December 2025

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

    James River Association, CURRENT, PAUL W, 123 CONSTANCE AVE, WILLIAMSBURG, VA 23185-3102

    Parcel 4732500002, Burris, Bryan D & Barbara R, 115 Constance Avenue, Williamsburg, VA 23185-3102

    Parcel 4732500003, Papas, Constantine T, Trustee & Toby, 119 Constance Avenue, Williamsburg, VA 23185-3102

    Parcel 5610100001-541, Neck-O-Land Road United States of America

    Parcel,000022296, OCURRENT, PAUL W, 123 CONSTANCE AVE, WILLIAMSBURG, VA 23185-3102W

    Parcel 090018383, GILLEY, R EDWIN II & LEIGH ANN & TERRI LYNN, 227 GATE HOUSE BLVD, WILLIAMSBURG, VA 23185-3169

    Parcel 673-438, JAMES CITY COUNTY BIBLE & AGRICULTURAL TRAINING SC, 2006 GEORGIA AVENUE NW, WASHINGTON, DC 20001-3027

    Mr. Smith, 2205 TREASURE ISLAND RD, WMSBURG , VA 23185-3166

    Parcel 1359-318, ESCALANTE KINGSMILL RESORT LLC, 2930 BLEDSOE ST STE 124, FORT WORTH, TX 76107-2942

    Parcel 060031151-01, JAMES CITY COUNTY, PO BOX 8784, WILLIAMSBURG, VA 23187-8784

    Parcel 02-0006, Jamestown Yacht Basin, Mr. David Givens, Preservation Virginia, 1365 COLONIAL PKWY, WILLIAMSBURG, VA 23185-1900

Part 2 - Signatures

1. Applicants and property owners (if different from applicant).
NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.
CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit. **In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**

Kevin Rose

Applicant's Legal Name (printed/typed) _____ (Use if more than one applicant)

Applicant's Signature _____ (Use if more than one applicant)

Date _____

Property Owner's Legal Name (printed/typed) (If different from Applicant) _____ (Use if more than one owner)

Property Owner's Signature _____ (Use if more than one owner)

Date _____

Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we),_____, hereby certify that I (we) have authorized _____
(Applicant's legal name(s)) (Agent's name(s))
to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

_____ _____
(Agent's Signature) (Use if more than one agent)

_____
(Date)

_____ _____
(Applicant's Signature) (Use if more than one applicant)

_____
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), _____, have contracted_____
(Applicant's legal name(s)) (Contractor's name(s))
to perform the work described in this Joint Permit Application, signed and dated_____.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

_____
Contractor's name or name of firm

_____
Contractor's or firms address

_____ _____
Contractor's signature and title Contractor's License Number

_____ _____
Applicant's signature (use if more than one applicant)

_____
Date

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ ABOUT THE PROJECT.

I DO NOT OBJECT _____ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ ABOUT THE PROJECT.

I DO NOT OBJECT _____ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

APPENDIX B

U.S. Army Corps Of Engineers
Norfolk District

REGIONAL PERMIT 17 CHECKLIST
Expires: September 5, 2023

Please review the 18-RP-17 enclosure before completing this form and note 18-RP-17 can only be used for proposed PRIVATE USE structure(s) that comply with the terms and conditions of 18-RP-17. Copies can be obtained online at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/.

YES☐ NO☐ **(1)** Has the permittee reviewed the 18-RP-17 enclosure and verified that the proposed structure(s) is in compliance with all the terms, conditions, and limitations of 18-RP-17?

YES☐ NO☐ **(2)** Does the proposed structure(s) extend no more than one-fourth of the distance across the waterway measured from either mean high water (MHW) to MHW (including all channelward wetlands) or ordinary high water (OHW) to OHW (including all channelward wetlands)?

YES☐ NO☐ **(3)** Does the proposed structure(s) extend no more than 300 feet from MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(4)** Does the proposed structure(s) attach to the upland at a point landward of MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(5)** If the proposed structure(s) crosses wetland vegetation, is it an open-pile design that has a maximum width of five (5) feet and a minimum height of four (4) feet between the decking and the wetland substrate?

YES☐ NO☐ N/A☐ **(6)** Does the proposed structure(s) include no more than two (2) boatlifts and no more than two (2) boat slips?

YES☐ NO☐ N/A☐ **(7)** Is the open-sided roof structure designed to shelter a boat ≤ 700 square feet and/or is the open sided roof structure or gazebo structure designed to shelter a pier ≤ 400 square feet?

YES☐ NO☐ N/A☐ **(8)** Are all piles associated with the proposed structure(s) non-steel, less than or equal to 12" in diameter, and will less than or equal to 25 piles be installed channelward of MHW?

YES☐ NO☐ N/A☐ **(9)** Is all work occurring behind cofferdams, turbidity curtains, or other methods to control turbidity being utilized when operationally feasible and federally listed threatened or endangered species may be present?

YES☐ NO☐ N/A☐ **(10)** If the proposed structure(s) is to be located within an anadromous fish use area, the prospective permittee will adhere to the anadromous fish use area time of year restriction (TOYR) prohibiting in-water work from occurring between February 15 through June 30 of any given year if (1) piles are to be installed with a cushioned impact hammer and there is less than 492 feet between the most channelward pile and mean low water (MLW) on the opposite shoreline or (2) piles are to be installed with a vibratory hammer and there is less than 384 feet between the most channelward pile and MLW on the opposite shoreline.

YES☐ NO☐ **(11)** Is all work occurring outside of submerged aquatic vegetation (SAV) mapped by the Virginia Institute of Marine Sciences' (VIMS) most recent survey year and 5 year composite?

YES☐ NO☐ **(12)** Has the permittee ensured the construction and/or installation of the proposed structure(s) will not affect federally listed threatened or endangered species or designated critical habitat?

YES☐ NO☐ **(13)** Will the proposed structure be located outside of Broad Creek in Middlesex County, Fisherman's Cove in Norfolk, or the Salt Ponds in Hampton?

YES☐ NO☐ **(14)** Will the proposed structure(s) be located outside of the waterways containing a Federal Navigation Project listed in Permit Specific Condition 12 of 18-RP-17 and/or will all portions of the proposed structure(s) be located more than 85 feet from the Federal Navigation Project?

YES☐ NO☐ **(15)** Will the proposed structure(s) be located outside a USACE Navigation and Flood Risk Management project area?

YES☐ NO☐ **(16)** Will the proposed structure(s) be located outside of any Designated Trout Waters?

YES☐ NO☐ N/A☐ **(17)** If the proposed structure(s) includes flotation units, will the units be made of materials that will not become waterlogged or sink if punctured?

YES☐ NO☐ N/A☐ **(18)** If the proposed structure(s) includes flotation units, will the floating sections be braced so they will not rest on the bottom during periods of low water?

YES☐ NO☐ **(19)** Is the proposed structure(s) made of suitable materials and practical design so as to reasonably ensure a safe and sound structure?

YES☐ NO☐ **(20)** Will the proposed structure(s) be located on the property in accordance with the local zoning requirements?

YES☐ NO☐ N/A☐ **(21)** If the proposed structure(s) includes a device used for shellfish gardening, will the device be attached directly to a pier and limited to a total of 160 square feet?

YES☐ NO☐ N/A☐ **(22)** If the proposed structure(s) includes a device used for shellfish gardening, does the permittee recognize this RP does not negate their responsibility to obtain an oyster gardening permit (General Permit #3) from Virginia Marina Resources Commission's Habitat Management Division?

YES☐ NO☐ **(23)** Does the permittee recognize this RP does not authorize any dredging or filling of waters of the United States (including wetlands) and does not imply that future dredging proposals will be approved by the Corps?

YES☐ NO☐ **(24)** Does the permittee understand that by accepting 18-RP-17, the permittee accepts all of the terms and conditions of the permit, including the limits of Federal liability contained in the 18-RP-17 enclosure? Does the permittee acknowledge that the structures permitted under 18-RP-17 may be exposed to waves caused by passing vessels and that the permittee is solely responsible for the integrity of the structures permitted under 18-RP-17 and the exposure of such structures and vessels moored to such structures to damage from waves? Does the permittee accept that the United States is not liable in any way for such damage and that it shall not seek to involve the United States in any actions or claims regarding such damage?

IF YOU HAVE ANSWERED "NO" TO ANY OF THE QUESTIONS ABOVE, REGIONAL PERMIT 17 (18-RP-17) DOES NOT APPLY AND YOU ARE REQUIRED TO OBTAIN WRITTEN AUTHORIZATION FROM THE CORPS PRIOR TO PERFORMING THE WORK.

IF YOU HAVE ANSWERED "YES" (OR "N/A", WHERE APPLICABLE) TO ALL OF THE QUESTIONS ABOVE, YOU ARE IN COMPLIANCE WITH REGIONAL PERMIT 17 (18-RP-17). PLEASE SIGN BELOW, ATTACH, AND SUBMIT THIS CHECKLIST WITH YOUR COMPLETED JOINT PERMIT APPLICATION (JPA). THIS SIGNED CERTIFICATE SERVES AS YOUR LETTER OF AUTHORIZATION FROM THE CORPS. YOU WILL NOT RECEIVE ANY OTHER WRITTEN AUTHORIZATION FROM THE CORPS; HOWEVER, YOU MAY NOT PROCEED WITH CONSTRUCTION UNTIL YOU HAVE OBTAINED ALL OTHER NECESSARY STATE AND LOCAL PERMITS.

I CERTIFY THAT I HAVE READ AND UNDERSTAND ALL CONDITIONS OF THE REGIONAL PERMIT 17 (18-RP-17), DATED SEPTEMBER 2018, ISSUED BY THE US ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT REGULATORY BRANCH (CENAO-WRR), NORFOLK, VIRGINIA.

Proposed work to be located at:

_____

Signature of Property Owner(s) or Agent

_____

Date_____

VMRC Number: National Park Service, Ms. Jerri Marr, Superintendent, National Park Service, Colonial National Historical Park, P.O. Box 210, Yorktown, VA 23690

Part 3 – Appendices

Please complete and submit the appendix questions applicable to your project, and attach the required vicinity map(s) and drawings to your application. If an item does not apply to your project, please write "N/A" in the space provided.

Appendix A: (TWO PAGES) Projects for Access to the water such as private and community piers, boathouses, marinas, moorings, and boat ramps. Answer all questions that apply.

1. **Briefly describe your proposed project**.

2. **For private, noncommercial piers:**
   Do you have an existing pier on your property? ____Yes____ No
   If yes, will it be removed? ____Yes ____No
   Is your lot platted to the mean low water shoreline? ____Yes ____No
   What is the overall length of the proposed structure? _____feet.
   Channelward of Mean High Water? _____feet.
   Channelward of Mean Low Water? _____feet.
   What is the area of the piers and platforms that will be constructed over
   Tidal non-vegetated wetlands _____ square feet.
   Tidal vegetated wetlands _____ square feet.
   Submerged lands _____square feet.
   What is the total size of any and all L- or T-head platforms?_____sq. ft.
   For boathouses, what is the overall size of the roof structure? _____sq. ft.
   Will your boathouse have sides?_____Yes____ No.

   NOTE: All proposals for piers, boathouses and shelter roofs must be reviewed by the Virginia Marine Resources Commission (Commission or VMRC), however, pursuant to § 28.2-1203 A 5 of the Code of Virginia a VMRC permit may not be required for such structures (except as required by subsection D of § 28.2-1205 for piers greater than 100 feet in length involving commercially productive leased oyster or clam grounds), provided that (i) the piers do not extend beyond the navigation line or private pier lines established by the Commission or the United States Army Corps of Engineers (USACE), (ii) the piers do not exceed six feet in width and finger piers do not exceed five feet in width, (iii) any L or T head platforms and appurtenant floating docking platforms do not exceed, in the aggregate, 400 square feet, (iv) if prohibited by local ordinance open-sided shelter roofs or gazebo-type structures shall not be placed on platforms as described in clause (iii), but may be placed on such platforms if not prohibited by local ordinance, and (v) the piers are determined not to be a navigational hazard by the Commission. Subject to any applicable local ordinances, such piers may include an attached boat lift and an open-sided roof designed to shelter a single boat slip or boat lift. In cases in which open-sided roofs designed to shelter a single boat, boat slip or boat lift will exceed 700 square feet in coverage or the open-sided shelter roofs or gazebo structures exceed 400 square feet, and in cases in which an adjoining property owner objects to a proposed roof structure, permits shall be required as provided in § 28.2-1204.

Part 3 – Appendices (continued)

3. **For USACE permits**, in cases where the proposed pier will encroach beyond one fourth the waterway width (as determined by measuring mean high water to mean high water or ordinary high water mark to ordinary high water mark), the following information must be included before the application will be considered complete. For an application to be considered complete:

   a. The USACE MAY require depth soundings across the waterway at increments designated by the USACE project manager. Typically 10-foot increments for waterways less than 200 feet wide and 20-foot increments for waterways greater than 200 feet wide with the date and time the measurements were taken and how they were taken (e.g., tape, range finder, etc.).
   b. The applicant MUST provide a justification as to purpose if the proposed work would extend a pier greater than one-fourth of the distance across the open water measured from mean high water or the channelward edge of the wetlands.
   c. The applicant MUST provide justification if the proposed work would involve the construction of a pier greater than five feet wide or less than four feet above any wetland substrate.

4. Provide the type, size, and registration number of the vessel(s) to be moored at the pier or mooring buoy.

   Type Length Width Draft Registration #

   _____

   _____

   _____

5. For **Marinas, Commercial Piers, Governmental Piers, Community Piers and other non-private piers**, provide the following information:
   A) Have you obtained approval for sanitary facilities from the Virginia Department of Health?_____ (required pursuant to Section 28.2-1205 C of the Code of Virginia).
   B) Will petroleum products or other hazardous materials be stored or handled at your facility?_____.
   C) Will the facility be equipped to off-load sewage from boats?_____.
   D) How many wet slips are proposed?_____. How many are existing?_____.
   E) What is the area of the piers and platforms that will be constructed over
      Tidal non-vegetated wetlands _____ square feet
      Tidal vegetated wetlands _____ square feet
      Submerged lands _____square feet

6. For **boat ramps**, what is the overall length of the structure?_____feet.
   From Mean High Water?_____feet.
   From Mean Low Water?_____feet.

   Note: drawings must include the construction materials, method of installation, and all dimensions. If tending piers are proposed, complete the pier portion.
   Note: If dredging or excavation is required, you must complete the Standard Joint Point Permit application.

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS**.**

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.**

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

2. What is the maximum encroachment channelward of mean high water?_____feet.
   Channelward of mean low water?_____feet.
   Channelward of the back edge of the dune or beach?_____feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands _____square feet
   - Non-vegetated wetlands _____square feet
   - Subaqueous bottom _____square feet
   - Dune and/or beach _____square feet

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? ____ Yes____ No.

   If yes, will the construction of the new bulkhead be no further than two (2) feet channelward of the existing bulkhead? _____Yes ____No.

   If no, please provide an explanation for the purpose and need for the additional encroachment.

Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
   NOTE: **Drawings must include construction details, including dimensions, design and all materials, including fittings if used**.

6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
   Core (inner layer) material_____ pounds per stone Class size _____
   Armor (outer layer) material _____ pounds per stone Class size _____

7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

   - Volume of material
     _____ cubic yards channelward of mean low water
     _____ cubic yards landward of mean low water
     _____ cubic yards channelward of mean high water
     _____ cubic yards landward of mean high water
   - Area to be covered
     _____ square feet channelward of mean low water
     _____ square feet landward of mean low water
     _____ cubic yards channelward of mean high water
     _____ cubic yards landward of mean high water
   - Source of material, composition (e.g. 90% sand, 10% clay):_____
   - Method of transportation and placement:

     _____
   - Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:

Received by VMRC August 28, 2023 /blh

Part 3 – Appendices (continued)

Appendix C: Crossings in, on, over, or under, waters, submerged lands, tidal wetlands and/or dunes and beaches, including but not limited to, bridges, walkways, pipelines and utility lines.

1. What is the purpose and method of installation of the crossing?

2. What is the width of the waterway and/or wetlands to be crossed
   from mean high water to mean high water (tidal waters)? _____ feet.
   from mean low water to mean low water (tidal waters)? _____ feet.
   from ordinary high water to ordinary high water (non-tidal waters)? _____ feet.

3. For bridges (footbridges, golf cart bridges, roadway bridges, etc.), what is the width of the structure over the tidal wetlands, dunes/beaches and/or submerged lands? _____square feet.

4. For overhead crossings:
   a. What will be the height above mean high water? _____feet.
   b. If there are other overhead crossings in the area, what is the minimum height? _____feet.
   c. If the proposed crossing is an electrical line, please confirm the total number of electrical circuits: _____

5. For buried crossings, what will be the depth below the substrate? _____feet. Will the proposed utility provide empty conduits for any additional utilities that may propose to co-locate at a later date? _____Yes _____No.

6. Will there be any excavation or fill required for placement of abutments, piers, towers, or other permanent structures on State-owned submerged lands, tidal wetlands, and dunes/beaches? ____Yes ____ No.

   If yes, please provide the following:

   a. Amount of excavation in wetlands _____ cubic yards
      _____ square feet

   b. Amount of excavation in submerged land _____ cubic yards
      _____ square feet

   c. Amount of excavation in dune/beach _____ cubic yards
      _____ square feet

   d. Amount of fill in wetlands _____ cubic yards
      _____ square feet

   e. Amount of fill in submerged lands _____ cubic yards
      _____ square feet

   f. Amount of fill in dune/beach _____ cubic yards
      _____ square feet

Part 3 – Appendices (continued)

Appendix D: Aquaculture Related Structures such as cages and floats. Before completing this appendix, please review the aquaculture requirements summary at: http://mrc.virginia.gov/Shellfish_Aquaculture.shtm.

1. Will the activity be for commercial purposes? _____Yes _____ No.

   If Yes and structures will be placed upon an oyster ground lease, you may qualify for the VMRC General Permit #4 for Temporary Protective Enclosures for Shellfish. For more info see: http://www.mrc.virginia.gov/regulations/MRC_Scanned_Regs/Shellfish_Mix/fr1130_12-0107.pdf. If you qualify for the General Permit #4, or if such structures are proposed that are not on an oyster planting ground lease, or for floating structures of any kind, complete this Joint Permit Application and include the necessary information requested below in question 2 through 11.

   If No, you may qualify for the VMRC General Permit #3, for Noncommercial Riparian Shellfish Growing (i.e. "Gardening") For more information see: http://www.mrc.virginia.gov/forms/VGP3_Aquaculture.doc.pdf. If you qualify for this general permit use the Abbreviated Joint Permit Application For Noncommercial Riparian Shellfish Aquaculture Structures available at https://mrc.virginia.gov/forms/2019/VGP3_Aquaculture_form_2019.pdf ***do not use this Joint Permit Application***.

2. Will aquaculture structures be attached to an existing pier or other structure? ____ Yes ____ No.

3. The plat file # if proposed upon oyster planting ground lease(s)._____

4. The maximum area where enclosures are proposed. _____ square feet

5. The maximum number of enclosures being proposed to be deployed. _____

6. The species of shellfish to be cultured. _____

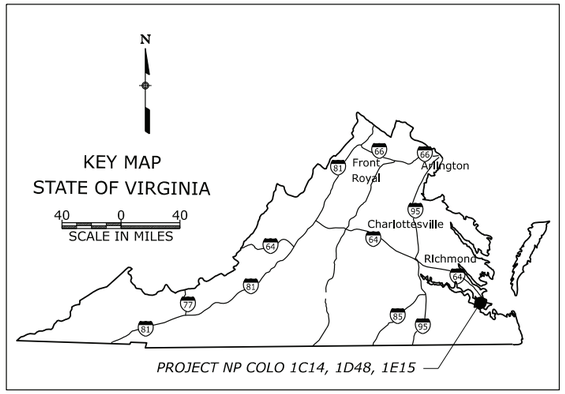
7. A detailed description of the enclosures to include width, length and height.

8. In addition to the requirements itemized in Part 4 Project Drawings, the following additional information must be included on your project drawings: A general description of the area within 500 feet of deployment area. Provide a drawing that depicts existing marine resources such as SAV, shellfish beds, fixed fishing devices, public grounds, piers, water depths at mean low water, tide range, and the minimum clearance at mean low tide over the enclosures.

9. Provide the date enclosures are proposed to be deployed _____. How will the structures be secured? _____.

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	A01



U.S. DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

COLONIAL NATIONAL HISTORICAL PARK

PLANS FOR PROPOSED

PROJECT VA NP COLO 1C14, 1D48, 1E15

REHABILITATION OF EIGHT BRIDGES (STRUCTURE NO. 4290-023P, 4290-024P, 4290-025P, 4290-026P, 4290-028P, 4290-029P, 4290-031P, AND 4290-039T)

INDEX TO SHEETS

DESCRIPTION OF PROJECT

IMPROVEMENT: Repair concrete spalls, clean and reseal joints, clean and paint structural steel, clean and seal concrete decks, repair timber decks, and other miscellaneous work.

PROJECT LENGTH: 0.54 Miles

LANE MILES: 0.72 Miles

ROAD:	WIDTH	SURFACE	BASE
Colonial Parkway	24' to 38'	Exposed Aggregate Concrete	Aggregate Base
Jamestown Loop	10' to 25'	Asphalt	Aggregate Base

BRIDGE:

Structure Name	Structure No.	PMIS Number	Last Date of Inspection
College Creek Bridge	4290-023P	222636	6/22/2021
Mill Creek Bridge	4290-024P	222632	6/22/2021
Powhatan Creek Bridge	4290-025P	323954	6/22/2021
Isthmus Bridge	4290-026P	222594	6/21/2021
Pitch and Tar Bridge	4290-028P	222622	6/21/2021
Blacks Point Bridge	4290-029P	222643	6/21/2021
Long Bridge	4290-031P	222642	6/21/2021
Jamestown Visitor Center Pedestrian Bridge	4290-039T	321154	6/11/2015

DESIGN DESIGNATION:

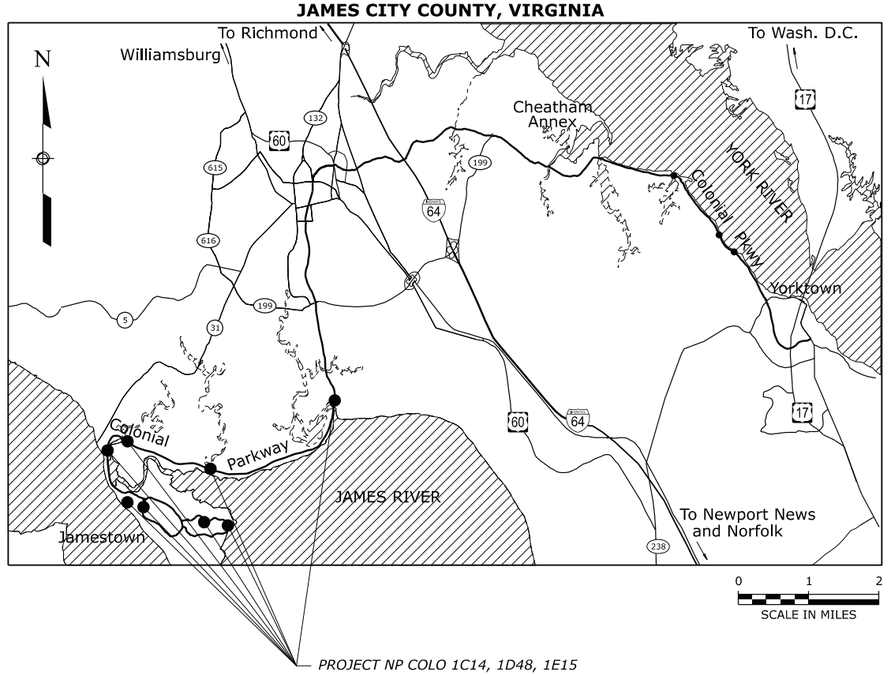
	Colonial Parkway
ADT (2022)	5345
ADT (2041)	7942
DHV	935
D	50/50
%Truck	2%
V (MPH)	20-50
C/A	None
e(max)	8%

SPECIFICATIONS:

"Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects", FP-14.

Project Manager	Highway Design Manager	Lead Designer
D. WESTON	J. JOHNSON	K. KHAN

JAMES CITY COUNTY, VIRGINIA



95% PLANS

PLANS PREPARED BY

U.S. Department of Transportation
Federal Highway Administration

EASTERN FEDERAL LANDS HIGHWAY DIVISION
ASHBURN, VIRGINIA
JULY, 2022

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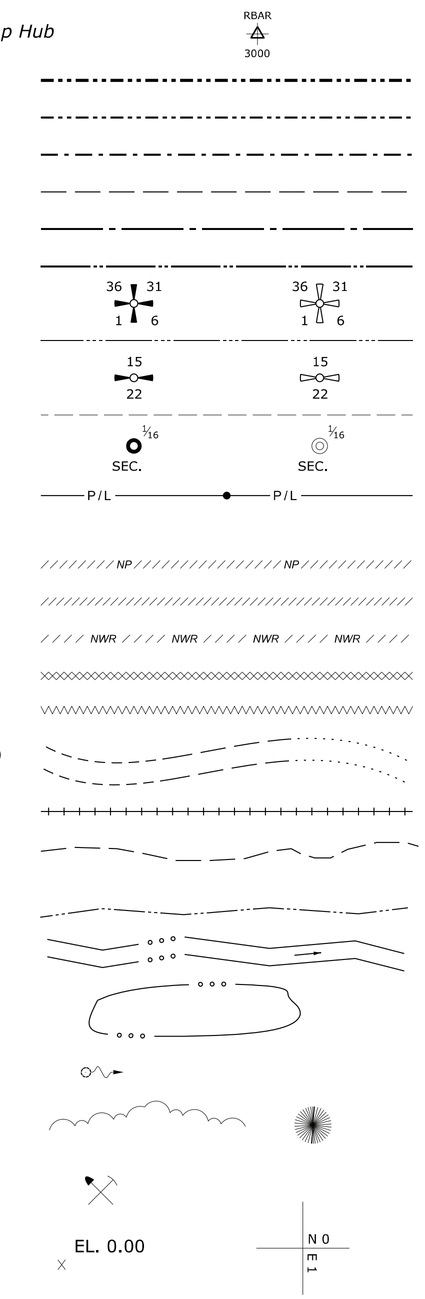
19 March 2019 1:31 PM

Received by VMRC August 28, 2023 /blh

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	A02

Δ	total central angle
Δc	curve central angle
Ø	diameter
θs	spiral central angle
abut.	abutment
ACP	asphalt concrete pavement
ADT	average daily traffic
AH	ahead
appr.	approach
BK	back
BM	benck mark
BP	balance point
br.	bridge
brg.	bearing
cc or c. to c.	center to center
CL	centerline
CMP	corrugated metal pipe
CO	contracting officer
col.	column
conc.	concrete
conn.	connection
constr. jt.	construction joint
cont.	continuous
CS	curve to spiral
ctrs.	centers
D	diameter
DHV	design hourly volume
dia.	diameter
diag.	diagonal
diaph.	diaphragm
dist.	distance
drwg(s).	drawing(s)
DSY	double solid yellow
E	east
e	superelevation rate
elev.	elevation with number
elev.	elevation
emb.	embankment
EOP	edge of pavement
EOS	edge of shoulder
EOT	edge of travel way
EQ or eq.	equation
ER	edge of road
ESAL	equivalent single axle load
EW	edge of water
exc.	excavation
exp. jt.	expansion joint
fin.	finish
flg.	flange
ftg.	footing
ga.	gage (gauge)
galv.	galvanized
hdwl.	headwall
hex.	hexagon
HW	high water
ID	inside diameter
jt.	joint
L	length of curve
lam.	lamination
lat.	latitude
LOD	Limits of Disturbance
long.	longitudinal
LPSM	lump sum
Ls	length of spiral
lt. or LT	left
LW	low water
ML	main line
MP	mile post
max.	maximum
min.	minimum
mon.	monument
N	north
NC	normal crown
NMSA	nominal maximum size aggregate
o. c.	on center
ohwm	ordinary high water mark
o. to o.	out to out
OD	outside diameter
OG	original ground
PC	point of curve
PCC	point of compound curve
PCS	point of curve to spiral
PI	point of intersection
pl.	plate
POC	point on curve
POS	point on spiral
POT	point on tangent
PS	point of tangent to spiral
PSC	point of spiral to curve
PST	point of spiral to tangent
PT	point of tangent
pvmt.	pavement
R	radius
R.	range
R/W	right-of-way
rdwy.	roadway
RECP	rolled erosion control product
reinf.	reinforcement
reqd.	required
rt. or RT	right
rte.	route
S	south
SADT	seasonal average daily traffic
SC	point of spiral to curve
sec.	section
shldr.	shoulder
spa.	spacing, spaces or spaced
sqft	square foot
sqyd	square yard
SRS	point of spiral to reverse spiral
SS	point of spiral to spiral (no curve)
ST	point of spiral to tangent
Sta.	station
std.	standard
stgr.	stringer
stiff.	stiffener
struc.	structural
STS	point of spiral to tangent spiral
sym.	symmetrical
T	tangent distance
T.	township
TBM	temporary bench mark
thd.	thread
TS	point of tangent to spiral
Ts	tangent distance (spiraled curve)
typ.	typical
V	design speed
vph	vehicles per hour
VPI	vertical point of intersection
W	west

Control Point (Terrestrial and GPS); Jump Hub
National Boundary
State Boundary
County Boundary
City Boundary
Township or Range Line
Section Line
Section Corner (Found, Projected)
¼ Section Line
¼ Section Corner (Found, Projected)
1/16 Section Line
1/16 Section Corner (Found, Projected)
Property Line w/Found Property Corner
Parcel Number
National Park Boundary
National Forest Boundary
National Wildlife Refuge Boundary
BLM Lands Boundary
Indian Reservation Boundary
Existing Roadway (Road, Paved, Gravel)
Railroad
Trail
Intermittent Drainage or Small Creek
Large Creek or River
Lake, Pond or Reservoir; Marshland
Spring or Seep
Treeline; Individual Trees, Pine
Material Source; Bore Hole; Test Pit
Spot Elevation; Coordinate Grid Tick



NO.	DATE	BY	REVISIONS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

Colonial National Historical Park

SYMBOLS AND ABBREVIATIONS

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NPS PMIS No. 222636, 222632, 323954, 2225
NPS PMIS No. 222622, 222643, 222642, 3211

STATE	
VA	VA

PROJECT SPECIFIC SYMBOLS AND ABBREVIATION

North Arrow

	EXISTING	PROPOSED
Slope Stake Limits	Top of Cut Toe of Fill Transition	
Fence		
Gate with Fence		
Cattleguard		
Guardrail		
Concrete Barrier		
Retaining Wall		
Signs (single, double post; portable)		
Delineators		
Pipe Culvert (arrow shows flow)		
Pipe Culvert with End Section		
Pipe Culvert with Headwall		
Pipe Culvert with Drop Inlet		DI
Box Culvert		
Underdrain	UD	UD
Overhead/Above Ground Utilities	P	P
Underground Utilities	W	W

FM = force main, FO = fiber optic, G = gas, IRR = irrigation, O = oil,
P = power, SA = sanitary sewer, SD = storm drain, SS = storm sewer,
STEAM = steam, T = telephone, TV = CATV, W = water

Poles (Power, Telephone, Joint Use,
Light, Support w/Anchor)

Miscellaneous Utility Features
EM = electric meter, T = telephone pedestal, TV = CATV pedestal,
UP = transformer or junction box, WF = water fountain

Building

Right-of-Way Line with Monument — r/w — R/W

Permanent Easement — P/E — P/E

Construction Easement — TCE

Riprap

AREA PATTERN

Pavement Removal / Roadway Obliteration

Full Depth Pavement

Sidewalk Asphalt/Concrete

Mill and Overlay

Overlay

Silt Fence — SF

Diversion Berm — DB

Drainage Divide

Check Dam

Limits of Disturbance — LOD LOD LOD

Fiber Roll or Wattle

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Colonial National Histor

SYMBOLS AND ABBRE

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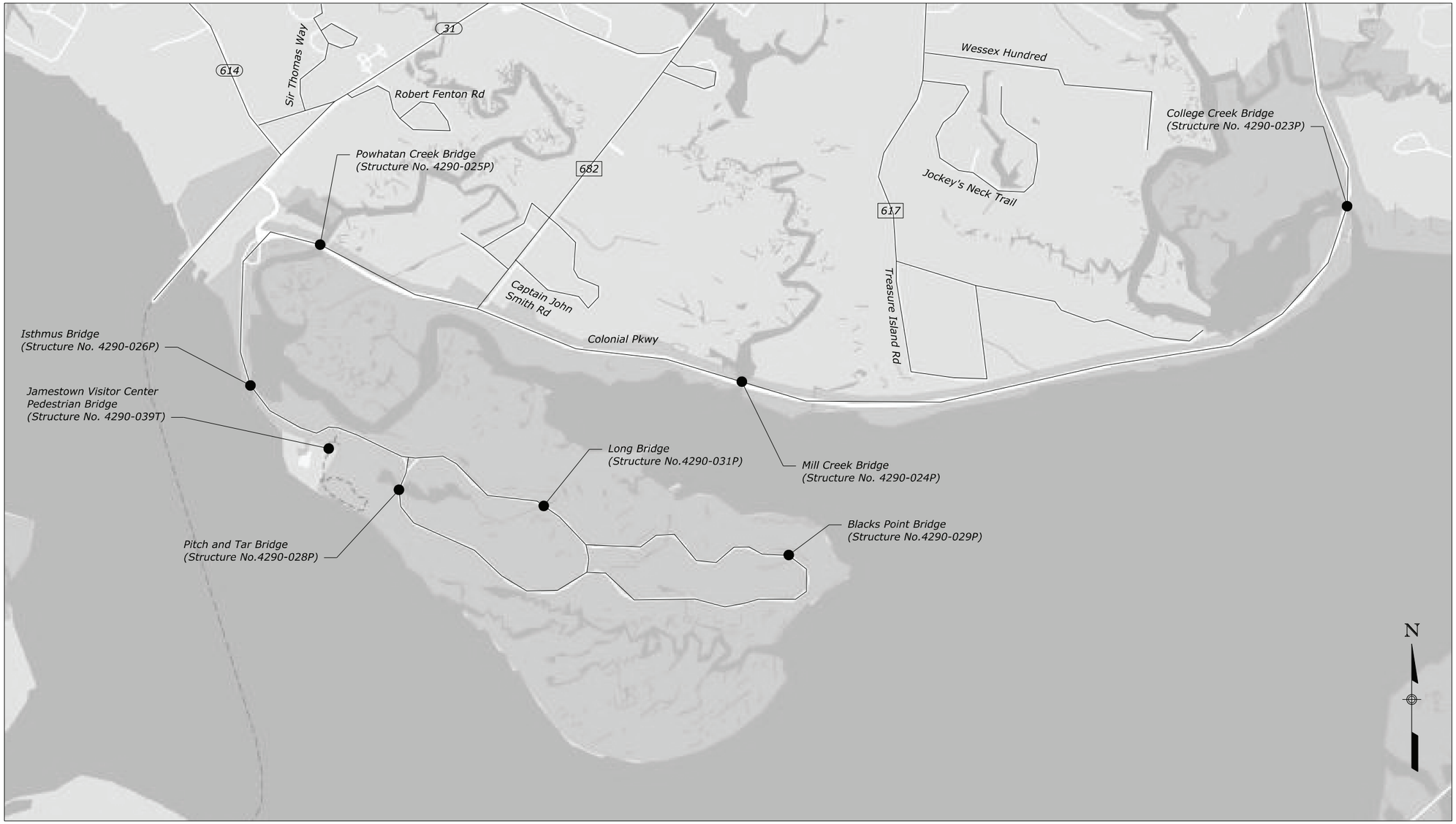
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	A04



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COLONIAL NATIONAL HISTORICAL PARK

LOCATION MAP

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STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C01

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
A1000	15101-0000	MOBILIZATION	LPSM	ALL
A1010	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM	ALL
A1020	15401-0000	CONTRACTOR TESTING	LPSM	ALL
A1030	15701-0000	SOIL EROSION CONTROL	LPSM	ALL
A1040	20102-0000	CLEARING AND GRUBBING (TREES AND SHRUBS)	LPSM	ALL
A1050	20302-0150	REMOVAL OF BRIDGE RAILING (TIMBER)	LNFT	1,150
A1060	20303-0200	REMOVAL OF BRIDGE DECK	SQYD	380
A1070	55501-0000	STRUCTURAL STEEL (REPLACE MISSING, CLEAN, AND COAT HARDWARE, 4290-031P)	LPSM	ALL
A1080	55501-0000	STRUCTURAL STEEL (REPLACE MISSING, CLEAN, AND COAT HARDWARE, 4290-029P)	LPSM	ALL
A1090	55501-0000	STRUCTURAL STEEL (REPLACE MISSING, CLEAN, AND COAT HARDWARE, 4290-028P)	LPSM	ALL
A1100	55601-1300	BRIDGE RAILING, TIMBER	LNFT	1,150
A1110	55701-2000	STRUCTURAL TIMBER AND LUMBER, TREATED	MFBM	18
A1120	55720-0000	REPAIR STRUCTURAL TIMBER AND LUMBER (REATTACH SUPERSTRUCTURE BRIDGING)	LPSM	ALL
A1130	57601-0000	PILE ENCAPSULATION (TIMBER PILE)	LNFT	32
A1140	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
A1150	63701-0000	FIELD OFFICE	EACH	1
A1160	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES A

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C02

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
B1000	15101-0000	MOBILIZATION	LPSM	ALL
B1010	15201-0000	CONSTRUCTION SURVEY AND STAKING	LPSM	ALL
B1020	15401-0000	CONTRACTOR TESTING	LPSM	ALL
B1030	15701-0000	SOIL EROSION CONTROL	LPSM	ALL
B1040	20102-0000	CLEARING AND GRUBBING (TREES AND SHRUBS)	LPSM	ALL
B1050	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, COLLEGE CREEK BRIDGE)	LPSM	ALL
B1060	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, POWHATAN CREEK BRIDGE)	LPSM	ALL
B1070	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, MILL CREEK BRIDGE)	LPSM	ALL
B1080	20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (VEGETATION, ISTHMUS BRIDGE)	LPSM	ALL
B1090	55220-0000	REPAIR CONCRETE (RAILINGS AND CURBS)	SQYD	3
B1100	55220-0000	REPAIR CONCRETE (PIERS AND DECK UNDERSIDE)	SQYD	25
B1110	55223-0000	REPAIR CONCRETE (EPOXY PAINT EXPOSED REBAR)	LNFT	100
B1120	55224-0000	SEAL CONCRETE SURFACE	SQYD	1,600
B1130	55225-0000	CLEAN AND RESEAL JOINTS	LNFT	660
B1140	55506-0000	MISCELLANEOUS STEEL (REPAIR SAGGING UTILITY CONDUITS)	EACH	3
B1150	56101-0000	STRUCTURAL CONCRETE INJECTION AND CRACK REPAIR	LNFT	36
B1160	57601-0000	PILE ENCAPSULATION (CONCRETE PILE)	LNFT	73
B1170	60706-0000	CLEANING DRAINAGE STRUCTURE (WEEP HOLE)	EACH	6
B1180	61401-0000	LEAN CONCRETE BACKFILL	CUYD	9
B1190	63308-3000	OBJECT MARKER, TYPE 3	EACH	4
B1200	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
B1210	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES B

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C03

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
C1000	15101-0000	MOBILIZATION	LPSM	ALL
C1010	15401-0000	CONTRACTOR TESTING	LPSM	ALL
C1020	20102-0000	CLEARING AND GRUBBING (TREES AND SHRUBS)	LPSM	ALL
C1030	55506-0000	MISCELLANEOUS STEEL (REATTACH LOOSE FASCIA BOARDS)	EACH	10
C1040	55603-1000	REMOVE AND RESET BRIDGE RAILING	LPSM	ALL
C1050	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
C1060	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES C

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C04

Line Item No.	Pay Item Number	Pay Item Description	Unit	Estimated Quantities
				Bid Schedule
D1000	15101-0000	MOBILIZATION	LPSM	ALL
D1010	15401-0000	CONTRACTOR TESTING	LPSM	ALL
D1020	56301-2000	PAINTING, STEEL STRUCTURE (COLLEGE CREEK BRIDGE)	LPSM	ALL
D1030	56301-2000	PAINTING, STEEL STRUCTURE (ISTHMUS BRIDGE)	LPSM	ALL
D1040	56301-2000	PAINTING, STEEL STRUCTURE (MILL CREEK BRIDGE)	LPSM	ALL
D1050	56320-0000	CONTAINMENT SYSTEM AND WORKER PROTECTION PLAN (MILL CREEK BRIDGE)	LPSM	ALL
D1060	56320-0000	CONTAINMENT SYSTEM AND WORKER PROTECTION PLAN (COLLEGE CREEK BRIDGE)	LPSM	ALL
D1070	56320-0000	CONTAINMENT SYSTEM AND WORKER PROTECTION PLAN (ISTHMUS BRIDGE)	LPSM	ALL
D1080	63501-0000	TEMPORARY TRAFFIC CONTROL	LPSM	ALL
D1090	99920-0000	DESIGN CONTINGENCY	LPSM	ALL

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COLONIAL NATIONAL HISTORICAL PARK

TABULATION OF QUANTITIES

SCHEDULES C

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	C05

CONSTRUCTION SIGN SUMMARY

SCHEDULE	MUTCD NO.	SIGN TEXT	PANEL SIZE WIDTH (in)	PANEL SIZE HEIGHT (in)	PANEL SIZE AREA (sqft)	COLOR COMBINATION	QUANTITY	Schedule A Pay Item 63504-1000 TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN SQFT	Schedule C Pay Item 63504-1000 TEMPORARY TRAFFIC CONTROL, CONSTRUCTION SIGN SQFT
A	R11-2	ROAD CLOSED	48	30	10.00	Black on White	1	10.0	
C	R11-3B	PEDESTRAIN BRIDGE CLOSED	60	30	12.50	Black on White	1		12.5
							Subtotal this Sheet	10.0	12.5
							Rounded Total	10	13

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COLONIAL NATIONAL HISTORICAL PARK

CONSTRUCTION SIGN SUMMARY

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	M01

EROSION AND SEDIMENT CONTROL NARRATIVE

1. GENERAL GUIDELINES

The Erosion and Sediment Control Plan/Location (ESCP) is a guideline for preventing erosion and controlling sediment. The work consists of applying measures throughout the life of the project to control erosion and to minimize the sedimencation of rivers, streams, and impoundments such as lakes, reservoirs, bays, and coascal waters. The measures consist of scabilization and structural practices, stormwater controls, and other miscellaneous pollution prevention controls. Soil erosion control and turf escablishment measures are also defined and outlined in the Scandard Specifications for Construction of Roads and Bridges on Federal Highway Projeccs, FP-03, U.S. Customary Units and the Special Contract Requirements.

Coordinate the inscallation, use, and removal of erosion and sediment control measures with roadway construction activities to assure economical, effective, and continuous erosion and sediment control. Employ temporary scabili- zation practices in incremencal scages as construction proceeds.

Inscall all erosion and sediment control measures as shown in the Plans or as directed by the Contracting Officer (CO). Do not modify the type, size, or location of any control or practice without approval from the CO.

Preventing initial soil erosion is much more effective than trying to control eroded sediment. Therefore, scabilize all disturbed areas as soon as is practical, but no more than 14 days after construction activity has temporarily or permanently ceased.

Control only sediment-laden runoff generated by the project site. Do not drive construction equipment in or across flowing waterways.Do not allow construction vehicles to track sediment offsite of the project limits.

Do not allow any construction equipment to operate or access on the downslope side of perimeter control measures. In general, preserve existing vegecation, trees, and shrubs when possible, and where specifically directed by the CO.

2. SITE DESCRIPTION

A. NATURE OF ACTIVITY

Project COLO 1A18, D42, 500(1), 107(1), 108(1), 109(1) consists of the rehabilication of several bridges and ramps in Virginia along the Colonial Parkway.

B. SEQUENCE OF CONSTRUCTION

Unless otherwise noted, sequence of construction phasing applies to all areas of work.

* PHASE I (ESTABLISH PERIMETER CONTROLS):

Prior to bridge repair and improvemencs, construct perimeter controls to ensure that any disturbed sediment does not leave the proJect site. Perimeter controls include silt fence.

* PHASE II (INTERMEDIATE CONTROLS/STABILIZATION):

Apply temporary turf escablishment and 2-inch topsoil on uncompleted disturbed areas that will remain exposed for more than 14 calendar days or as directed by the CO.

As soon as practical, but not to exceed 14 calendar days, apply permanent turf escablishment to the finished slopes and ditches according to Sections 624 and 625.

To control erosion during the time periods between seeding seasons shown in Section 625, apply temporary mulch in lieu of temporary turf escablishment.

When directed by the CO, apply temporary mulch to all disturbed slopes at the end of each day's operations.

Inscall temporary inlet protection to any inlet, susceptible to receiving sediment laden water.

In order to prevent traffic hazards caused by ponded water on the roadway, do not inscall inlet protection at inlets adjacent to traffic.

Do not allow ponded water to encroach into travel lanes.

Provide silt fence around all stockpiled roadway material. Apply temporary mulch or temporary turf escab- lishment to stockpiles remaining in place longer than 14 days or when directed by the CO.

* PHASE III (FINAL CONTROLS/STABILIZATION):

After completion of construction, perform the following as directed by the CO:

Where necessary, replace eroded topsoil and reapply permanent turf escablishment to disturbed areas were vegecation has not escablished.

Inspect, clean, and repair all culvert outlet protection, riprap basins, and scabilized channels.

Remove silt fence and inlet protection only after all upslope areas are scabilized and vegecation is well escablished.

Remove all perimeter silt fence only after turf is well escablished.

Remove all perimeter controls, silt fence, and other erosion and sediment control measures when directed by the CO.

Scabilize all areas which are disturbed due to the removal of sediment control devices.

3. LIST OF STABILIZATION PRACTICES

A. TEMPORARY

Temporary scabilization practices used on this project include temporary seeding with mulching, preservation of existing vegecation, and other approved measures.

4. LIST OF STRUCTURAL PRACTICES

Structural practices used on this project include silt fence, culvert inlet/outlet protection measures, and other approved measures.

5. INSPECTION AND MAINTENANCE PROCEDURES FOR CONTROLS

Inspect, maincain, and clean all erosion and sediment control measures according to Section 157. Check, clean, and repair erosion and sediment control measures at least weekly, but also within 24 hours after a rain at 0.5 inches or more, and daily during wet weather. Clean erosion and sediment control measures when half full of sediment. Repair measures as necessary. Replace erosion and sediment control measures that cannot be maincained and those that are damaged by construction operations. If visible sedimencation is found off-site, cake immediate measures to clean up cne site. Maincain written records of inspection and repairs. Provide the CO with copies every month and the entire record at the completion of the project.

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COLONIAL NATIONAL HISTORICAL PARK

EROSION AND SEDIMENT CONTROL NARRATIVE

STATE	PROJECT	SHEET NUMBER
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VESCH Minimum Standards (MS-19)

This section presents the guidelines & requirements identified in Chapter 6 of the Virginia Erosion & Sediment Control Handbook. All applicable minimum standards (from the Virginia Erosion & Sediment Control Regulations, MS-1MS-19 must be addressed.

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 13 days. Permanent stabilization shall be applied to areas to be left dormant for more than one year.	*1. Contractor must apply temporary seeding or other temporary stabilization to all denuded areas which will remain dormant for longer than 14 days.*
2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. Temporary protection and permanent stabilization shall be applied to all soil stockpiles onsite and borrow areas or soil intentionally transferred offsite.	*2. Not Applicable*
3. Permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.	*3. Contractor must apply topsoil and permanent seed mix, approved by the CO, to all denuded areas. No foreign soil can be brought into the project site without approval.*
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.	*4. Contractor must establish perimeter controls prior to any land disturbing activity.*
5. Stabilization measures shall be applied to earthen structures such as dams, dikes and other diversions immediately after installation.	*5. Not Applicable*
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. Sediment traps shall be constructed to control drainage areas less than three acres with minimum storage capacity of 134 cubic yards/acre of drainage area. The outfall system shall at a minimum maintain the structural integrity of the basin during a 25 year storm of 24 hours.	*6. Not Applicable*
7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within on year of permanent stabilization shall be provided with additional slope stabilization measures until the problem is corrected.	*7. Not Applicable*
8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structures.	*8. Not Applicable. All flow must remain sheet flow.*
9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided	*9. Not anticipated.*
10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.	*10. Not Applicable.*
11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.	*11. Not Applicable.*
12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non-erodible cover materials.	*12. Contractor must install in-stream protection measures to minimize channel impacts.*
13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of non-erodible material shall be provided.	*13. Not Applicable.*
14. All applicable federal, state, and local regulations pertaining to working in or crossing live watercourses shall be met.	*14. Contractor must follow all applicable federal, state, and local regulations.*
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.	*15. Contractor must immediately restabilize the areas subject to in-stream construction.*
16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:	
A. No more than 500 linear feet of trench may be opened at one time.	*A. Not applicable*
B. Excavated material shall be placed on the uphill side of trenches.	*B. Not applicable*
C. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams on off-site property.	*C. Contractor must not discharge sediment-laden runoff or groundwater. Contractor shall install and maintain sediment trapping device prior to discharge.*
D. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.	*D. Not Applicable.*
E. Re-stabilization shall be accomplished in accordance with these regulations.	*E. Contractor must re-stabilize any disturbed area until permanent stabilization is achieved.*
F. Applicable safety regulations shall be complied with.	*F. Contractor to adhere to all applicable safety regulations.*
17. Where construction vehicles access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of the day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land disturbing activities.	*17. Contractor to sweep streets and allay dust daily within the project area.*
18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the deposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.	*18. Contractor must remove temporary filter barriers following final stabilization and prior to project close out.*
19. Properties and waterways downstream from development sites shall be protected from the sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Concentrated stormwater runoff leaving a development site shall be discharged directely into adequate natural or man-made receiving channel, pipe, or storm sewer system. For those sites, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.	*19. Contractor must discharge treated or filtered runoff directly to the open space unless otherwise directed and provide adequacy of channel protection downstream from up-sized culverts.*

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COLONIAL NATIONAL HISTORICAL PARK

EROSION AND SEDIMENT CONTROL NARRATIVE

Sheet 2 of 2

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
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GENERAL NOTES

Adapt the traffic control plans to meet field conditions and provide safe and efficient traffic movement, as directed by the CO. Changes may be required when physical dimensions in the detail drawings, standard details, and roadway details are not attainable, or result in duplicate or undesired overlapping of devices. Modifications may include: moving, supplementing, covering, or removing devices.

The following general notes apply at all times for the duration of the construction project, except when otherwise noted in the plans, or directed by the CO.

1. *Obtain approval from the CO for final locations and spacing of all traffic control devices.*
2. *Cover or remove all conflicting signs and remove all conflicting striping for each stage, as approved by the CO.*
3. *Use steel plates to cover trenches in the roadway which cannot be backfilled to the pavement grade by the end of the day. Properly secure the steel plates if traffic is allowed to run over them.*

TRAFFIC CONTROL PHASE I

Close Pitch and Tar Bridge, Blacks Point Bridge, and Long Bridge using Type 3 barricades with "ROAD CLOSED" sign. See traffic control plan, for Pitch and Tar Bridge, Blacks Point Bridge, and Long Bridge, Schedule A, Phase I. Finish phase I construction before moving to phase II.

TRAFFIC CONTROL PHASE II

Remove all traffic control devices from phase I construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on College Creek Bridge. Finish College Creek Bridge construction before moving to work on Mill Creek Bridge.

Remove all traffic control devices from College Creek Bridge construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on MIll Creek Bridge. Finish MIll Creek Bridge construction before moving to work on Powhatan Creek Bridge.

Remove all traffic control devices from MIll Creek Bridge construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on Powhatan Creek Bridge. Finish Powhatan Creek Bridge construction before moving to work on Isthmus Bridge.

Remove all traffic control devices from Powhatan Creek Bridge construction and close partial lane width using Temporary Traffic Control Part Lane Width and Shoulder Closure Layout Detail ET 635-11 to work on Isthmus Bridge. Finish Isthmus Bridge construction before moving to phase III construction.

TRAFFIC CONTROL PHASE III

Remove all traffic control devices from phase II construction and close Jamestown Visitor Center Pedestrian Bridge using Type 3 barricades with "PEDESTRIAN BRIDGE CLOSED" sign. See traffic control plan, for Jamestown Visitor Center Pedestrian Bridge, Schedule C, Phase III. Finish all the work in phase III construction and proceed with demobilization.

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TRAFFIC CONTROL NARRATIVE

NPS PMIS No. 222636, 222632, 323954, 222594
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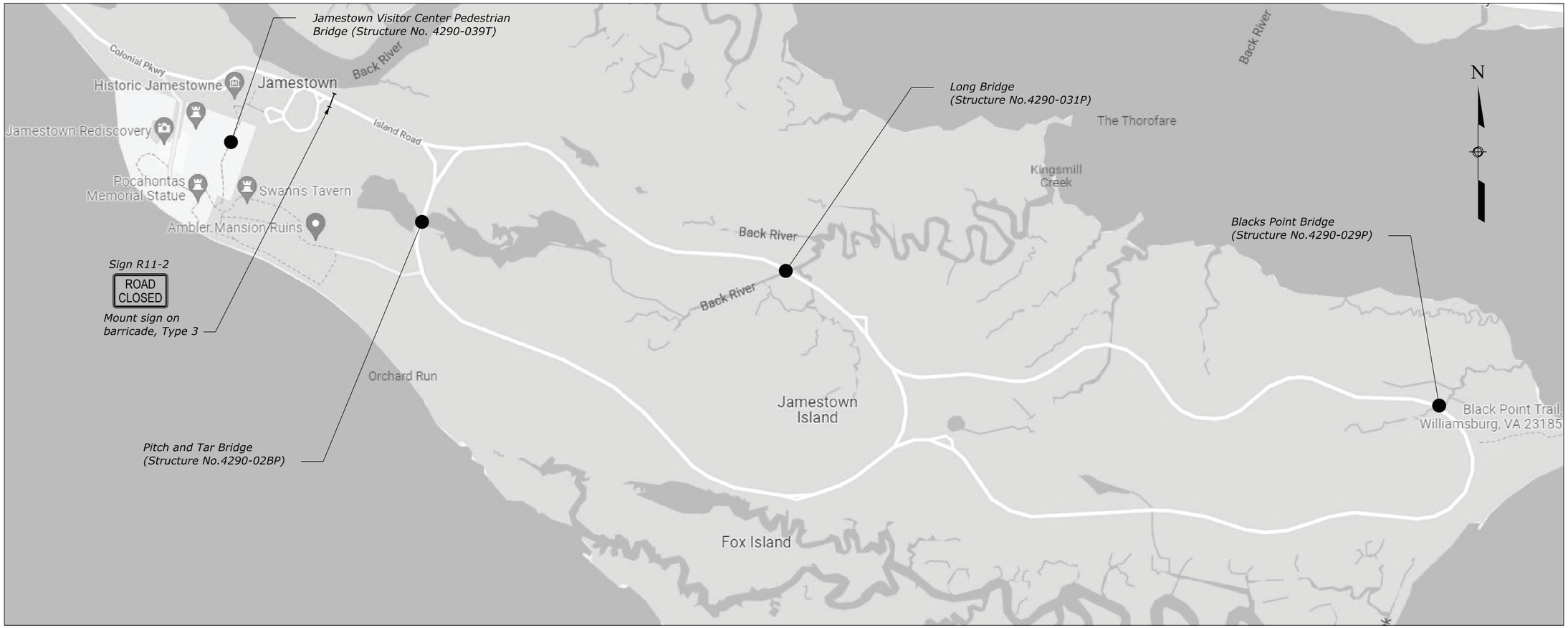
STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	N02



NO.	DATE	BY	REVISIONS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

0 1000 2000
SCALE IN FEET

COLONIAL NATIONAL HISTORICAL PARK

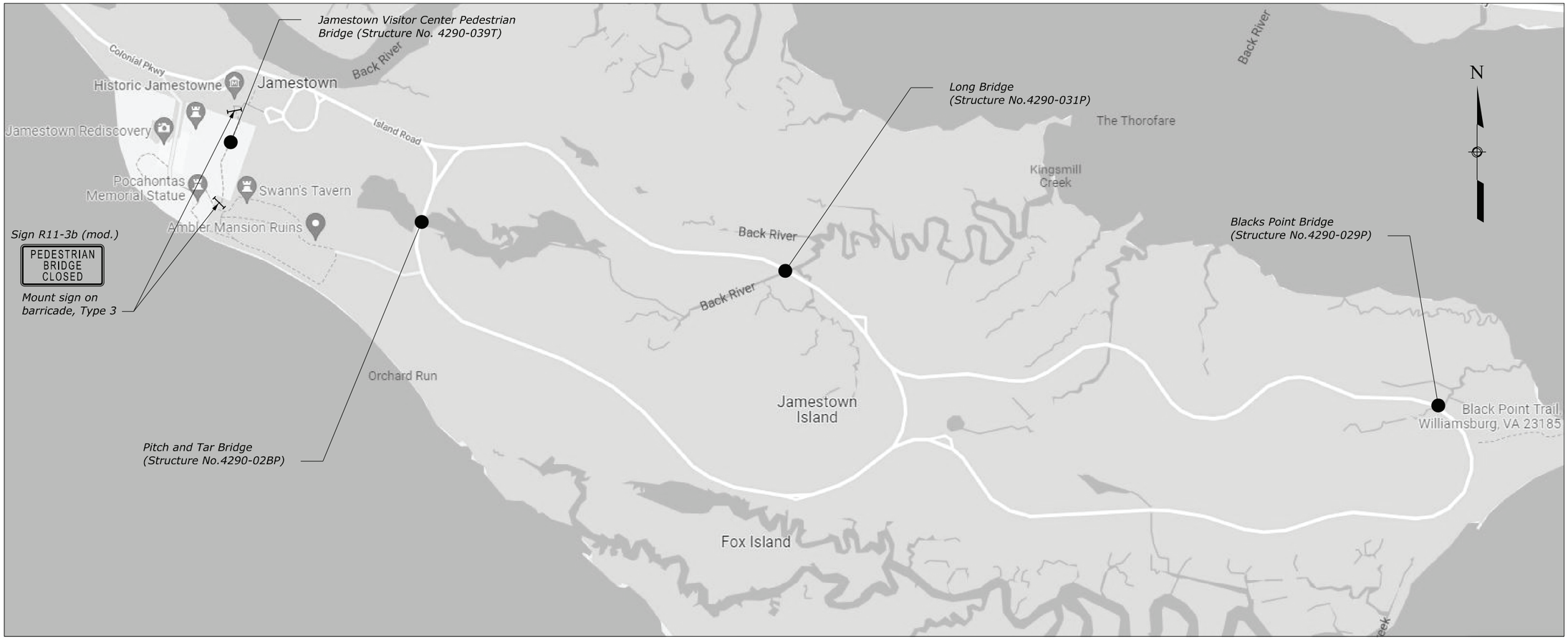
TRAFFIC CONTROL PLAN

PITCH AND TAR BRIDGE, BLACK POINT BRIDGE, AND LONG BRIDGE
SCHEDULE A, PHASE I

\\fhf115\Reserve_flhd.fhwa.dot.gov\data\PROJECTS\colo\1c14 1d48 1e15\HWY_DES\CADD\N02_NP COLO 1C14, 1D48, 1E15_ttc.dgn [first concrete pad]
27 June 2022 2:58 PM

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	N03



NO.	DATE	BY	REVISIONS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

0 1000 2000
SCALE IN FEET

COLONIAL NATIONAL HISTORICAL PARK

TRAFFIC CONTROL PLAN

PEDESTRIAN VISITOR CENTER BRIDGE
SCHEDULE C, PHASE III

C:\Users\kashif.khan\Desktop\01-Kashif Projects\26 COLO 1C14 1D48 1E15\000-CAAD\N03_NP COLO 1C14, 1D48, 1E15_ttc.dgn [Test concrete pad]
1 July 2022 9:45 AM

Received by VMRC August 28, 2023 /blh

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R01

GENERAL NOTES:

SPECIFICATIONS:

Design:

AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020 with 2021 Interim Revisions.

Construction:

Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14.

DESIGN LOADS:

Live Loads:

Timber Decks: H10 Truck

Dead Loads:

Concrete: 150 pcf

Timber: 50 pcf

MATERIALS:

Structural Steel:

Furnish high-strength bolts conforming to ASTM A325.
Furnish nuts conforming to ASTM A653.
Furnish washers conforming to ASTM F436.
Galvanize all bolts, nuts, and washers according to ASTM A153.

Reinforcing Steel:

Furnish reinforcing steel conforming to AASHTO M 31 (ASTM A615), Grade 60 deformed.
Provide 2-inch cover for reinforcing steel unless otherwise noted.
Use uncoated reinforcing steel unless otherwise noted.
Lap splices 30 bar diameters unless otherwise shown.

Structural Concrete:

Furnish Class HES (High Early Strength) for concrete repairs, f'c = 5000 psi at 28 days.

Timber:

Pressure treat all timber in accordance with the latest American Wood Protection Association Standard U1. Provide use category UC4C for all timber, Use waterborne copper-based solution or suspensions that do not contain arsenic and/or chromium compounds and obtain from a single approved source.

Furnish deck panels as S4S Southern Yellow Pine glued laminated, combination 47, grade N2M or better that conform to the design values from AASHTO LRFD Bridge Design Specifications, Table 8.4.1.2.3-2 - Reference Design Values for Structural Glued Laminated Softwood Timber.

Furnish curb components as S4S Southern Yellow Pine glued laminated, combination 24F-V3 or better that conform to the design values from AASHTO LRFD Bridge Design Specifications, Table 8.4.1.2.3-1 - Reference Design Values for Structural Glued Laminated Softwood Timber Combinations.

Furnish all other timber as S4S Southern Yellow Pine No. 1 or better that conforms to the design values from AASHTO LRFD Bridge Deisgn Specifications, Table 8.4.1.1.4-1 - Reference Design Values for Visually Graded Sawn Lumber (bridging).

Furnish hardware conforming to Subsection 557.07.

Paint:

Prepare and paint structural steel according to Section 563. Paint structural steel using Paint System 1 or 2.

Construction:

Verify all controlling field dimensions before ordering or fabricating any material. Where dimensions of the proposed work in this contract are dependent on the dimensions of configuration of the surrounding area, adjust dimensions of the work to fit existing conditions. Contact utility companies and locate all utilities before proceeding work.

The contractor is responsible for the stability of the structure during the construction phase.

INDEX OF BRIDGE PLAN SHEETS

4290-023P, 024P, 025P, 026P,
Structure Number : 028P, 029P, 031P, 039T

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

REHABILITATION OF COLLEGE CREEK BRIDGE, MILL CREEK BRIDGE, POWHATAN CREEK BRIDGE, ISTHMUS BRIDGE, PITCH AND TAR BRIDGE, BLACKS POINT BRIDGE, LONG BRIDGE, AND JAMESTOWN VISITOR CENTER PEDESTRIAN BRIDGE

GENERAL NOTES AND INDEX

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	1 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R02

SCOPE OF WORK:

Schedule A

Structure Number 4290-028P - Pitch and Tar Bridge

- *Remove and replace timber railing in-kind with new dimensions.*
- *Remove and replace timber deck in-kind.*
- *Tighten loose bolts and replace missing or damaged bolts/nuts.*
- *Clean and apply galvanizing spray to exterior beam bolts, nuts, and washers.*
- *Drive in uplifted deck spikes.*

Structure Number 4290-029P - Blacks Point Bridge

- *Remove and replace 12 glulam timbers.*
- *Tighten loose bolts and replace missing or damaged bolts/nuts.*
- *Clean and apply galvanizing spray to exterior beam bolts, nuts, and washers.*
- *Remove and replace pile bent cross bracing.*
- *Reattach loose superstructure bridging.*
- *Place Fiber Reinforced Polymer (FRP) pile jackets on piles according to "TIMBER PILE ENCAPSULATION" sheet.*
- *Drive in uplifted deck spikes.*

Structure Number 4290-031P - Long Bridge

- *Remove and replace 15 glulam timbers.*
- *Tighten loose bolts and replace missing or damaged bolts/nuts.*
- *Clean and apply galvanizing spray to exterior beam bolts, nuts, and washers.*
- *Place Fiber Reinforced Polymer (FRP) pile jackets on piles according to "TIMBER PILE ENCAPSULATION" sheet.*
- *Drive in uplifted deck spikes.*

Schedule B

Structure Number 4290-023P - College Creek Bridge

- *Locate and repair all deteriorated concrete at abutments, railings, and curbs.*
- *Clean and reseal joints.*
- *Clean and seal concrete deck.*
- *Place lean concrete backfill in areas of undermining near wingwalls.*
- *Remove vegetation growth along structure.*

Structure Number 4290-024P - Mill Creek Bridge

- *Locate and repair all deteriorated concrete at abutments, railings, and curbs.*
- *Clean and reseal joints.*
- *Clean and seal concrete deck.*
- *Remove vegetation growth along structure.*

Structure Number 4290-025P - Powhatan Creek Bridge

- *Locate and repair all deteriorated concrete at the bents, deck underside, and abutments.*
- *Clean and reseal joints.*
- *Remove vegetation growth along structure.*
- *Unclog weep holes at abutments.*
- *Place Fiber Reinforced Polymer (FRP) pile jackets on piles according to "CONCRETE PILE ENCAPSULATION" sheet.*

Structure Number 4290-026P - Isthmus Bridge

- *Locate and repair all deteriorated concrete at abutments, railings, deck underside, and curbs.*
- *Clean and reseal joints.*
- *Clean and seal concrete deck.*
- *Repair utility conduits.*
- *Replace missing anchor bolt nut.*
- *Remove vegetation growth along structure.*

Schedule C

Structure Number 4290-039T - Jamestown Visitor Center Pedestrian Bridge

- *Remove and replace damaged railing section with integrated lighting system in-kind.*
- *Repair fascia boards that are warped or separated from the structure.*

Schedule D

Structure Number 4290-023P - College Creek Bridge

- *Clean and paint steel superstructure.*

Structure Number 4290-024P - Mill Creek Bridge

- *Clean and paint steel superstructure.*

Structure Number 4290-026P - Isthmus Bridge

- *Clean and paint steel superstructure.*

4290-023P, 024P, 025P, 026P,
Structure Number : 028P, 029P, 031P, 039T

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

REHABILITATION OF COLLEGE CREEK BRIDGE, MILL CREEK BRIDGE, POWHATAN CREEK BRIDGE, ISTHMUS BRIDGE, PITCH AND TAR BRIDGE, BLACKS POINT BRIDGE, LONG BRIDGE, AND JAMESTOWN VISITOR CENTER PEDESTRIAN BRIDGE

SCOPE OF WORK

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	2 of 50	June 2022	BRP-1312

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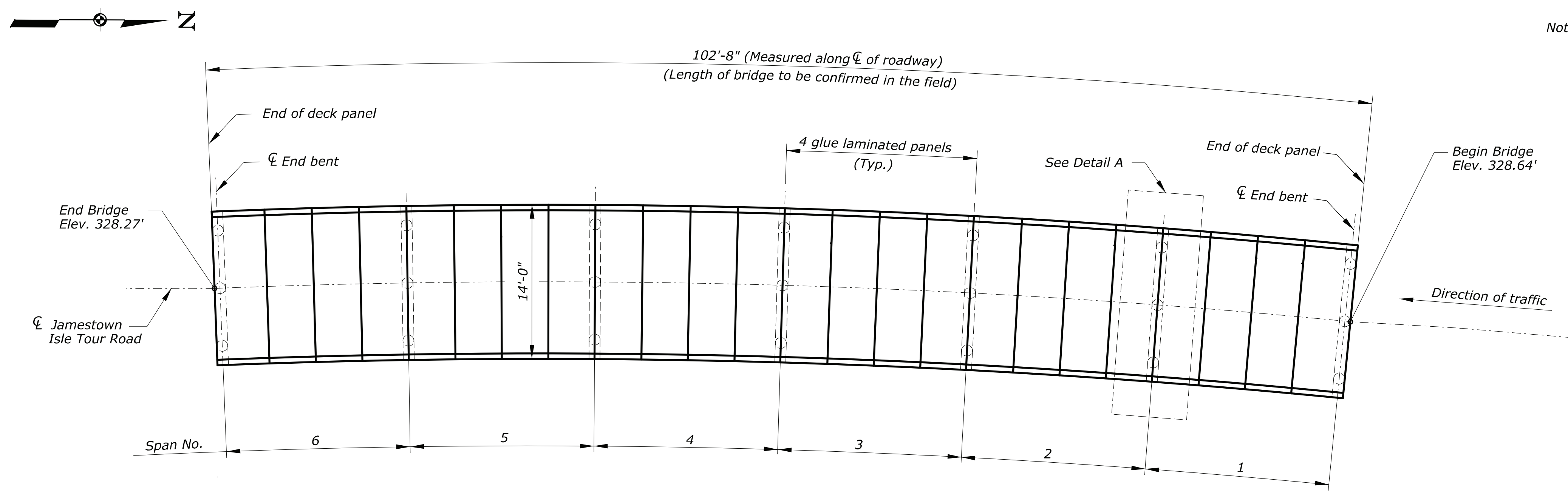
14-Jun-2022 04:05 PM

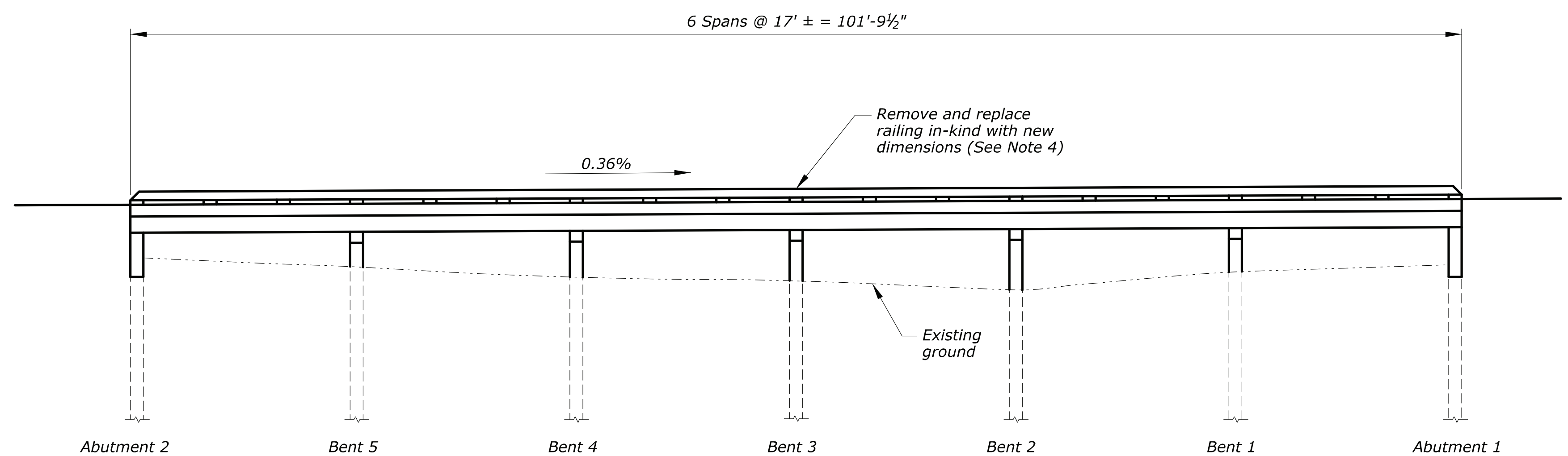
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 / 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R03

Notes:

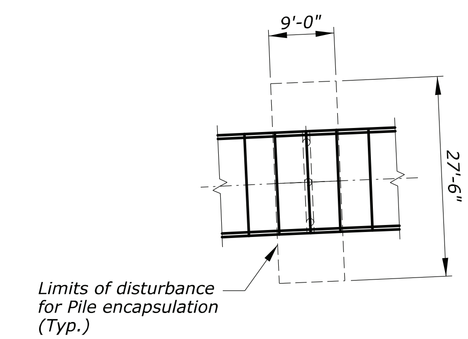
1. Tighten loose bolts and replace missing or damaged bolts/nuts.
2. Clean and apply galvanizing spray to beam bolts, nuts, and washers according to Section 555 and manufacturer's recommendations.
3. See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.
4. Replace railing in-kind with new dimensions. See "CURB DETAILS" sheet for railing details.



PLAN



ELEVATION



DETAIL A

Structure Number : 4290-028P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
PITCH AND TAR BRIDGE

PLAN AND ELEVATION
(STRUCTURE 4290-028P)

PRELIMINARY
NOT FOR CONSTRUCTION

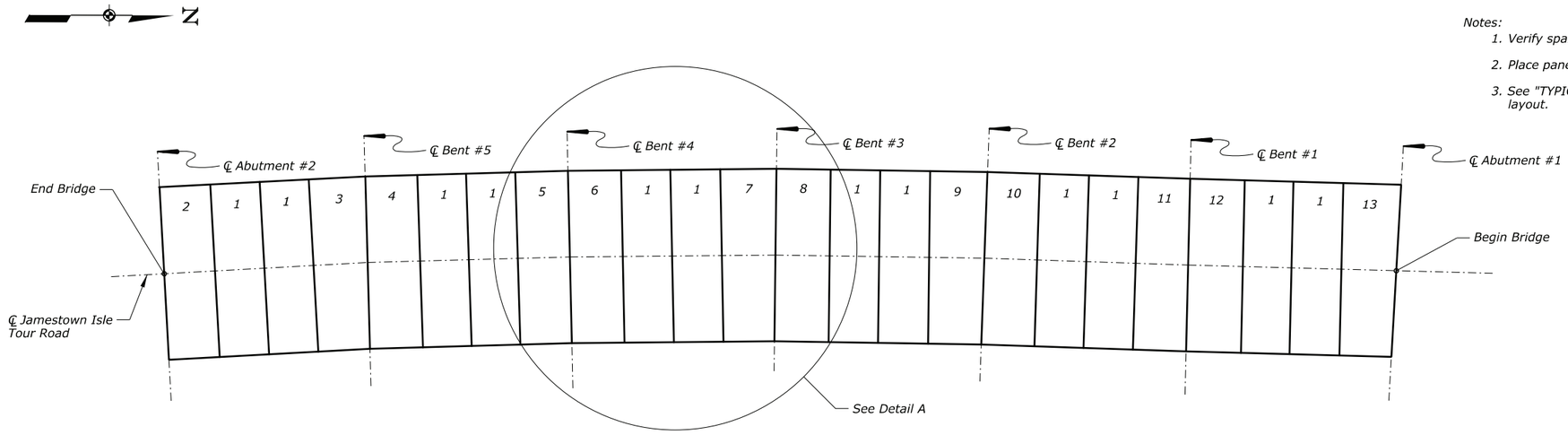
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to scale	Christopher Negley	3 of 50	June 2022	BRP-1312

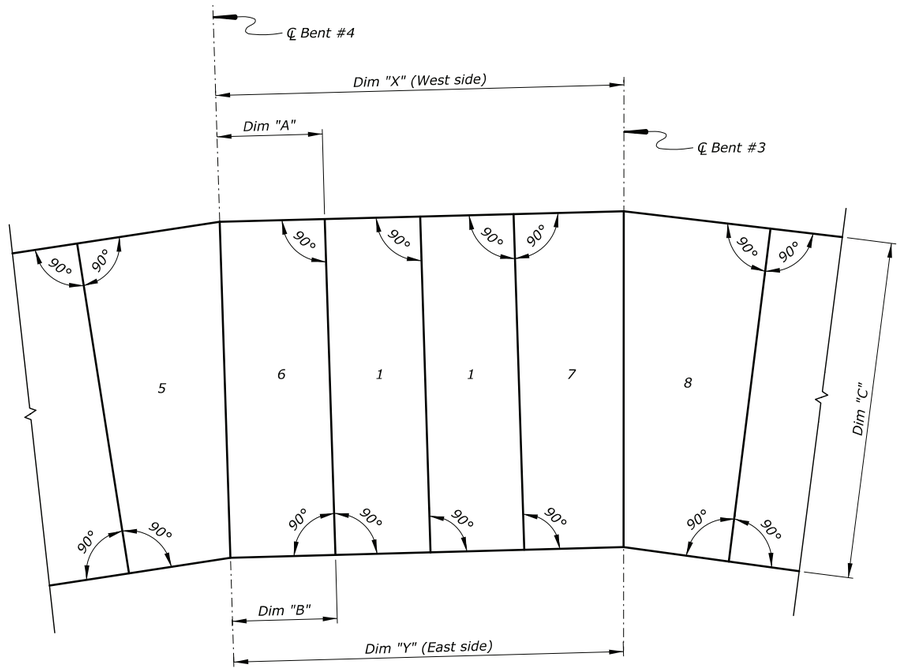
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R04

Notes:

1. *Verify span dimensions before fabricating panels.*
2. *Place panel with Dim "A" on the west side of bridge.*
3. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*



DECK PANEL PLAN



DETAIL A

Panel Dimensions			
Panel Mark	*Dim 'A' (in.)*	*Dim 'B' (in.)*	*Dim 'C' (in.)*
1	*48 1/16*	*48 1/16*	*168 1/16*
2	*60 9/16*	*56 9/16*	*168 1/16*
3	*55 2/16*	*50 13/16*	*168 1/16*
4	*51 14/16*	*52 9/16*	*168 1/16*
5	*53 9/16*	*50 11/16*	*168 1/16*
6	*53 14/16*	*51 12/16*	*168 1/16*
7	*54 13/16*	*50 13/16*	*168 1/16*
8	*52 13/16*	*54 7/16*	*168 1/16*
9	*55 4/16*	*51 9/16*	*168 1/16*
10	*51 3/16*	*52 4/16*	*168 1/16*
11	*51 3/16*	*52 4/16*	*168 1/16*
12	*53 12/16*	*53 12/16*	*168 1/16*
13	*62 6/16*	*56 10/16*	*168 1/16*

Span Dimensions		
Span No.	*Dim 'X' (in.)*	*Dim 'Y' (in.)*
1	*212 3/16*	*206 7/16*
2	*198 7/16*	*200 9/16*
3	*204 2/16*	*202 1/16*
4	*204 12/16*	*198 10/16*
5	*201 8/16*	*199 5/16*
6	*211 12/16*	*203 7/16*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-028P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
PITCH AND TAR BRIDGE

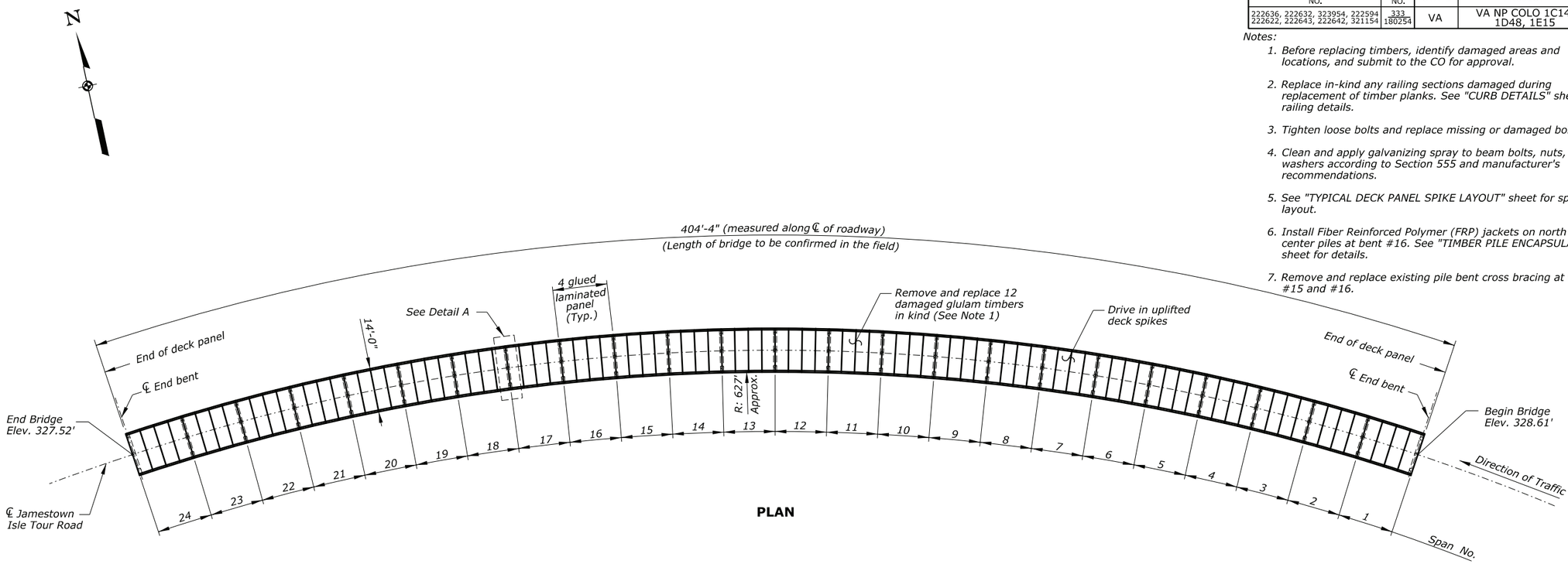
DECK PANEL LAYOUT (STRUCTURE 4290-028P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	4 of 50	June 2022	BRP-1312

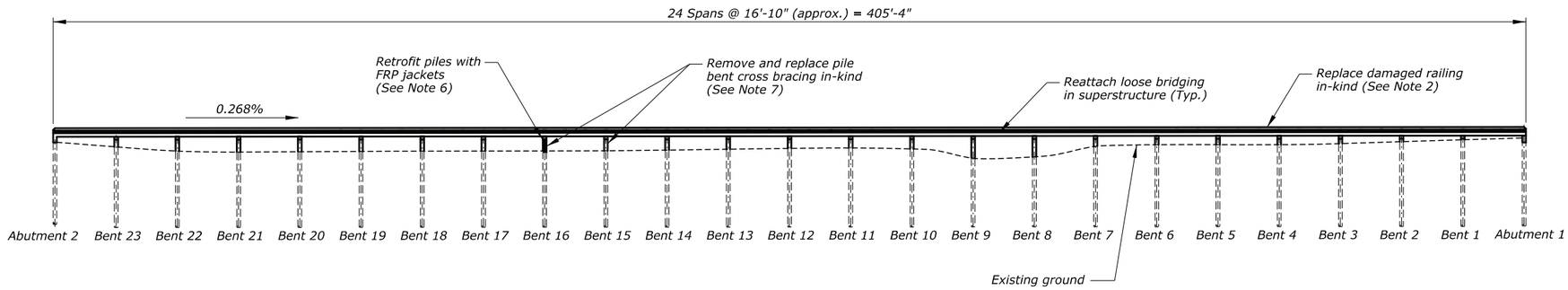
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R05

Notes:

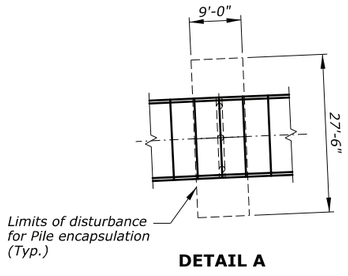
1. *Before replacing timbers, identify damaged areas and locations, and submit to the CO for approval.*
2. *Replace in-kind any railing sections damaged during replacement of timber planks. See "CURB DETAILS" sheet for railing details.*
3. *Tighten loose bolts and replace missing or damaged bolts/nuts.*
4. *Clean and apply galvanizing spray to beam bolts, nuts, and washers according to Section 555 and manufacturer's recommendations.*
5. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*
6. *Install Fiber Reinforced Polymer (FRP) jackets on north and center piles at bent #16. See "TIMBER PILE ENCAPSULATION" sheet for details.*
7. *Remove and replace existing pile bent cross bracing at bents #15 and #16.*



PLAN



ELEVATION



DETAIL A

Structure Number : 4290-029P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

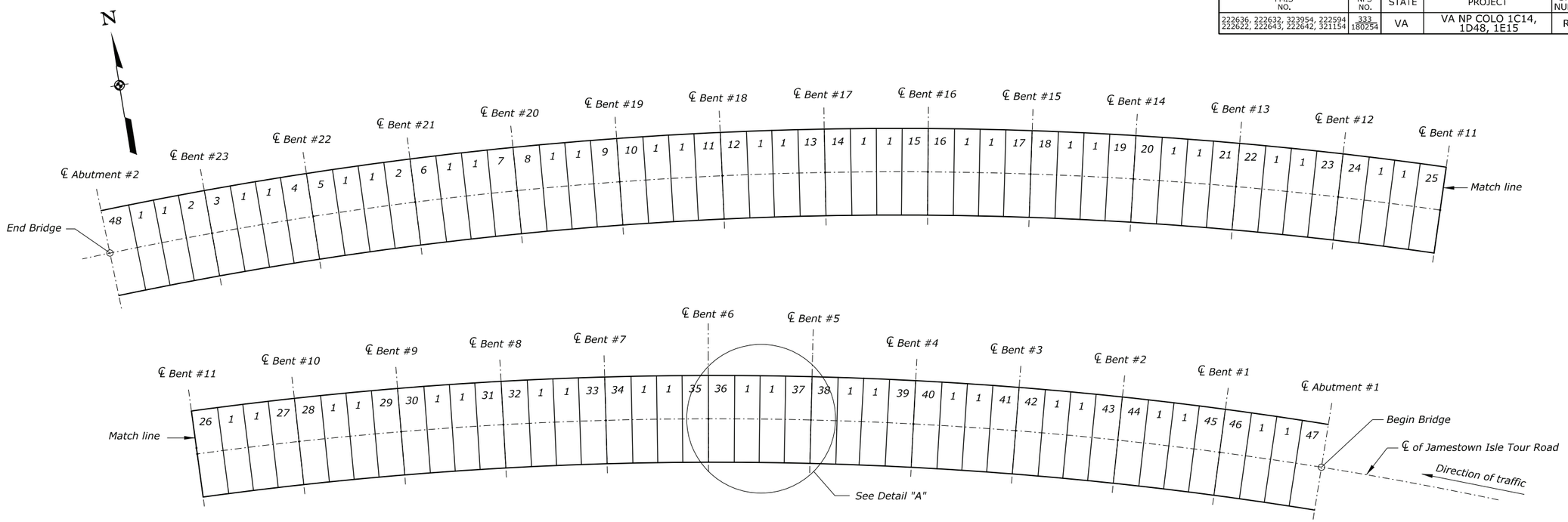
SCHEDULE A
BLACKS POINT BRIDGE

PLAN AND ELEVATION (STRUCTURE 4290-029P)

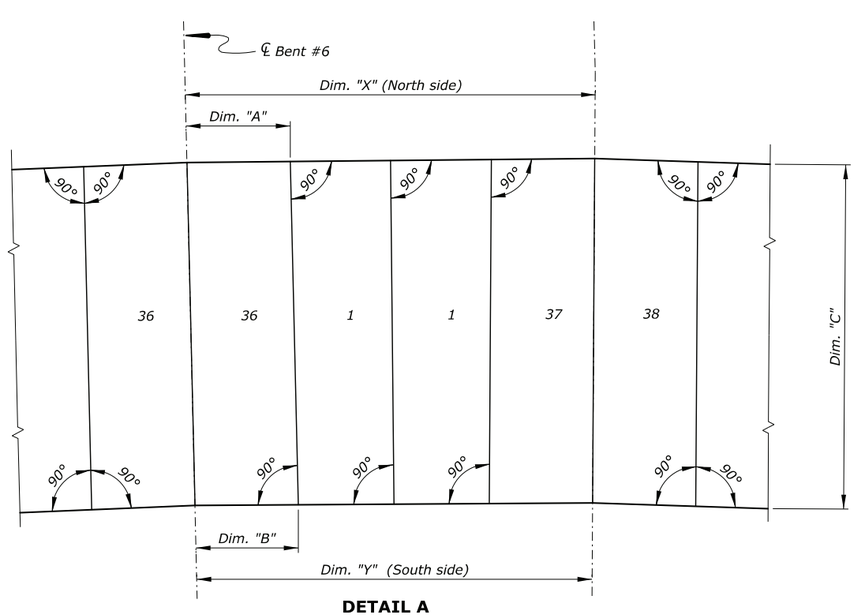
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	5 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R06



DECK PANEL PLAN
(Stringer lines, not shown)



DETAIL A

Notes:

1. *Verify span dimensions before fabricating panels.*
2. *Place panel with Dim "A" on the north side of bridge.*
3. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-029P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
BLACKS POINT BRIDGE

DECK PANEL LAYOUT - 1
(STRUCTURE 4290-029P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	6 of 50	June 2022	BRP-1312

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14-Jun-2022 04:05 PM

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R07

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
1	48 1/16	48 1/16	168 1/16
2	53 10/16	53 10/16	168 1/16
3	55 4/16	50 10/16	168 1/16
4	53 7/16	52 7/16	168 1/16
5	54 15/16	51 14/16	168 1/16
6	54 12/16	49 10/16	168 1/16
7	52 9/16	51 7/16	168 1/16
8	54	51 10/16	168 1/16
9	52 9/16	52 9/16	168 1/16
10	56	51 15/16	168 1/16
11	54 10/16	52 10/16	168 1/16
12	53 1/16	49 10/16	168 1/16
13	51 15/16	50 6/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
14	57 3/16	52 6/16	168 1/16
15	56 5/16	53 1/16	168 1/16
16	50 9/16	50 9/16	168 1/16
17	51 9/16	49 7/16	168 1/16
18	54 10/16	52	168 1/16
19	54 7/16	52 6/16	168 1/16
20	53 9/16	51 3/16	168 1/16
21	52 6/16	51 14/16	168 1/16
22	54 10/16	50 15/16	168 1/16
23	55 8/16	50 14/16	168 1/16
24	50 4/16	53 3/16	168 1/16
25	52 7/16	50 1/16	168 1/16
26	55 8/16	52 13/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
27	54 15/16	53 15/16	168 1/16
28	53 4/16	50 13/16	168 1/16
29	53 9/16	50 13/16	168 1/16
30	54 8/16	53	168 1/16
31	54 12/16	53	168 1/16
32	53 1/16	50 3/16	168 1/16
33	52 13/16	50 13/16	168 1/16
34	56 10/16	54 8/16	168 1/16
35	55 7/16	54 2/16	168 1/16
36	54 14/16	49 14/16	168 1/16
37	54 2/16	51	168 1/16
38	53 7/16	51 7/16	168 1/16
39	51 9/16	51 9/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
40	54 10/16	49 1/16	168 1/16
41	53 11/16	50 4/16	168 1/16
42	51 12/16	51 10/16	168 1/16
43	52 9/16	50 11/16	168 1/16
44	54 13/16	54 13/16	168 1/16
45	55 9/16	53 10/16	168 1/16
46	56 10/16	47 7/16	168 1/16
47	57 6/16	59 13/16	168 1/16
48	59 8/16	59 8/16	168 1/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
1	210 2/16	203 6/16
2	206 7/16	204 8/16
3	200 6/16	198 7/16
4	204 6/16	195 6/16
5	201	199
6	205 1/16	196 15/16
7	208 1/16	204 11/16
8	201 15/16	197 1/16
9	205 5/16	202 1/16
10	202 14/16	197 10/16
11	206 8/16	202 13/16
12	198 12/16	199 5/16
13	206 3/16	197 15/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
14	201 15/16	199 2/16
15	205 2/16	200 8/16
16	198 4/16	196 1/16
17	209 9/16	201 7/16
18	201	196 1/16
19	206 11/16	200 10/16
20	202 10/16	200 4/16
21	203 6/16	197 2/16
22	204 10/16	201 9/16
23	204 12/16	199 2/16
24	209 3/16	209 3/16

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-029P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
BLACK POINT BRIDGE

DECK PANEL LAYOUT - 2
(STRUCTURE 4290-029P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	7 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R08

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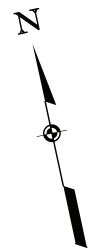
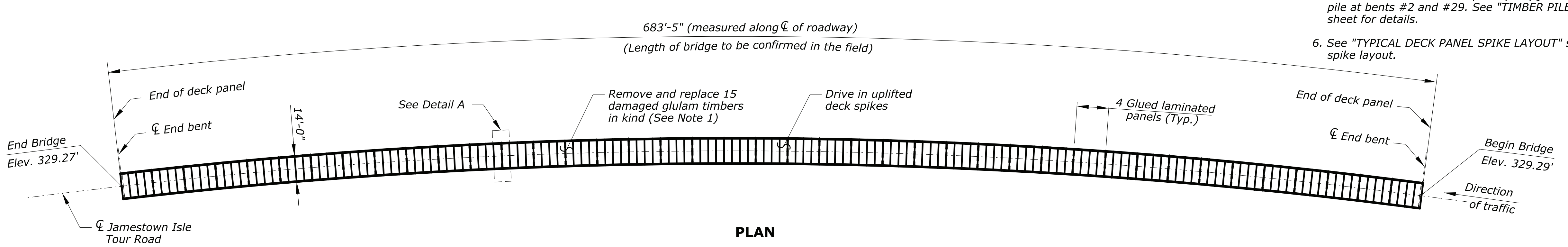
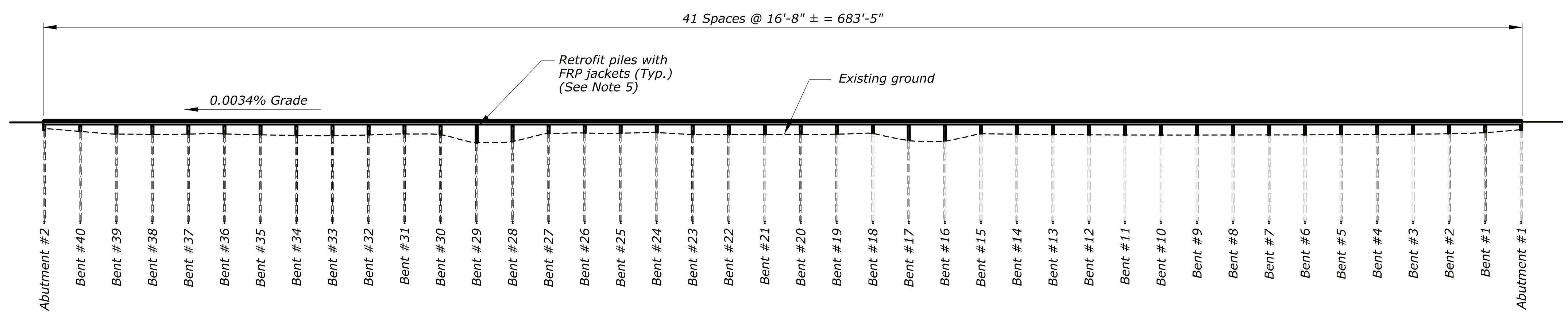


Notes:

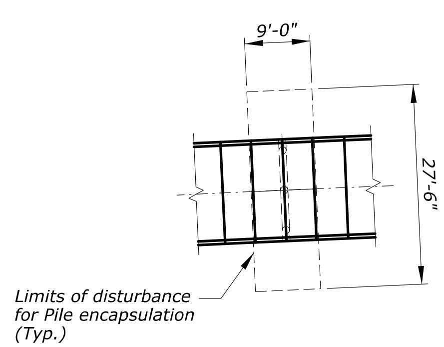
1. *Before replacing timbers, identify damaged areas and locations, and submit to the CO for approval.*
2. *Replace in-kind any railing sections damaged during replacement of timber planks. See "CURB DETAILS" sheet for railing details.*
3. *Tighten loose bolts and replace missing or damaged bolts/nuts.*
4. *Clean and apply galvanizing spray to beam bolts, nuts, and washers according to Section 555 and manufacturer's recommendations.*
5. *Install Fiber Reinforced Polymer (FRP) jackets on the center pile at bents #2 and #29. See "TIMBER PILE ENCAPSULATION" sheet for details.*
6. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for details spike layout.*



PLAN



ELEVATION



DETAIL A

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14-Jun-2022 04:05 PM

PRELIMINARY NOT FOR CONSTRUCTION

Structure Number : 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
LONG BRIDGE

PLAN AND ELEVATION
(STRUCTURE 4290-031P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	8 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
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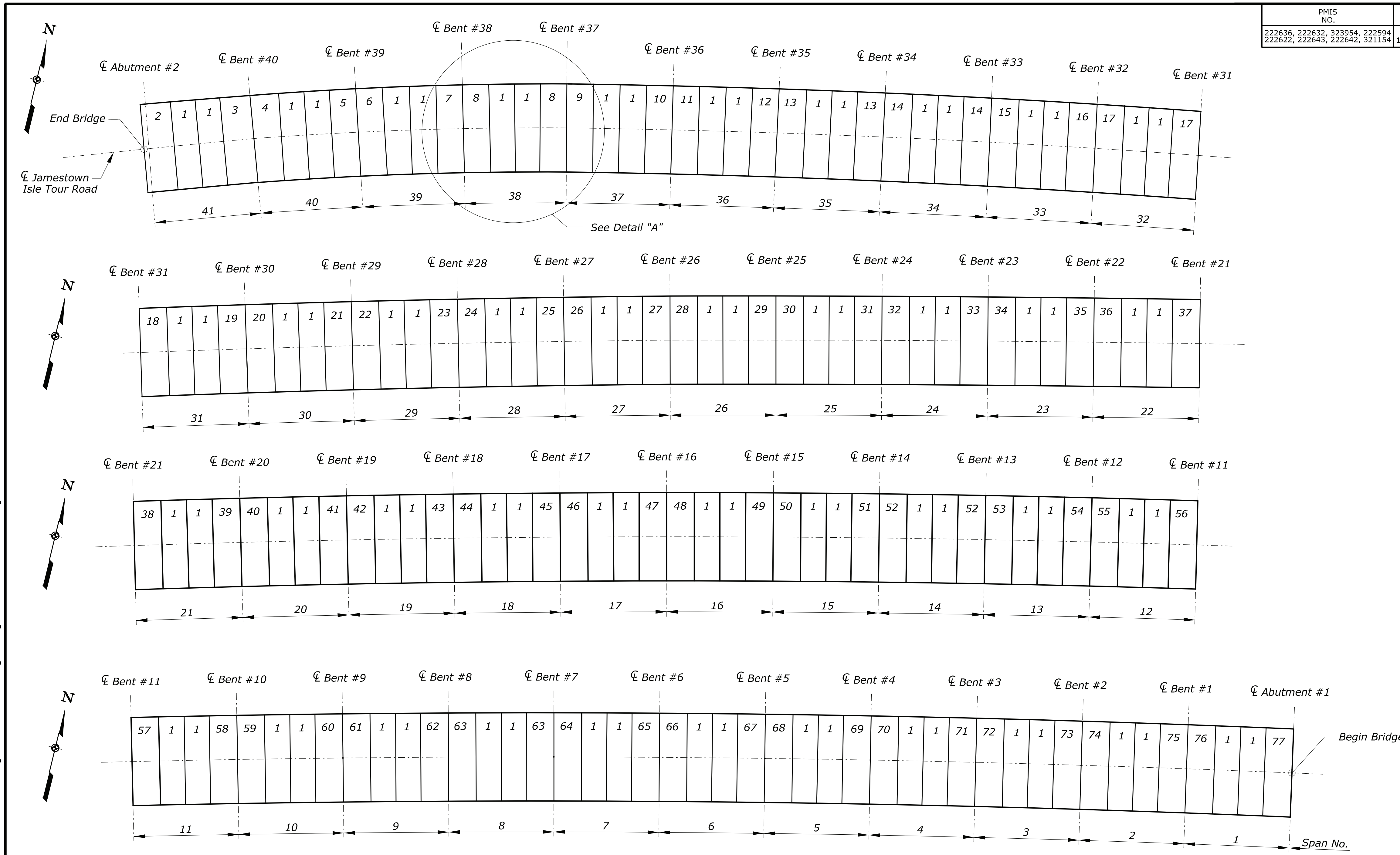


Structure Number : 4290-031P

DECK PANEL PLAN

(Stringer lines, not shown)

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

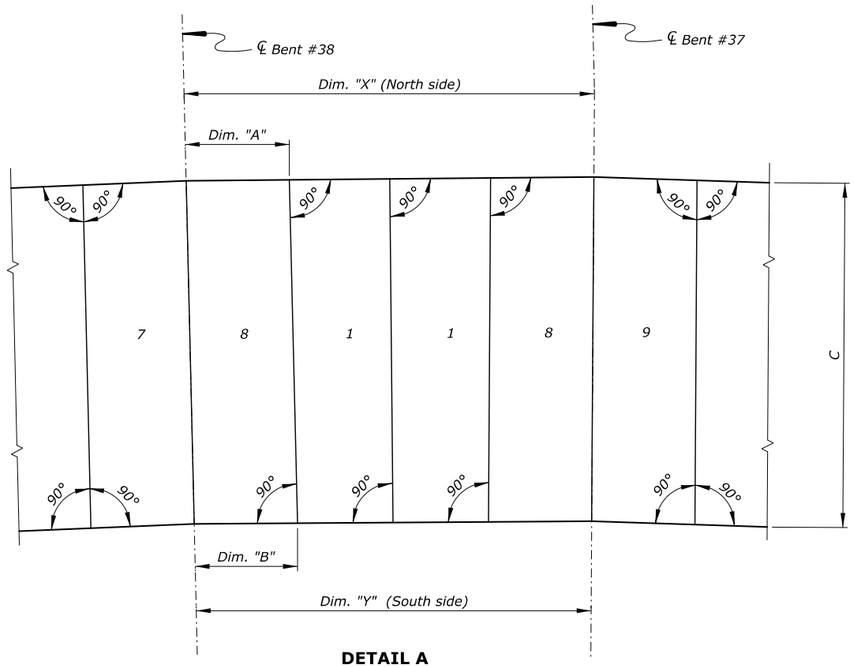
SCHEDULE A
LONG BRIDGE

DECK PANEL LAYOUT - 1
(STRUCTURE-031P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	9 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R10



DETAIL A

Notes:

1. *Verify span dimensions before fabricating panels.*
2. *Place panel with Dim "A" on the north side of bridge.*
3. *See "TYPICAL DECK PANEL SPIKE LAYOUT" sheet for spike layout.*

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
1	212 7/16	209 11/16
2	198 1/16	201 11/16
3	204 11/16	205 8/16
4	209 3/16	202 6/16
5	208 10/16	207 8/16
6	199 2/16	201
7	201 12/16	200 12/16
8	203 4/16	201 10/16
9	207 9/16	207 13/16
10	199 10/16	200 14/16
11	203 9/16	199 3/16
12	208 4/16	205 3/16
13	200	198 13/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
14	205 14/16	212 5/16
15	199 3/16	195 1/16
16	208 11/16	208 7/16
17	202 12/16	204 7/16
18	207 3/16	203 4/16
19	202 1/16	204
20	202 13/16	200 6/16
21	208 2/16	206 4/16
22	201 10/16	200 14/16
23	208 7/16	201 5/16
24	201 12/16	202 6/16
25	201 15/16	205 1/16
26	200 11/16	197 11/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
27	207 11/16	200 15/16
28	198 12/16	208 2/16
29	203 9/16	204 2/16
30	213 2/16	203 4/16
31	201 1/16	204 13/16
32	203 4/16	199 10/16
33	205 6/16	203 14/16
34	202 1/16	205 8/16
35	202 13/16	204 2/16
36	203 4/16	199 7/16
37	204 7/16	201 11/16
38	201 14/16	197 3/16
39	205 5/16	199 2/16

Span Dimensions		
Span No.	Dim 'X' (in.)	Dim 'Y' (in.)
40	204 1/16	198 6/16
41	210 14/16	210 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
1	48 1/16	48 1/16	168 1/16
2	60 1/16	60 4/16	168 1/16
3	54 12/16	53 12/16	168 1/16
4	55 3/16	50	168 1/16
5	52 13/16	52 5/16	168 1/16
6	54 2/16	52 1/16	168 1/16
7	55 2/16	50 15/16	168 1/16
8	52 15/16	50 9/16	168 1/16
9	54	52 15/16	168 1/16
10	54 6/16	52 11/16	168 1/16
11	54 5/16	51 4/16	168 1/16
12	52 13/16	52 2/16	168 1/16
13	53 6/16	54	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
14	53	54 12/16	168 1/16
15	55 9/16	52 15/16	168 1/16
16	53 12/16	54 14/16	168 1/16
17	53 9/16	51 12/16	168 1/16
18	53 14/16	53 6/16	168 1/16
19	51 2/16	55 6/16	168 1/16
20	57 1/16	54 9/16	168 1/16
21	60	52 10/16	168 1/16
22	52 1/16	55 12/16	168 1/16
23	55 7/16	52 5/16	168 1/16
24	51 3/16	56 4/16	168 1/16
25	51 8/16	55 13/16	168 1/16
26	58	50 3/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
27	53 11/16	54 12/16	168 1/16
28	52 11/16	50 12/16	168 1/16
29	51 15/16	50 14/16	168 1/16
30	54 2/16	53 12/16	168 1/16
31	51 13/16	55 4/16	168 1/16
32	54 1/16	51 9/16	168 1/16
33	51 10/16	54 12/16	168 1/16
34	56 11/16	52 1/16	168 1/16
35	55 11/16	53 3/16	168 1/16
36	52 3/16	53	168 1/16
37	53 7/16	51 13/16	168 1/16
38	54 6/16	56 15/16	168 1/16
39	57 11/16	53 4/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
40	52 4/16	53 4/16	168 1/16
41	54 8/16	51 2/16	168 1/16
42	52 4/16	54 12/16	168 1/16
43	53 12/16	53 4/16	168 1/16
44	54	55 1/16	168 1/16
45	57 2/16	52 1/16	168 1/16
46	52 6/16	55 5/16	168 1/16
47	54 5/16	53 1/16	168 1/16
48	56 10/16	56	168 1/16
49	56	56 7/16	168 1/16
50	50 4/16	50 10/16	168 1/16
51	52 14/16	48 6/16	168 1/16
52	54 15/16	58 2/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
53	53 6/16	50 3/16	168 1/16
54	50 9/16	52 10/16	168 1/16
55	55 15/16	54 7/16	168 1/16
56	56 4/16	54 12/16	168 1/16
57	53 2/16	52	168 1/16
58	54 5/16	51 2/16	168 1/16
59	50 14/16	53 7/16	168 1/16
60	52 10/16	51 6/16	168 1/16
61	54 13/16	56	168 1/16
62	56 11/16	55 12/16	168 1/16
63	53 9/16	52 13/16	168 1/16
64	52 15/16	52	168 1/16
65	53 1/16	52 11/16	168 1/16

Panel Dimensions			
Panel Mark	Dim 'A' (in.)	Dim 'B' (in.)	Dim 'C' (in.)
66	52 5/16	52 5/16	168 1/16
67	50 12/16	52 10/16	168 1/16
68	57 10/16	54 8/16	168 1/16
69	54 15/16	56 15/16	168 1/16
70	56 9/16	53	168 1/16
71	56 9/16	53 6/16	168 1/16
72	52 2/16	56 15/16	168 1/16
73	56 8/16	52 8/16	168 1/16
74	51 15/16	51 15/16	168 1/16
75	50	53 11/16	168 1/16
76	56 11/16	52 3/16	168 1/16
77	59 11/16	61 7/16	168 1/16

Structure Number : 4290-031P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
LONG BRIDGE

DECK PANEL LAYOUT - 2 (STRUCTURE 4290-031P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	10 of 50	June 2022	BRP-1312

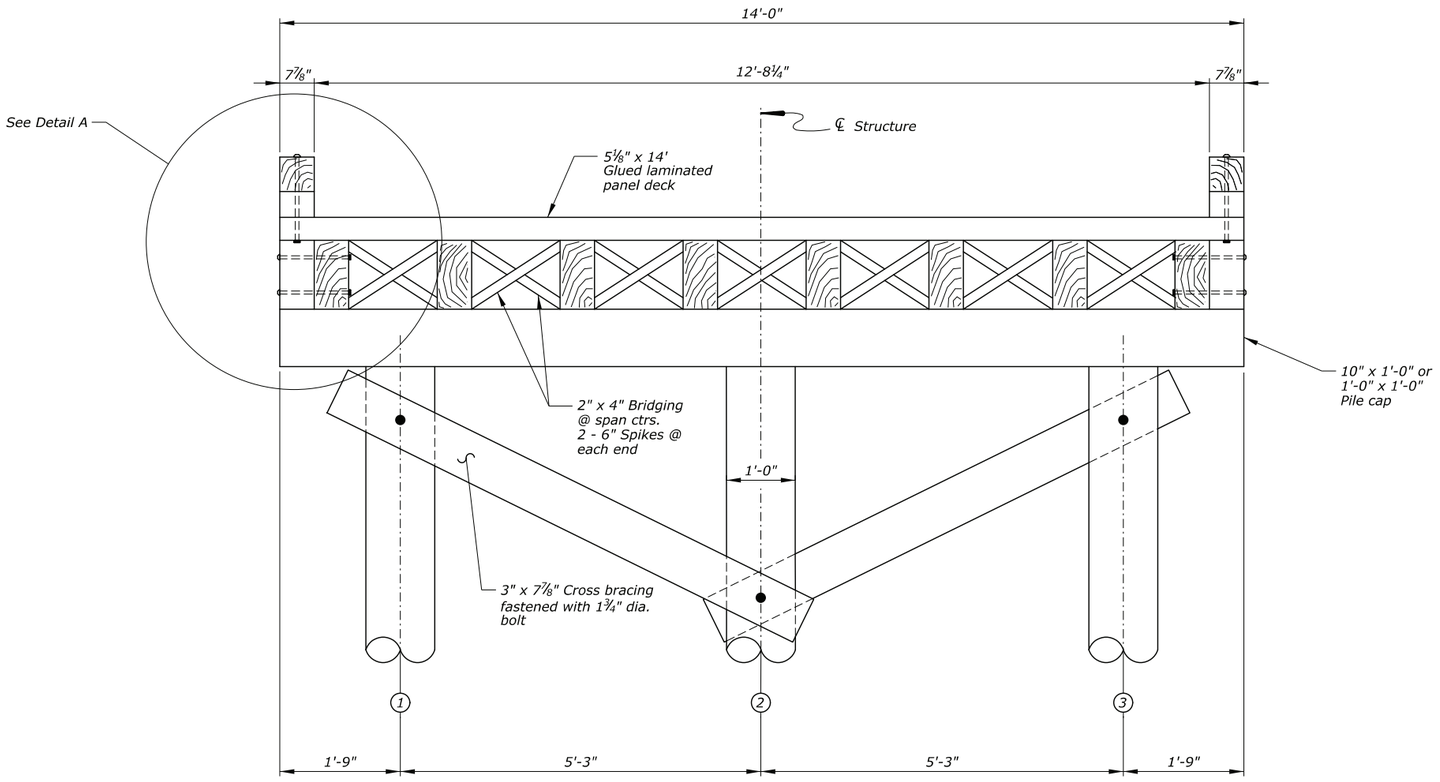
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R11

Notes:

1. *See "CURB DETAILS" sheet for Detail A.*
2. *All dimensions are to be verified in the field.*

Key:

(#) *Pile number*



TYPICAL SECTION
(Looking in the direction of traffic)

Structure Number : 4290-028P, 4290-029P, 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

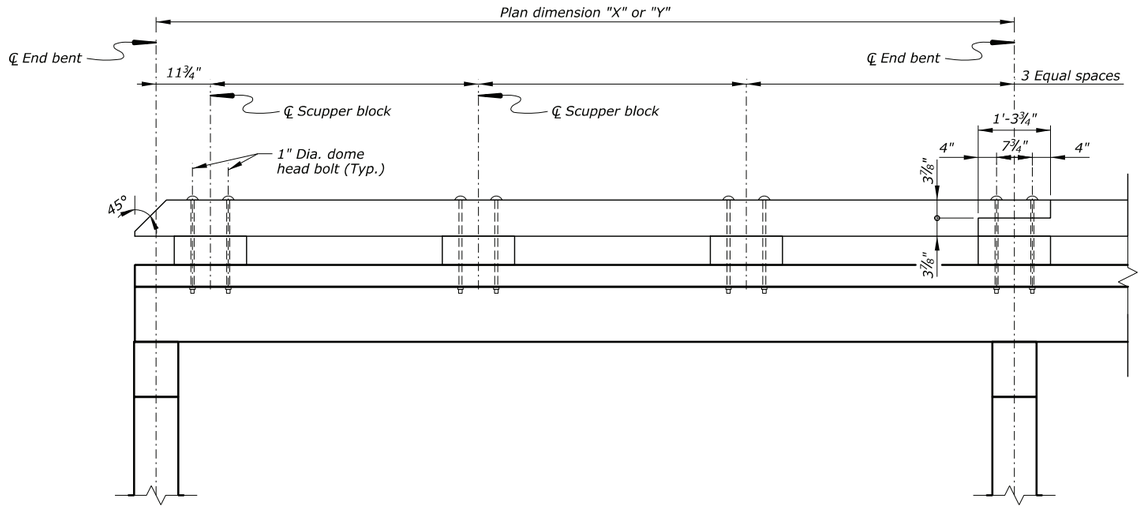
SCHEDULE A
PITCH AND TAR BRIDGE,
BLACKS POINT BRIDGE,
AND LONG BRIDGE

TIMBER BRIDGE TYPICAL SECTION

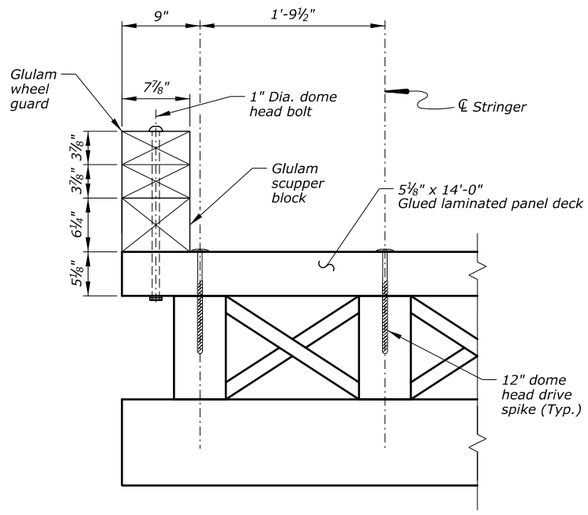
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	11 of 50	June 2022	BRP-1312

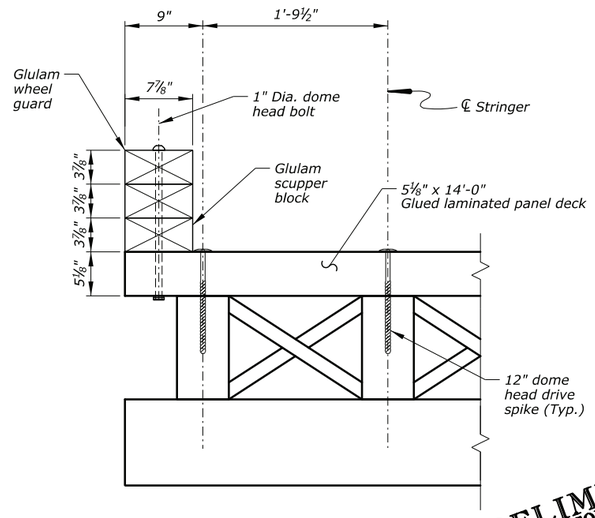
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R12



CURB ELEVATION
(Exterior Span)



DETAIL A
(Structure 4290-028P)



DETAIL A
(Structure 4290-029P and 4290-031P)

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-028P, 4290-029P, 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
PITCH AND TAR BRIDGE,
BLACKS POINT BRIDGE,
AND LONG BRIDGE

CURB DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	12 of 50	June 2022	BRP-1312

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PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
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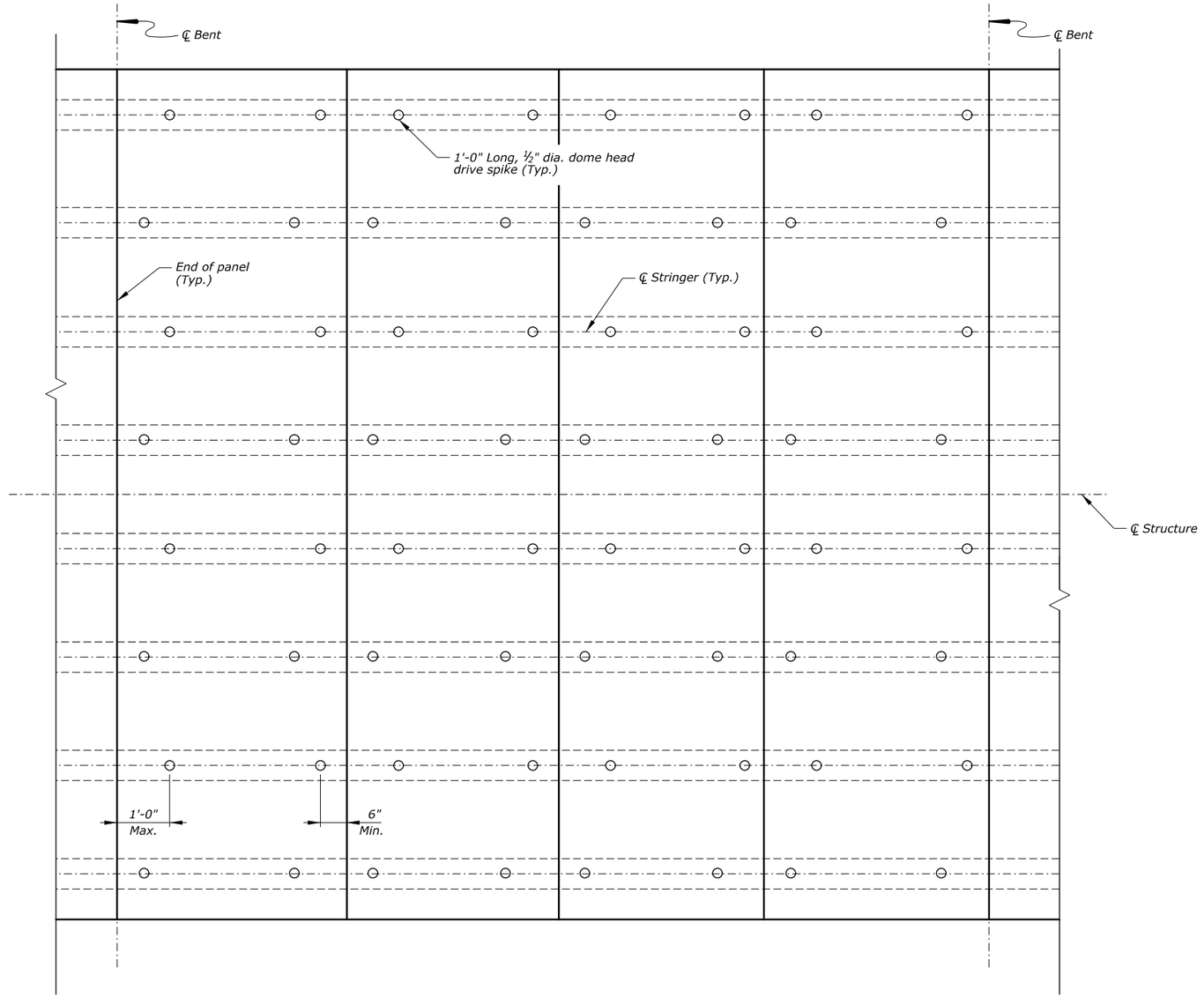


TYPICAL DECK PANEL SPIKE LAYOUT

Notes:

1. *Verify deck panel spike locations in the field before installing material.*

Structure Number : 4290-028P, 4290-029P, 4290-031P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

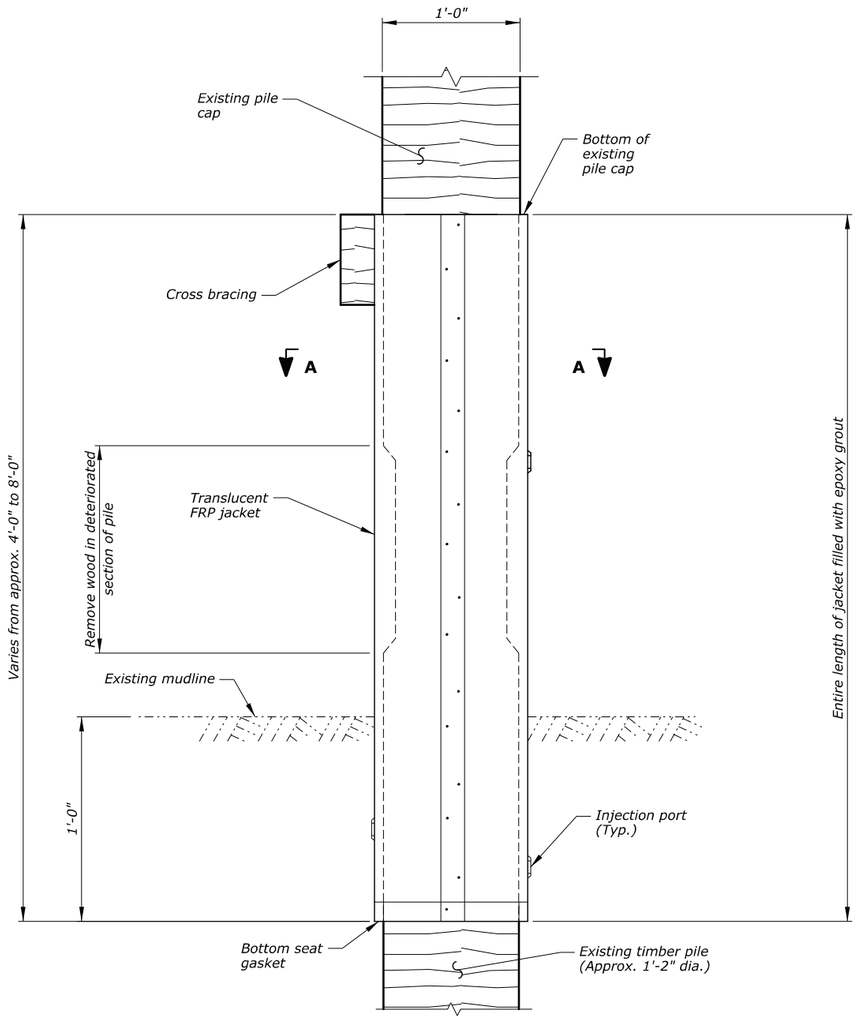
SCHEDULE A
PITCH AND TAR BRIDGE,
BLACKS POINT BRIDGE,
AND LONG BRIDGE

TYPICAL DECK PANEL SPIKE LAYOUT

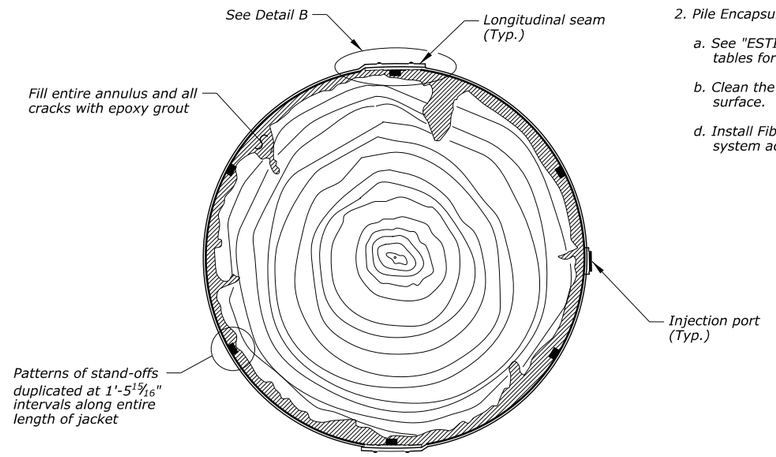
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	13 of 50	June 2022	BRP-1312

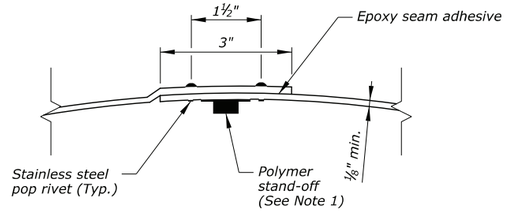
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R14



PILE ENCAPSULATION



SECTION A-A



DETAIL B

Notes:

1. *Furnish polymer stand-offs according to manufacturer's recommendations.*
2. *Pile Encapsulation Procedures:*
   a. *See "ESTIMATED PILE ENCAPSULATION QUANTITIES" tables for the recommended lists of bents and piles.*
   b. *Clean the piles identified for repair to the bare timber surface.*
   d. *Install Fiber Reinforced Polymer (FRP) pile encapsulation system according to Section 576.*

ESTIMATED PILE ENCAPSULATION QUANTITIES (STRUCTURE 4290-029P)

Bent Number	Pile Number	Approx. Length of FRP (ft.) per Bent
16	2,3	16
	Total:	16

ESTIMATED PILE ENCAPSULATION QUANTITIES (STRUCTURE 4290-031P)

Bent Number	Pile Number	Approx. Length of FRP (ft.) per Bent
2	2	8
29	2	8
	Total:	16

** See "PLAN AND ELEVATION" and "TIMBER BRIDGE TYPICAL SECTION" sheets for pile bents and piles number convention.*

Structure Number : 4290-029P, 4290-031P

PRELIMINARY NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

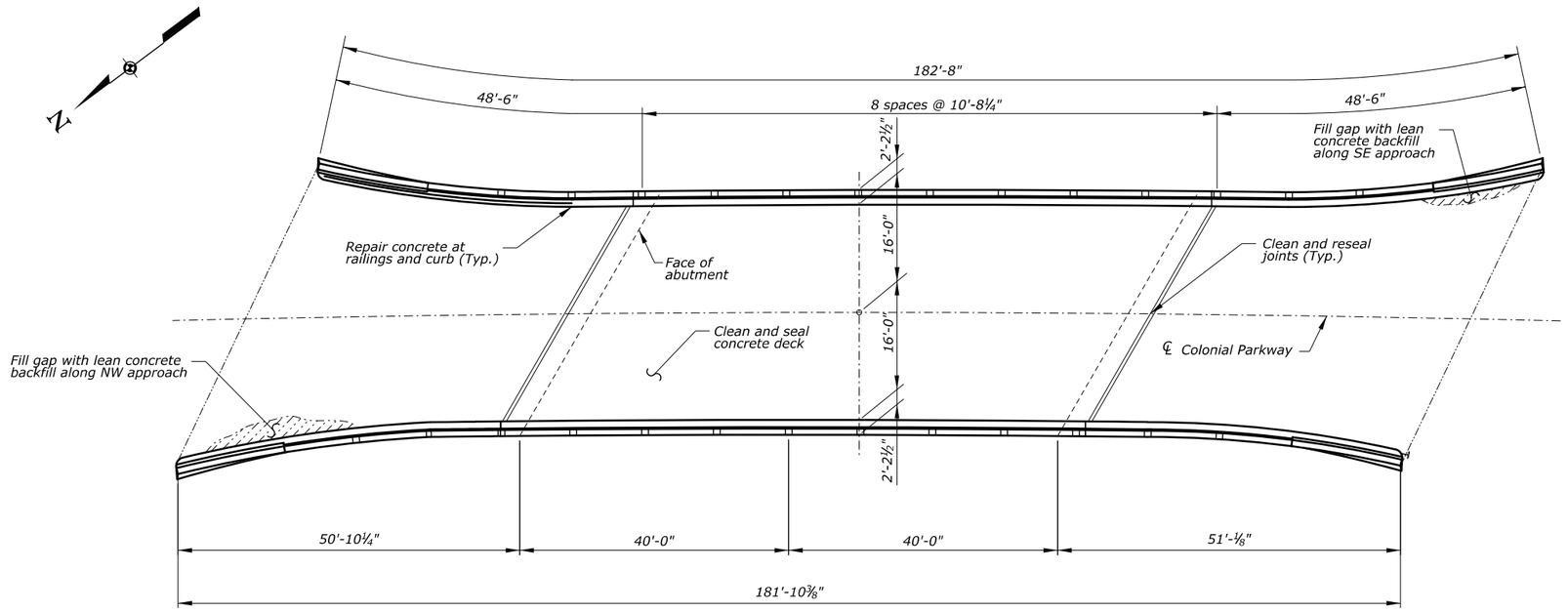
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE A
BLACKS POINT BRIDGE
AND LONG BRIDGE

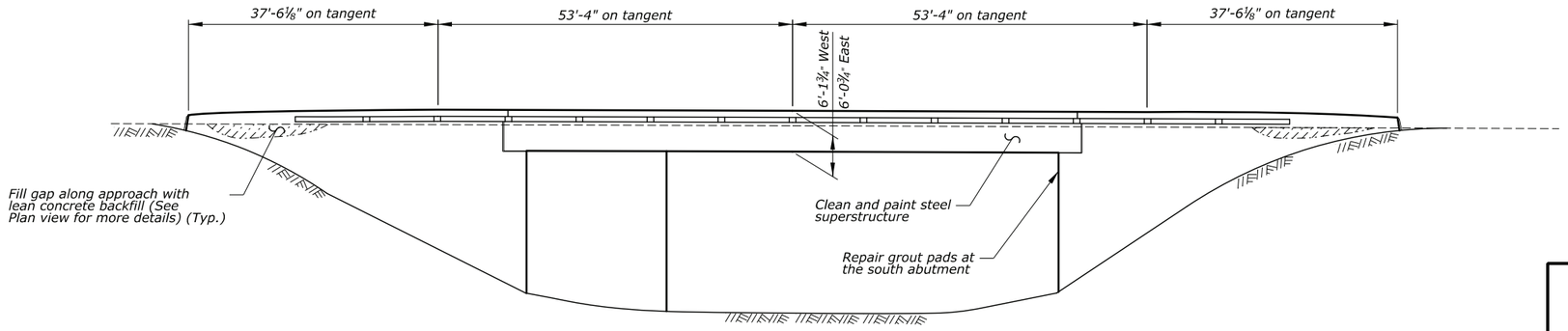
TIMBER PILE ENCAPSULATION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN/CC	DL	Not to Scale	Christopher Negley	14 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R15



PLAN



ELEVATION

Notes:

1. *See "JOINT DETAILS" sheet for joint details.*
2. *Clean and paint all steel surfaces according to Section 563.*
3. *Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.*
4. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.*
5. *Clean and coat all exposed reinforcement using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*
6. *Remove vegetation on or within 5 feet of the structure.*

ESTIMATED CONCRETE REPAIR

Approximate location	*Units*	*Quantity*
Spalling at grout pads at the south abutment	*SQFT*	*5*
Spalling at Railings and curb	*SQFT*	*4*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*4*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-023P

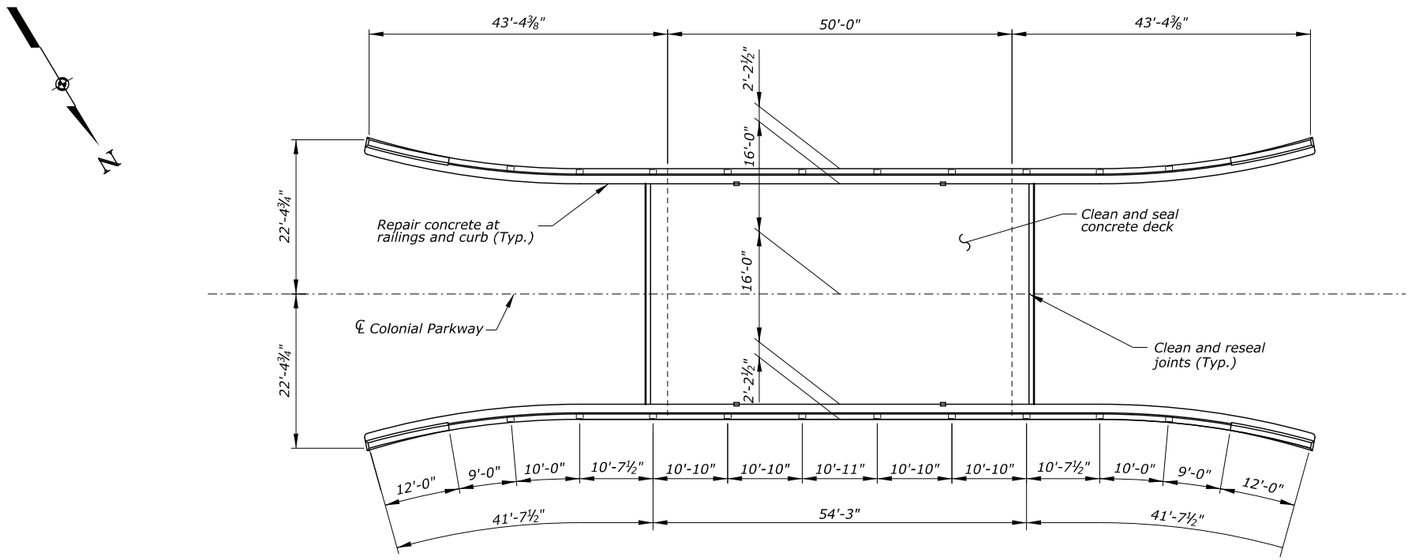
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

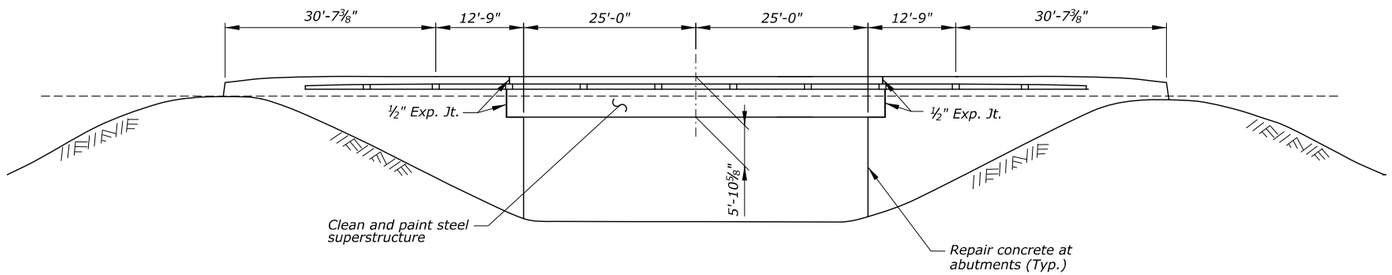
SCHEDULE B AND D
COLLEGE CREEK BRIDGE

PLAN AND ELEVATION (STRUCTURE 4290-023P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	15 of 50	June 2022	BRP-1312



PLAN



ELEVATION

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R16

Notes:

1. *See "JOINT DETAILS" sheet for joint details.*
2. *Clean and paint all steel surfaces according to Section 563.*
3. *Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.*
4. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.*
5. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*
6. *Remove vegetation on or within 5 feet of the structure.*

ESTIMATED CONCRETE REPAIR		
Approximate location	*Units*	*Quantity*
Spalling at both abutments	*SQFT*	*10*
Spalling at Railings and curb	*SQFT*	*4*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*4*

Structure Number : 4290-024P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

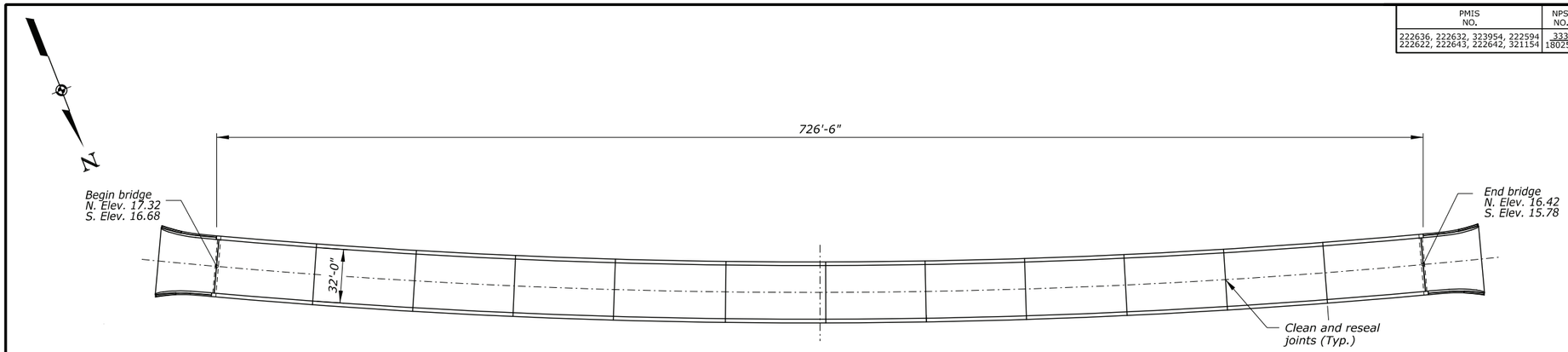
SCHEDULE B AND D
MILL CREEK BRIDGE

PLAN AND ELEVATION (STRUCTURE 4290-024P)

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	16 of 50	June 2022	BRP-1312

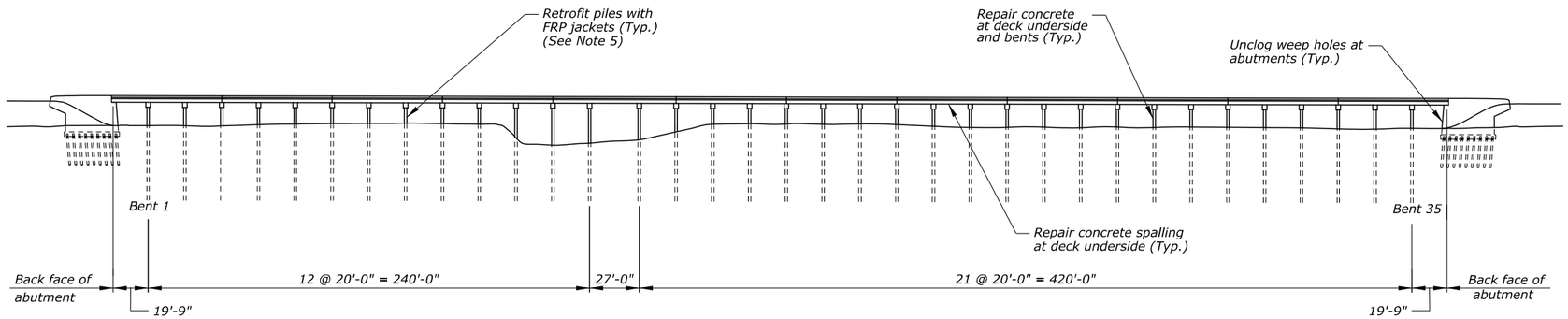
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R17



PLAN

Notes:

1. *See "JOINT DETAILS" sheet for joint details.*
2. *Remove vegetation on or within 5 feet of the structure.*
3. *Refer to "CONCRETE REPAIR DETAILS " sheet for all concrete repairs.*
4. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval.*
5. *See "CONCRETE PILE ENCAPSULATION" sheet for pile encapsulation details.*
6. *Furnish Class HES (High Early Strength) for concrete repairs, f'c = 5000 psi at 28 days.*



NORTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

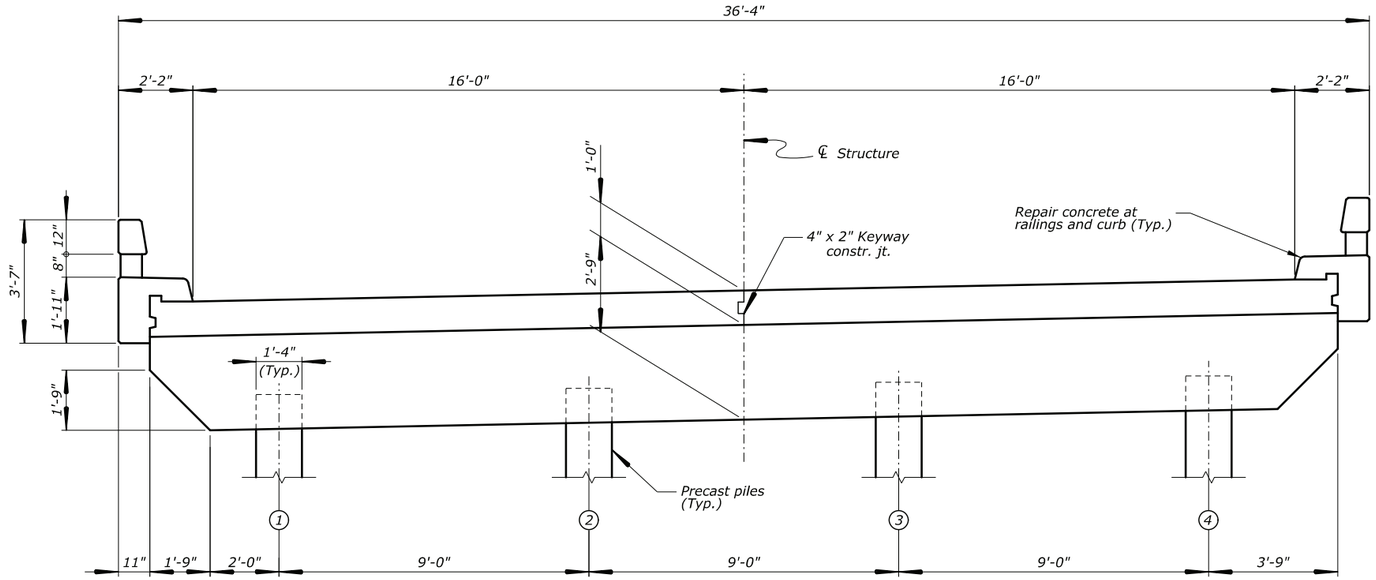
SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

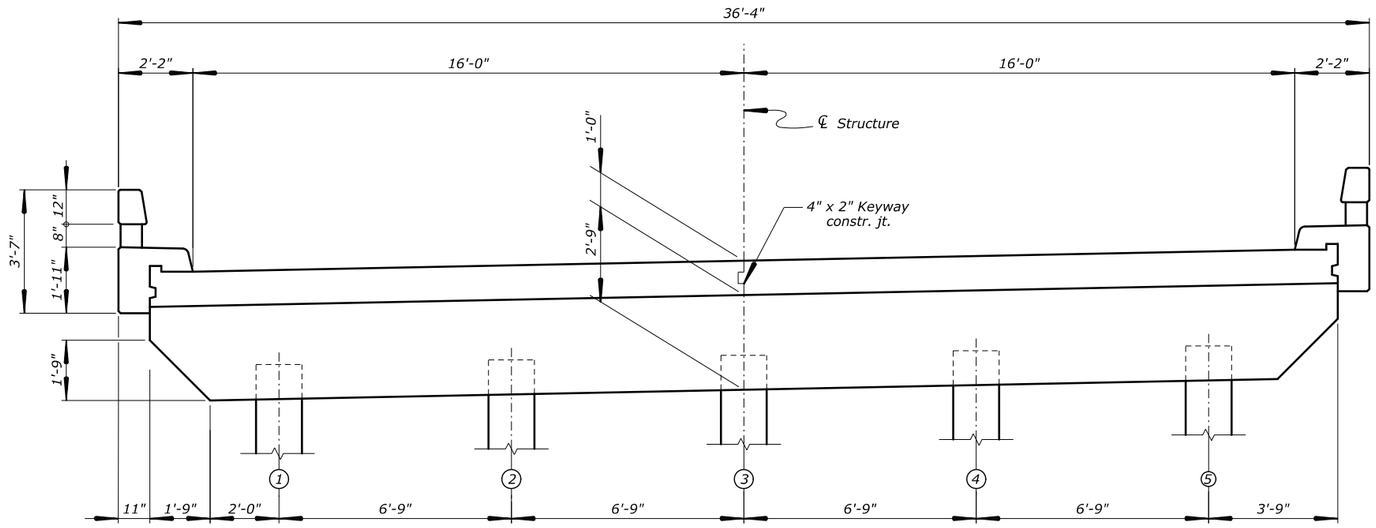
PLAN AND ELEVATION (STRUCTURE 4290-025P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	17 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R18



TYPICAL SECTION
(Pile Bents 1-12 and 15-36)
Scale: ½" = 1'-0"



TYPICAL SECTION
(Pile Bents 13 and 14)
Scale: ½" = 1'-0"

Notes:

1. Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.
2. Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.
3. Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.

Key:

(#) Pile number

ESTIMATED CONCRETE REPAIR		
Approximate location	*Units*	*Quantity*
Spalling at Railings and curb	*SQFT*	*10*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*10*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

TYPICAL SECTION (STRUCTURE 4290-025P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	As Shown	Christopher Negley	18 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

M:\PROJECTS\colo\1c14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

14-Jun-2022 04:05 PM

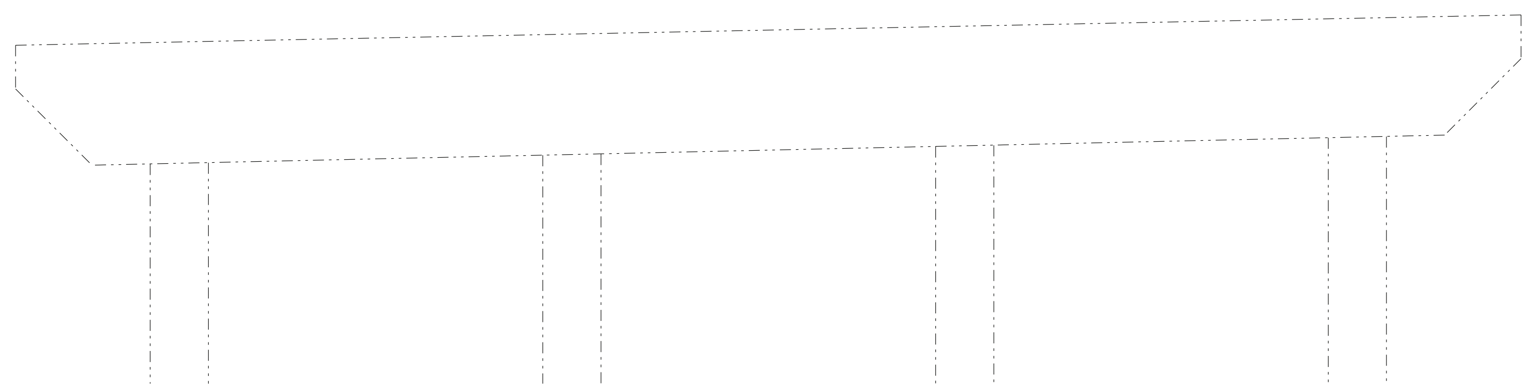
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R19

Notes:

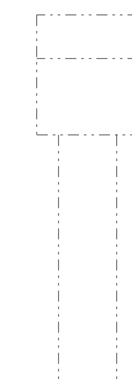
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

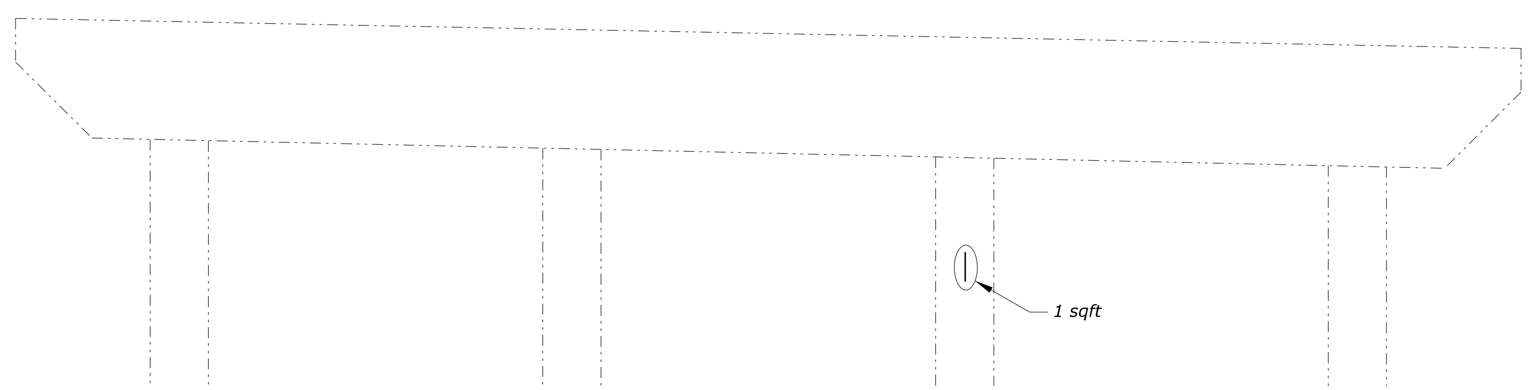
- Spall *- Crack* *- Exposed Reinforcement*



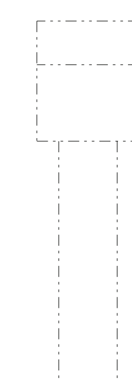
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 7

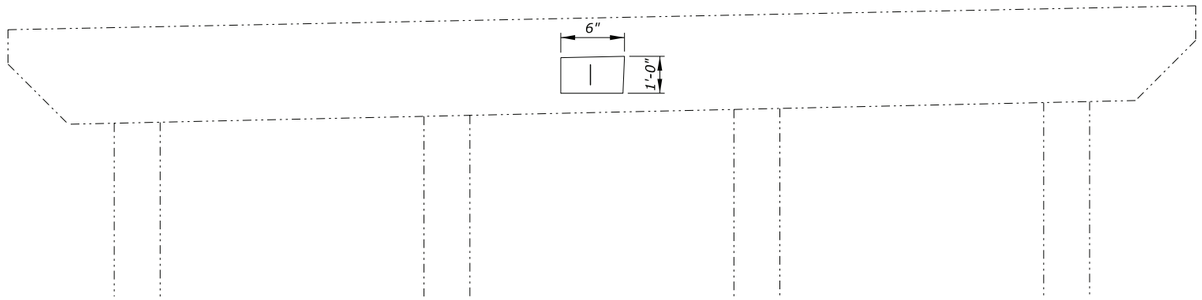
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

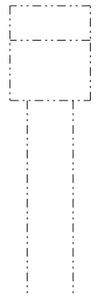
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	19 of 50	June 2022	BRP-1312

Received by VMRC August 28, 2023 /blh

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R20



EAST ELEVATION



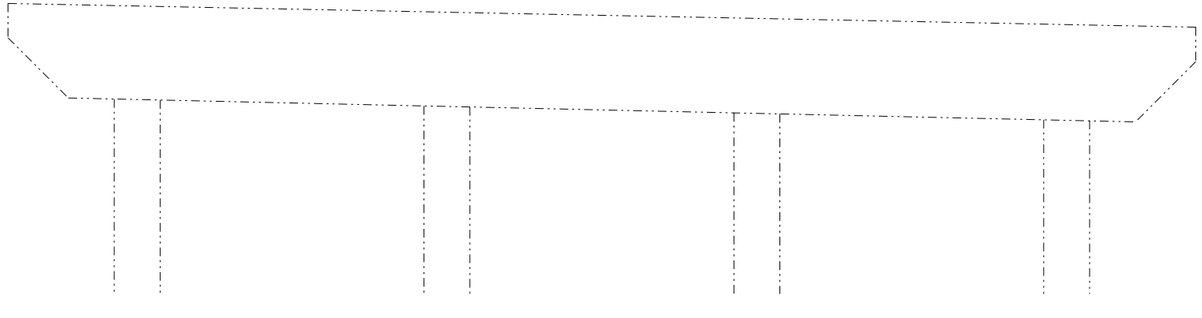
NORTH ELEVATION

Notes:

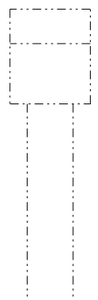
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

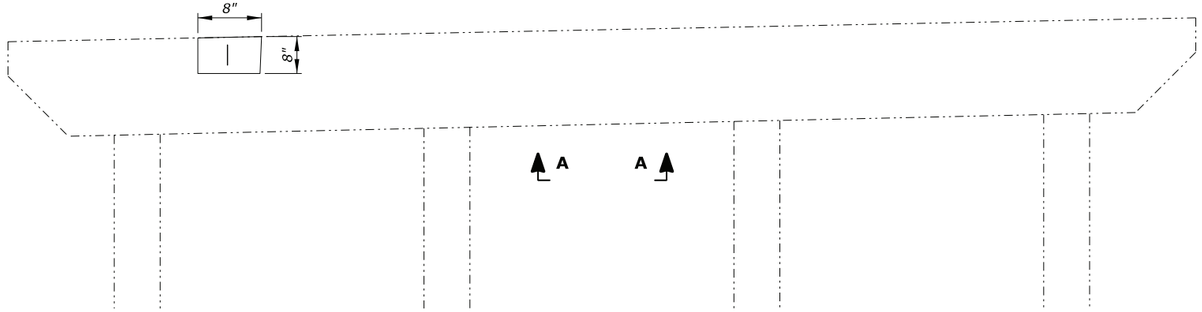
SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

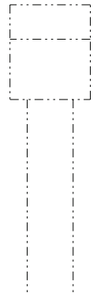
CONCRETE REPAIR - BENT 8

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	20 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R21



EAST ELEVATION



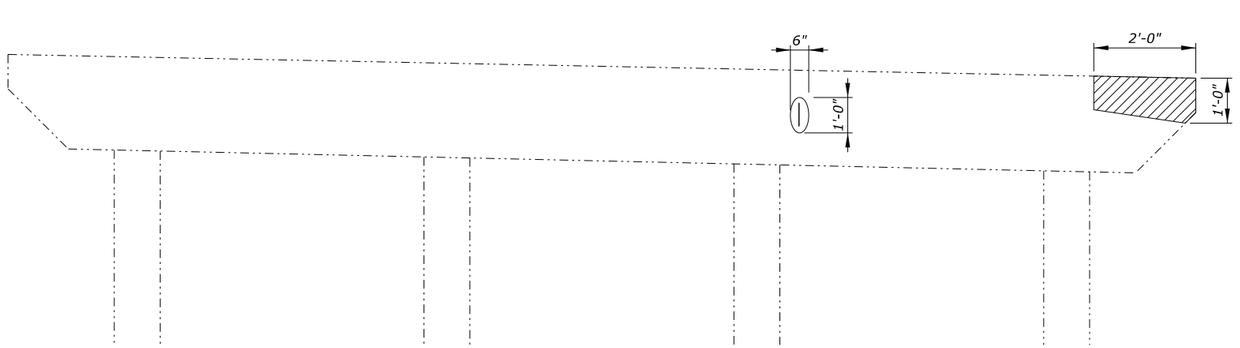
NORTH ELEVATION

Notes:

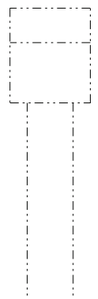
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

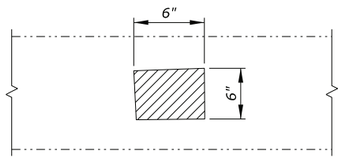
- *Spall*
- *Crack*
- *Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION



VIEW A-A

Structure Number : 4290-025P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

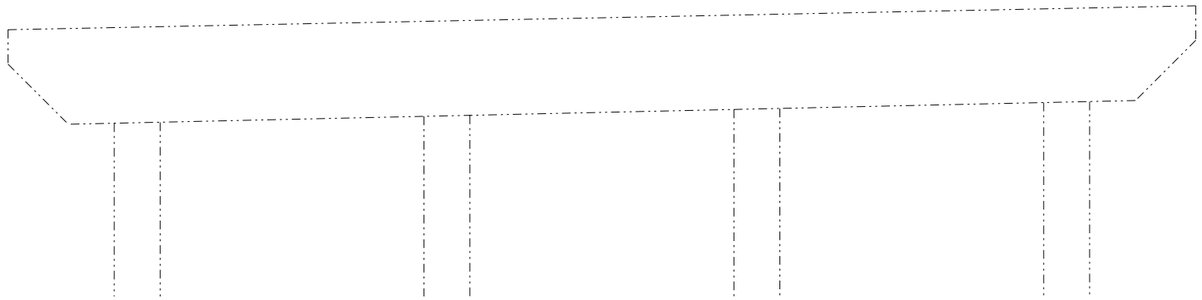
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

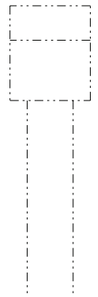
CONCRETE REPAIR - BENT 9

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	21 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R22



EAST ELEVATION



NORTH ELEVATION

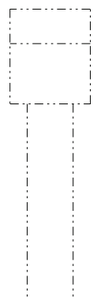
Notes:

1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

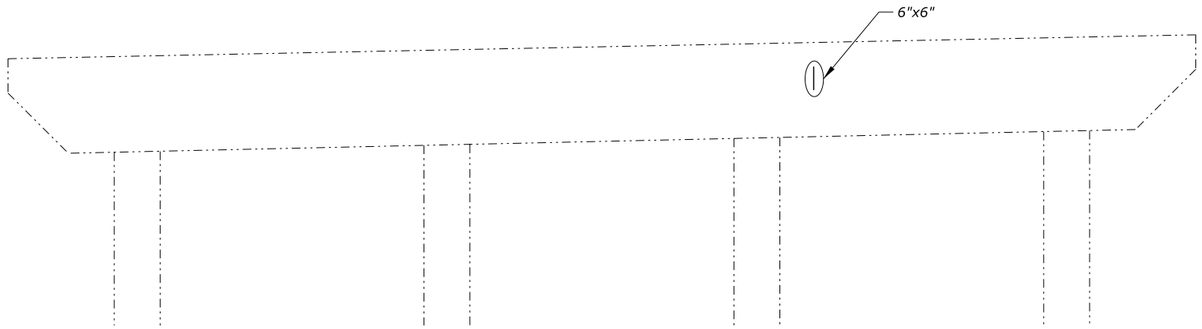
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 10

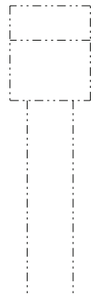
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	22 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R23



EAST ELEVATION



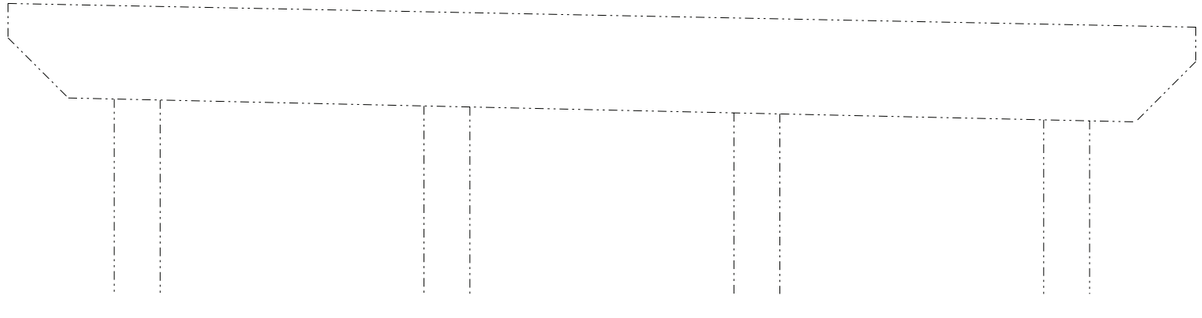
NORTH ELEVATION

Notes:

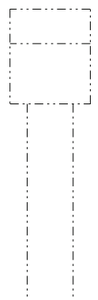
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

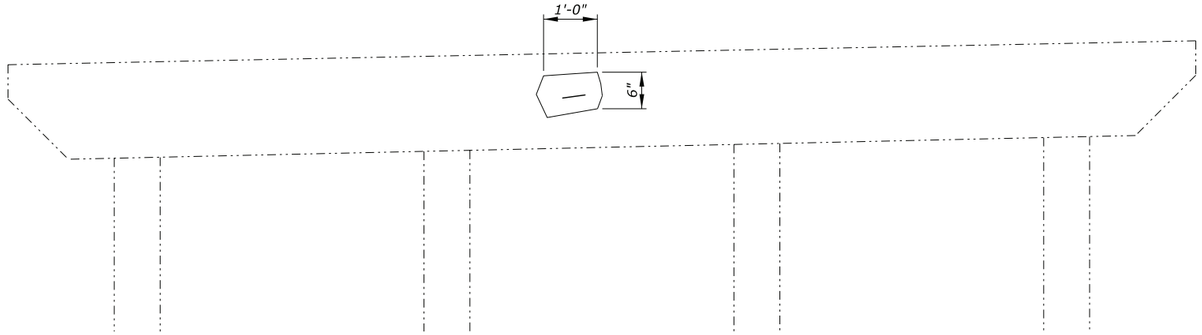
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 11

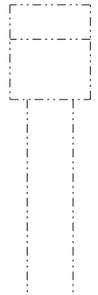
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	23 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R24



EAST ELEVATION



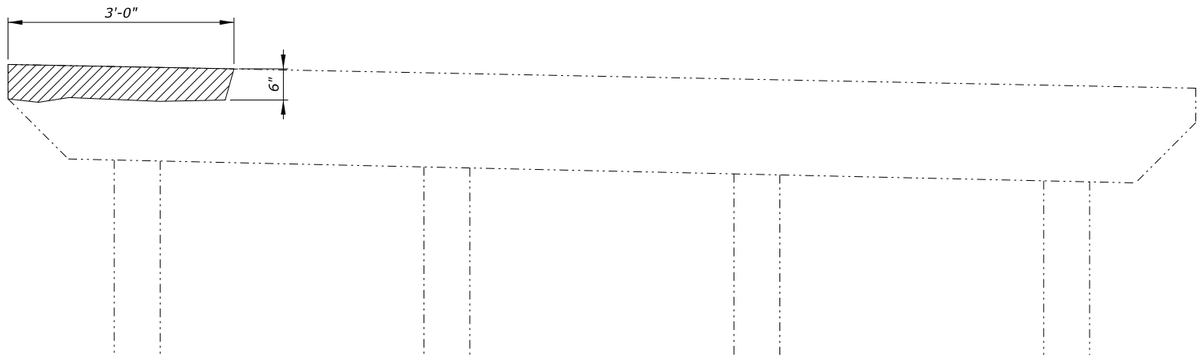
NORTH ELEVATION

Notes:

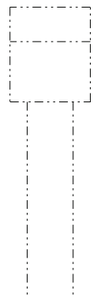
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 12

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	24 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

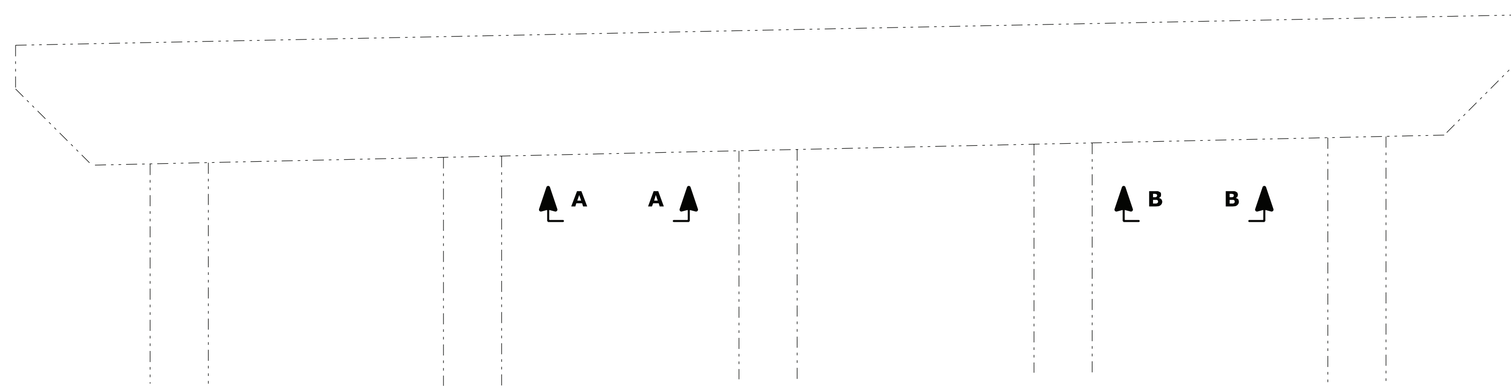
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R25

Notes:

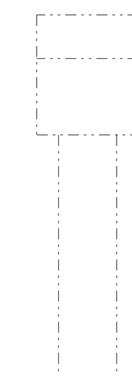
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*

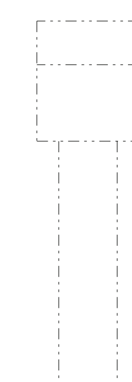


EAST ELEVATION

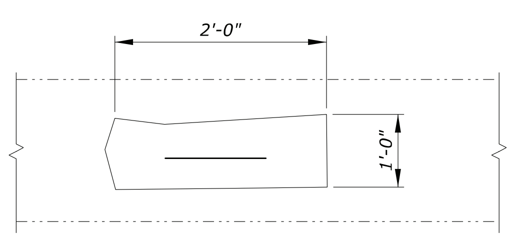


NORTH ELEVATION

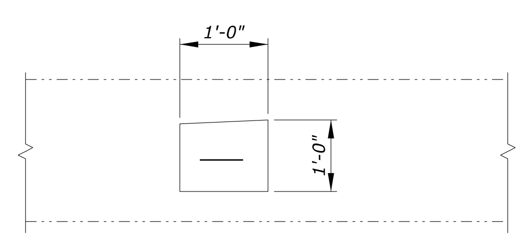
WEST ELEVATION



SOUTH ELEVATION



VIEW A-A



VIEW B-B

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 13

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

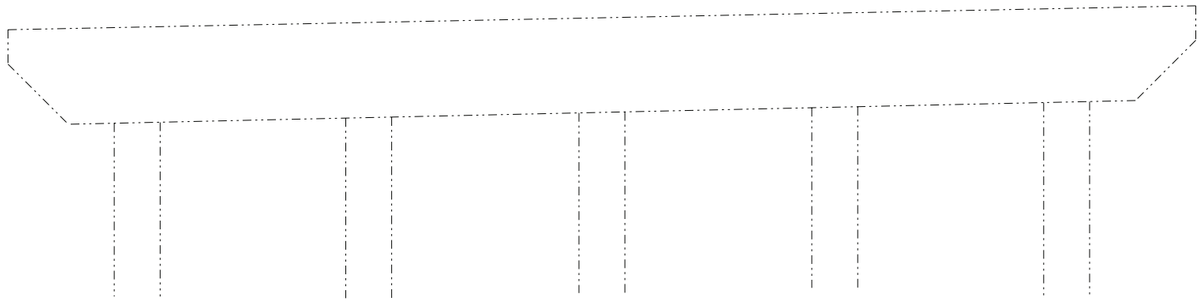
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	25 of 50	June 2022	BRP-1312

M:\PROJECTS\colo\c14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

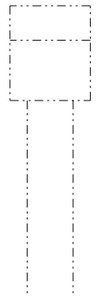
14-Jun-2022 04:05 PM

Received by VMRC August 28, 2023 /blh

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R26



EAST ELEVATION



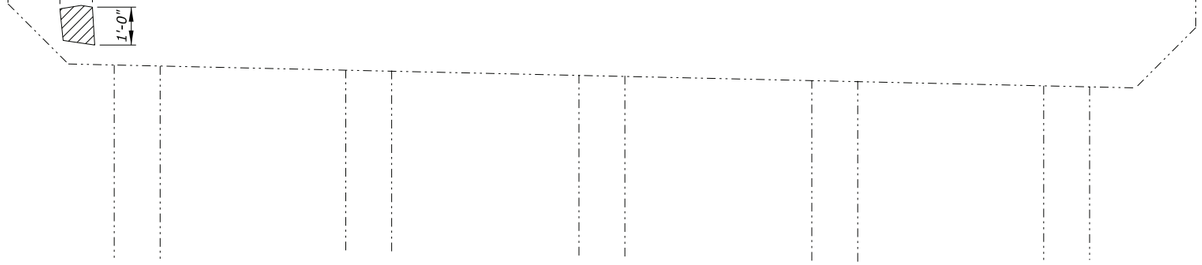
NORTH ELEVATION

Notes:

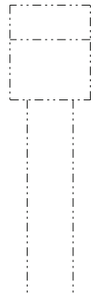
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY NOT FOR CONSTRUCTION

CONCRETE REPAIR - BENT 14

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	26 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R27

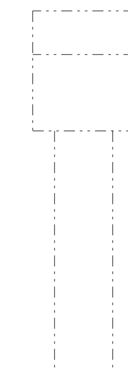
Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

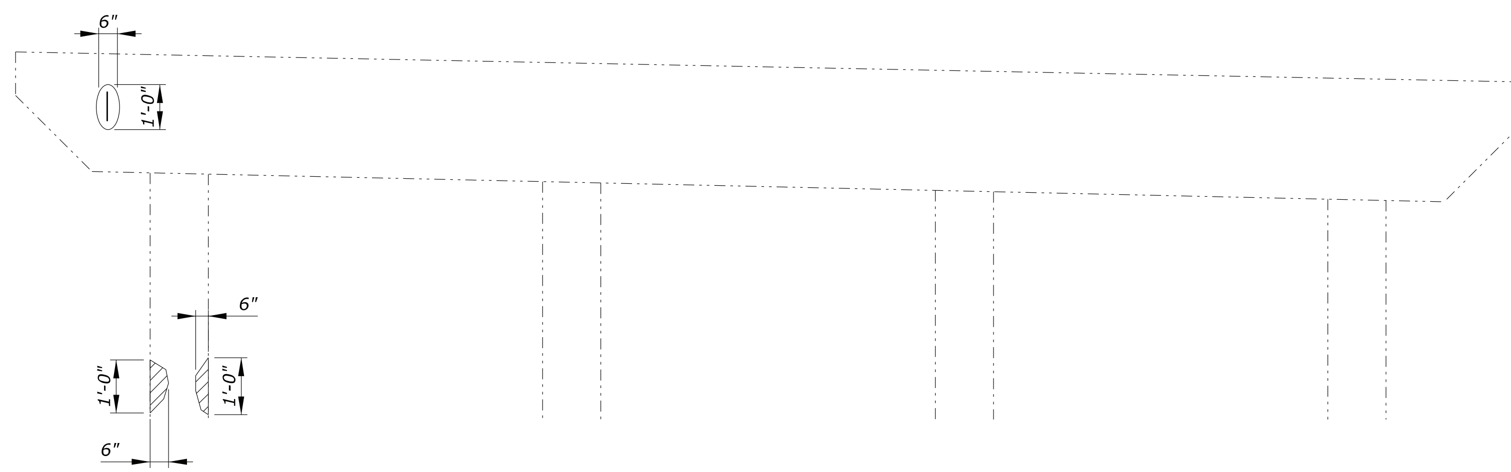
Legend:

- Spall *- Crack* *- Exposed Reinforcement*

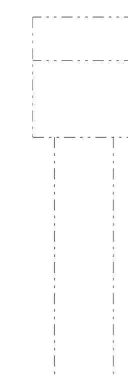
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 16

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	27 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

14-Jun-2022 04:05 PM M:\PROJECTS\colo\c14 ld48 le15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

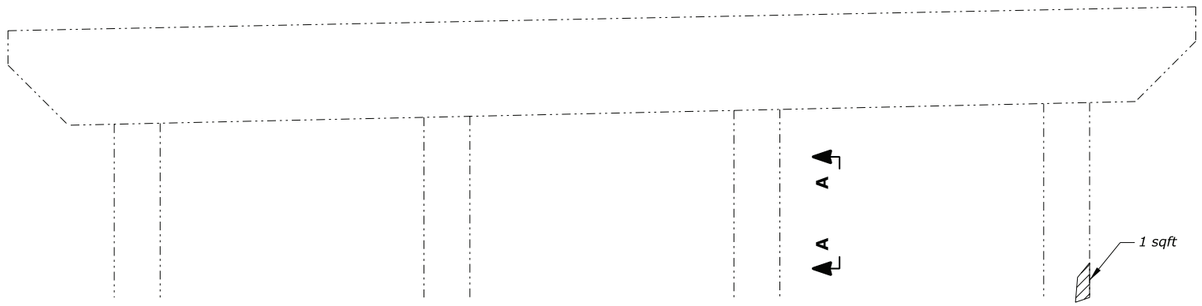
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R28

Notes:

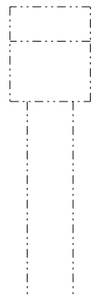
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

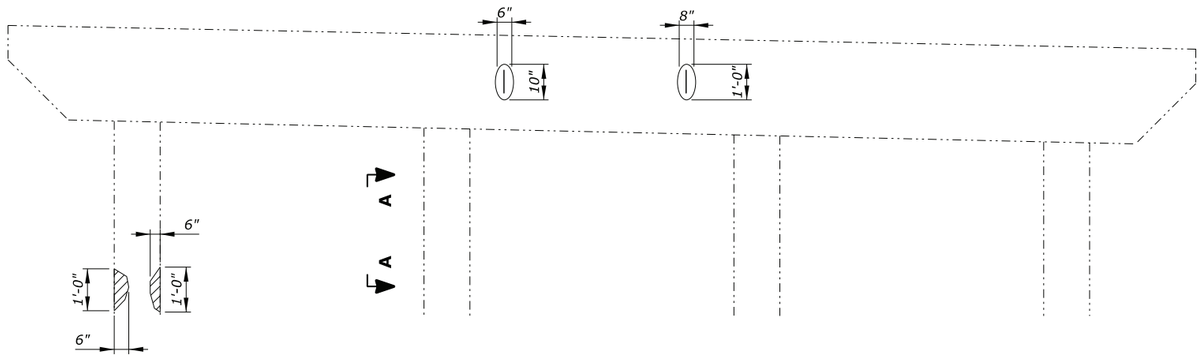
- *Spall*
- *Crack*
- *Exposed Reinforcement*



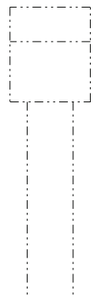
EAST ELEVATION



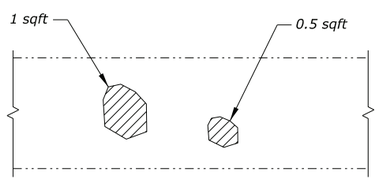
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



VIEW A-A

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

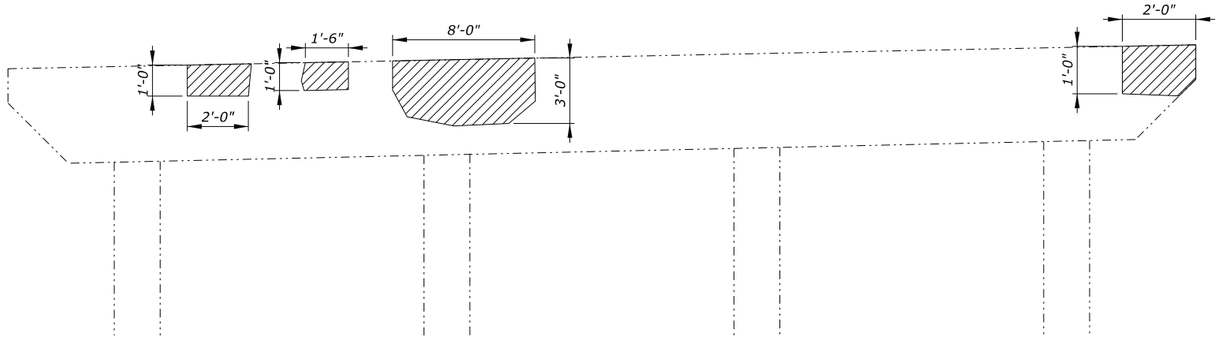
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 17

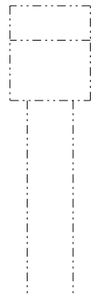
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	28 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R29



EAST ELEVATION



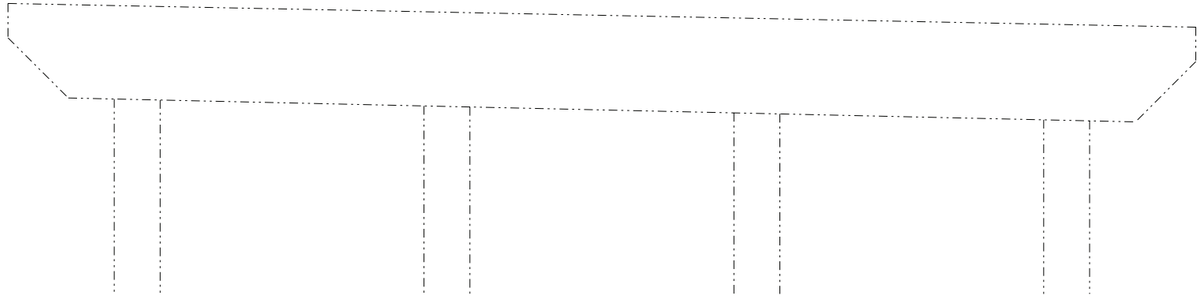
NORTH ELEVATION

Notes:

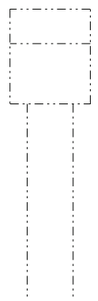
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

PRELIMINARY NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

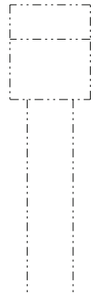
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 18

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	29 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R30

EAST ELEVATION



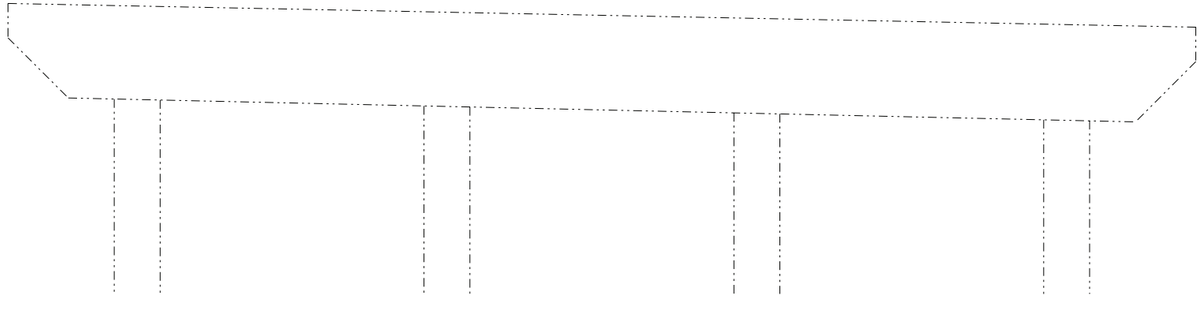
NORTH ELEVATION

Notes:

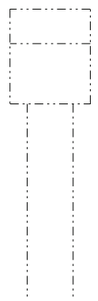
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

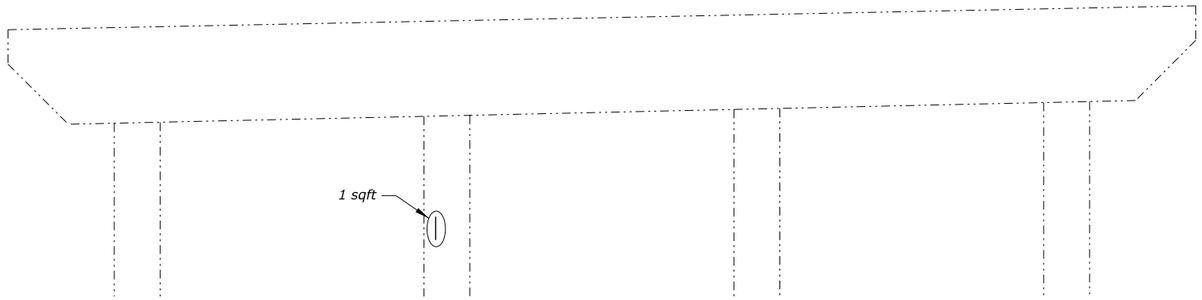
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 19

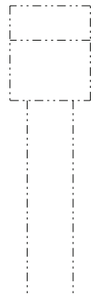
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	30 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R31



EAST ELEVATION



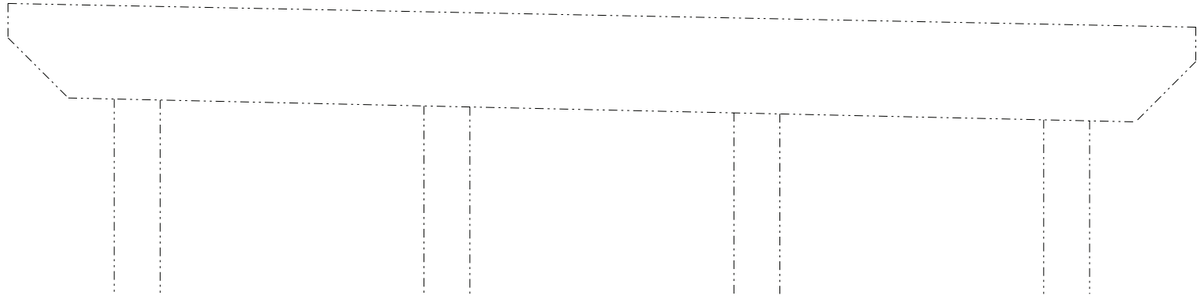
NORTH ELEVATION

Notes:

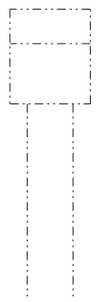
1. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
2. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

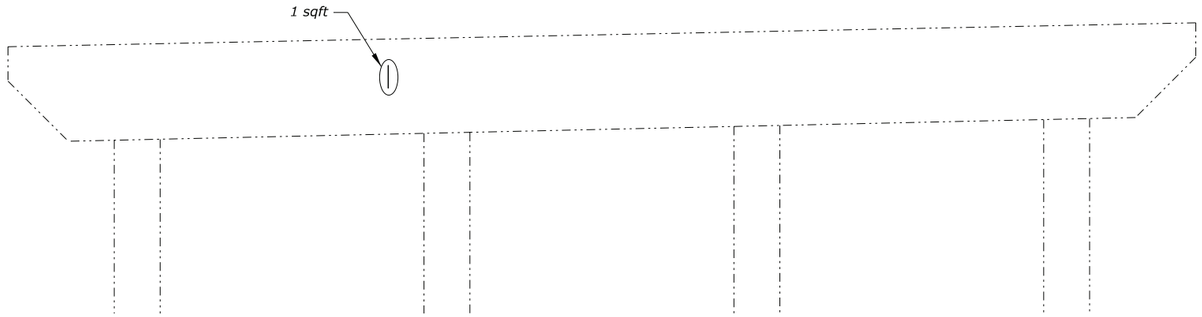
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 20

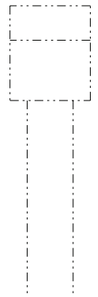
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	31 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R32



EAST ELEVATION



NORTH ELEVATION

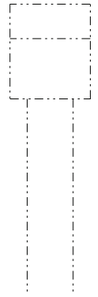
Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 21

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	32 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

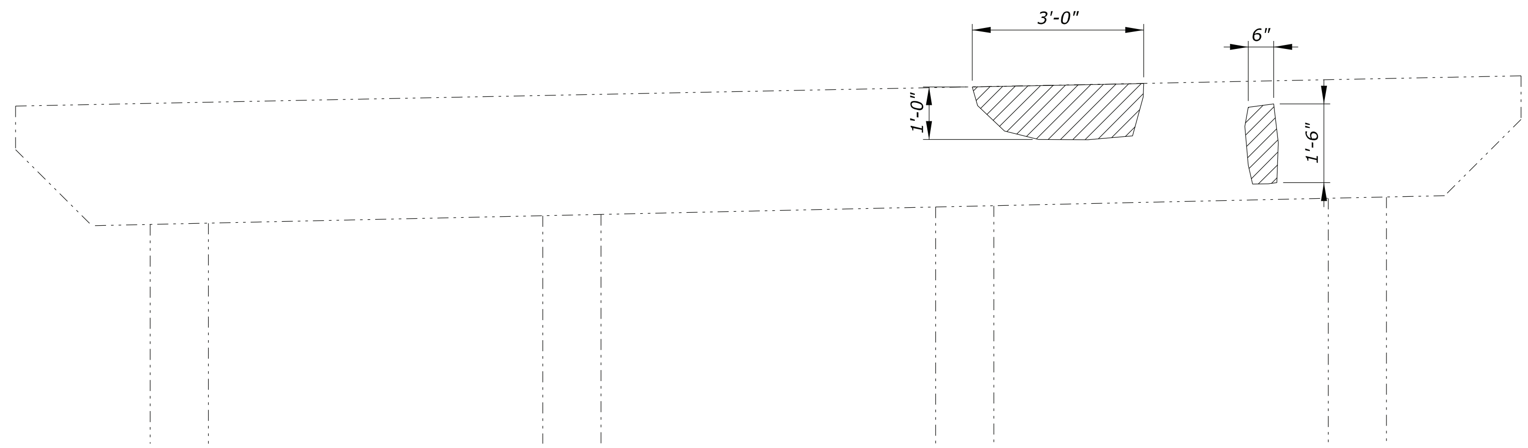
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R33

Notes:

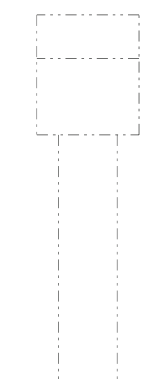
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

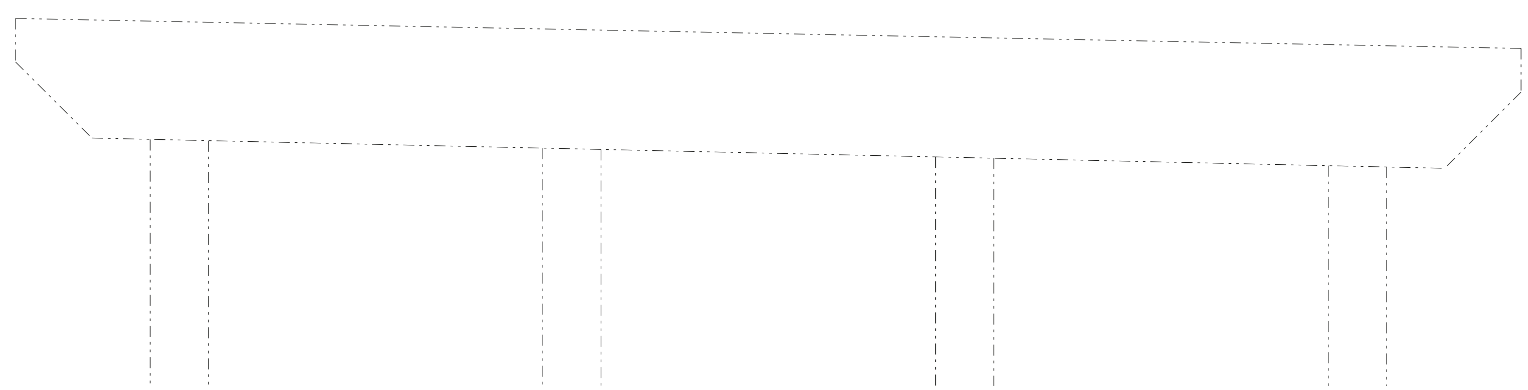
- Spall *- Crack* *- Exposed Reinforcement*



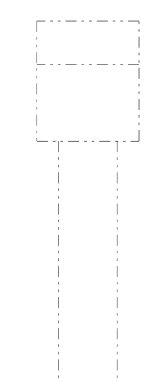
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 24

PRELIMINARY NOT FOR CONSTRUCTION

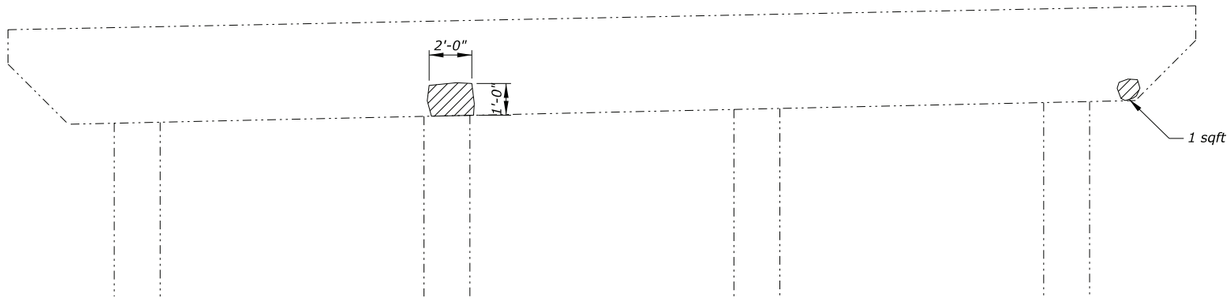
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
KDN	KDN	DL	Not to Scale	Christopher Negley	33 of 50	June 2022	BRP-1312

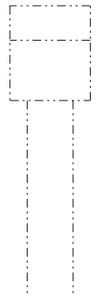
14-Jun-2022 04:05 PM M:\PROJECTS\colo\1c14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

Received by VMRC August 28, 2023 /blh

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R34



EAST ELEVATION



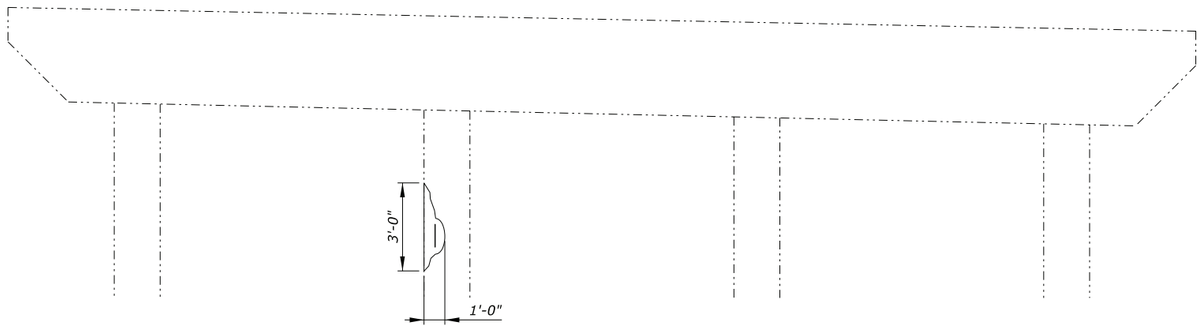
NORTH ELEVATION

Notes:

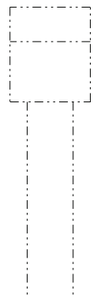
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*
3. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

PRELIMINARY
NOT FOR CONSTRUCTION

CONCRETE REPAIR - BENT 26

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	34 of 50	June 2022	BRP-1312

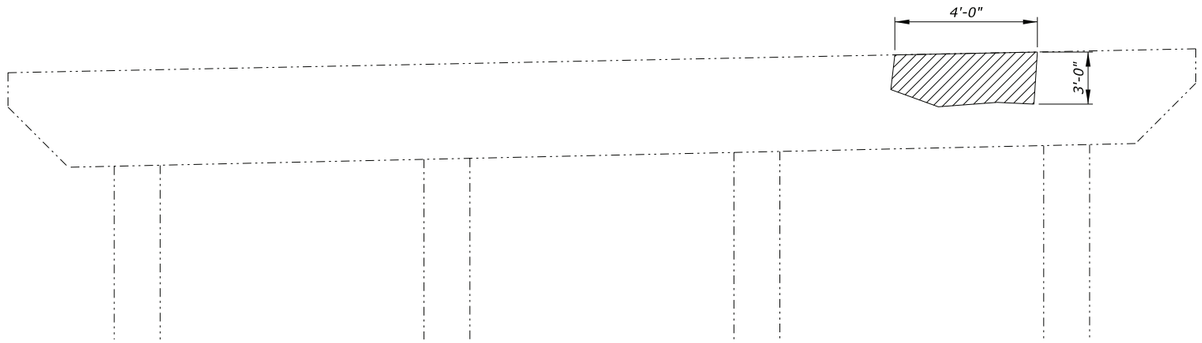
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R35

Notes:

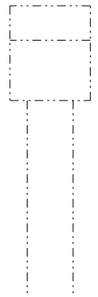
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

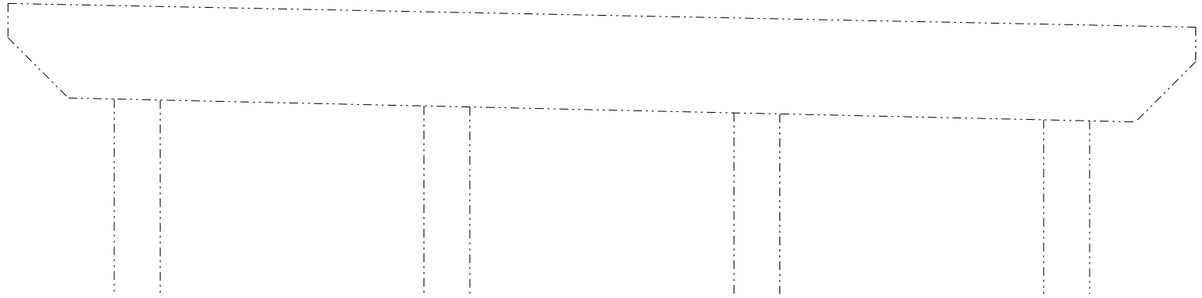
- Spall *- Crack* *- Exposed Reinforcement*



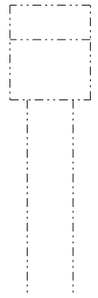
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

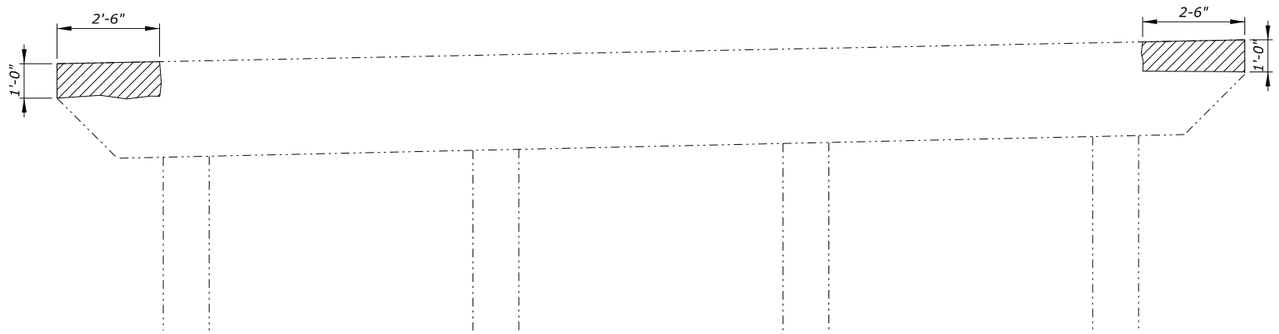
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 27

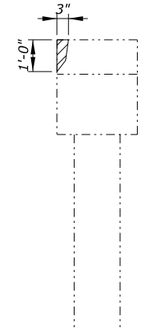
PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	35 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R36



EAST ELEVATION



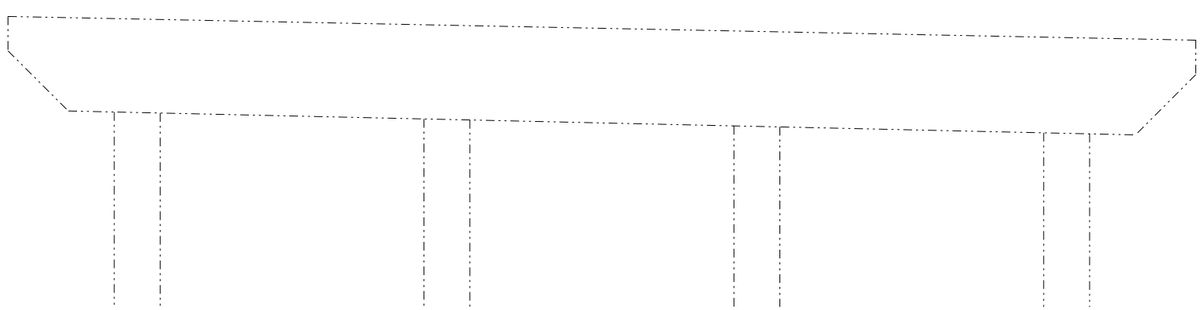
NORTH ELEVATION

Notes:

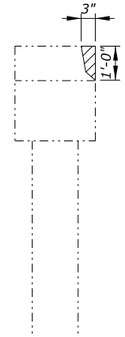
1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



WEST ELEVATION



SOUTH ELEVATION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

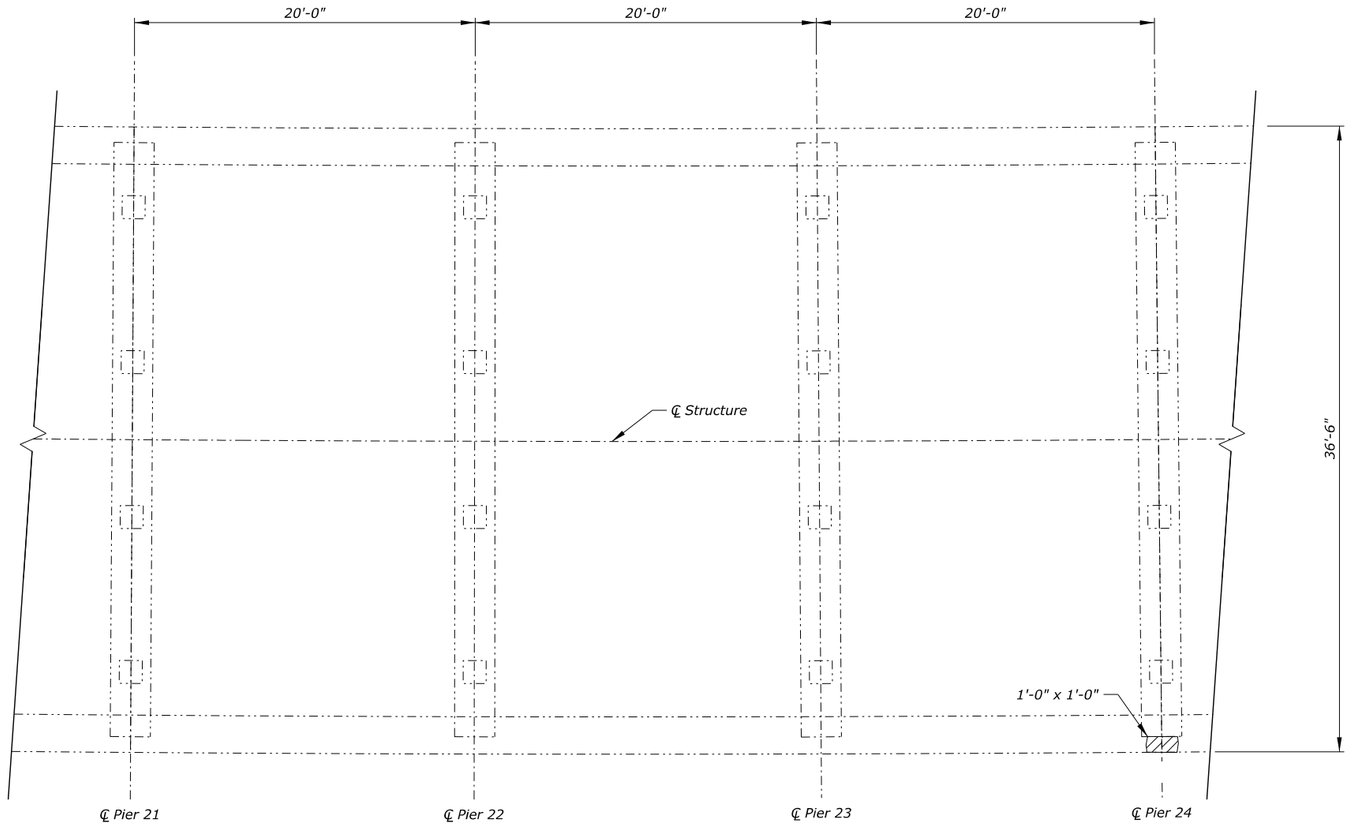
SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - BENT 33

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	36 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R37



PLAN

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*

Structure Number : 4290-025P

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 22-24 REFLECTIVE DECK

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	37 of 50	June 2022	BRP-1312

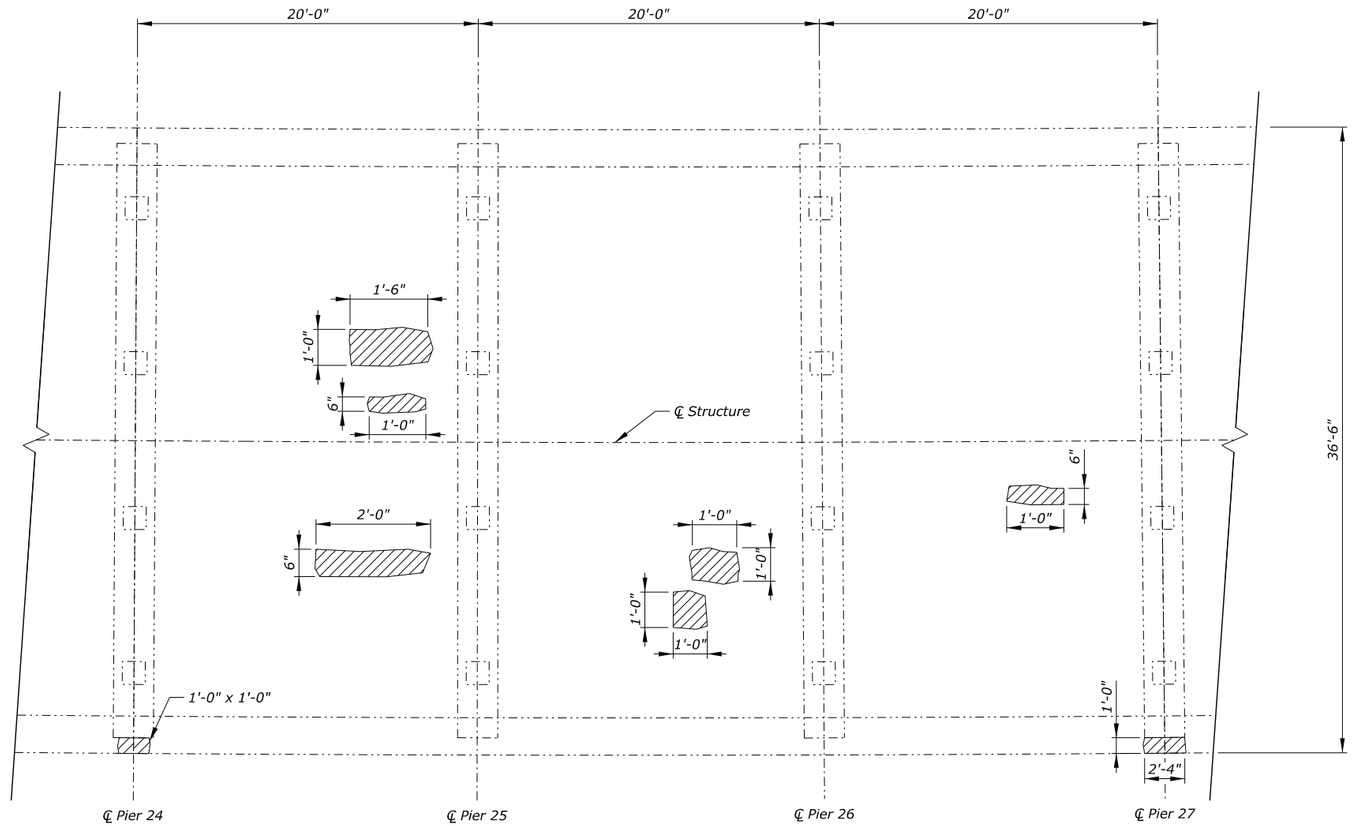
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R38

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



PLAN

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 25-27 REFLECTIVE DECK

PRELIMINARY NOT FOR CONSTRUCTION

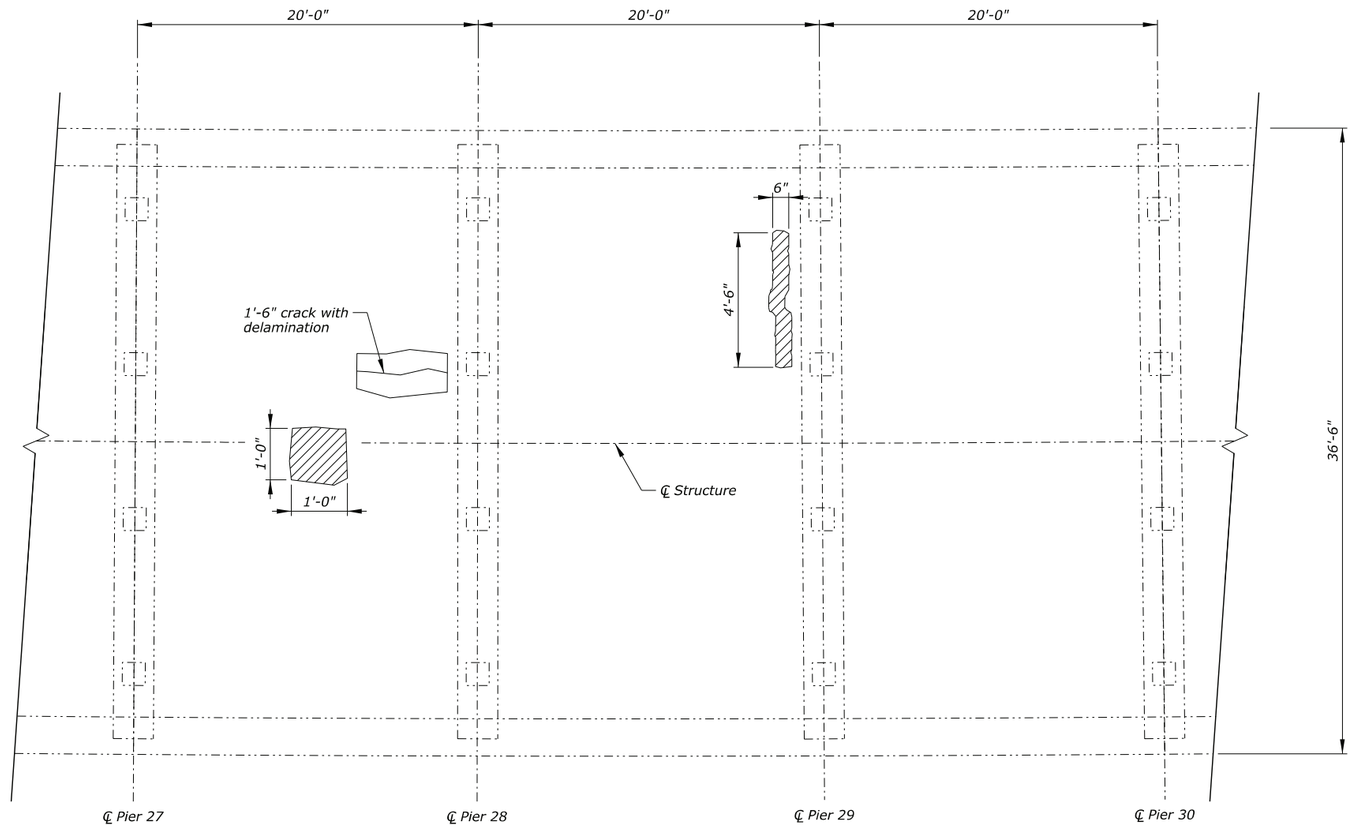
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	38 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN

M:\PROJECTS\colo\vc14 1d48 1e15\Bridge\Microstation\Bridge Design Files\0_0PROJECTS.dgn

14-Jun-2022 04:05 PM

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R39



PLAN

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

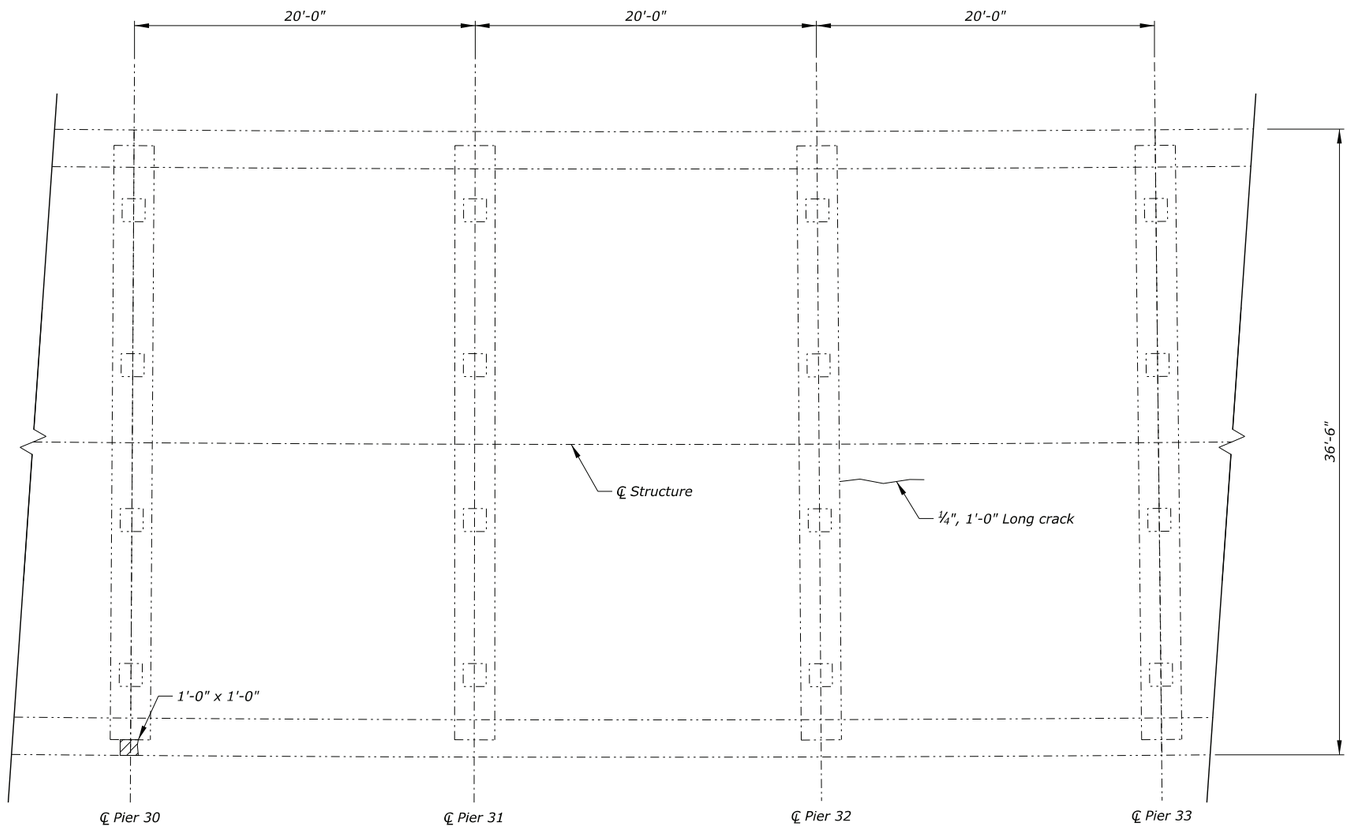
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 28-30 REFLECTIVE DECK

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	39 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R40



PLAN

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- *Spall*
- *Crack*
- *Exposed Reinforcement*

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

CONCRETE REPAIR - SPANS 31-33 REFLECTIVE DECK

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	40 of 50	June 2022	BRP-1312

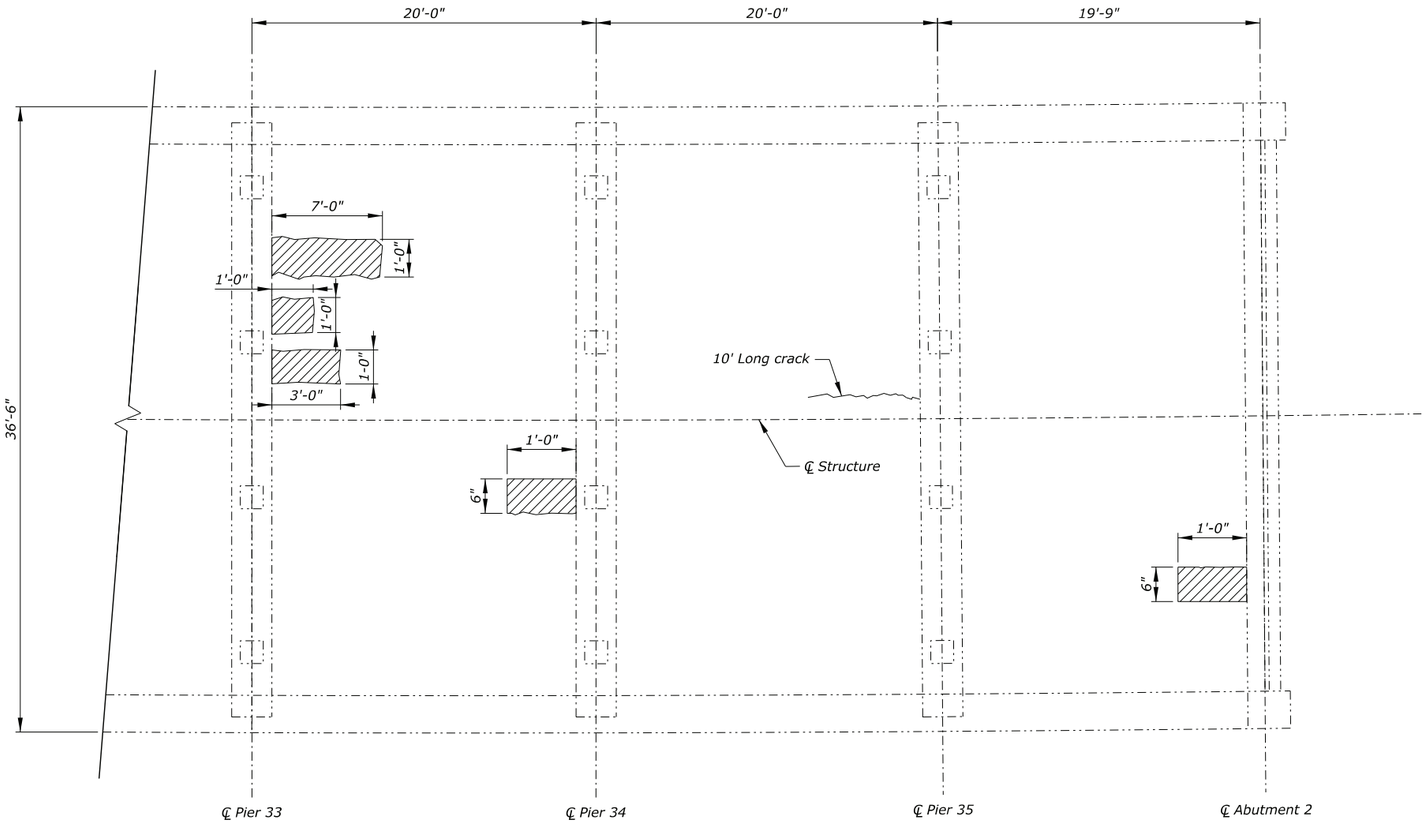
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R41

Notes:

1. *Repair all spalls according to the "CONCRETE REPAIR DETAILS" sheet.*
2. *Verify locations of concrete spalls and cracks in the field before starting repairs. Do not repair spalls with an area less than 0.25 square feet.*

Legend:

- Spall *- Crack* *- Exposed Reinforcement*



PLAN

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

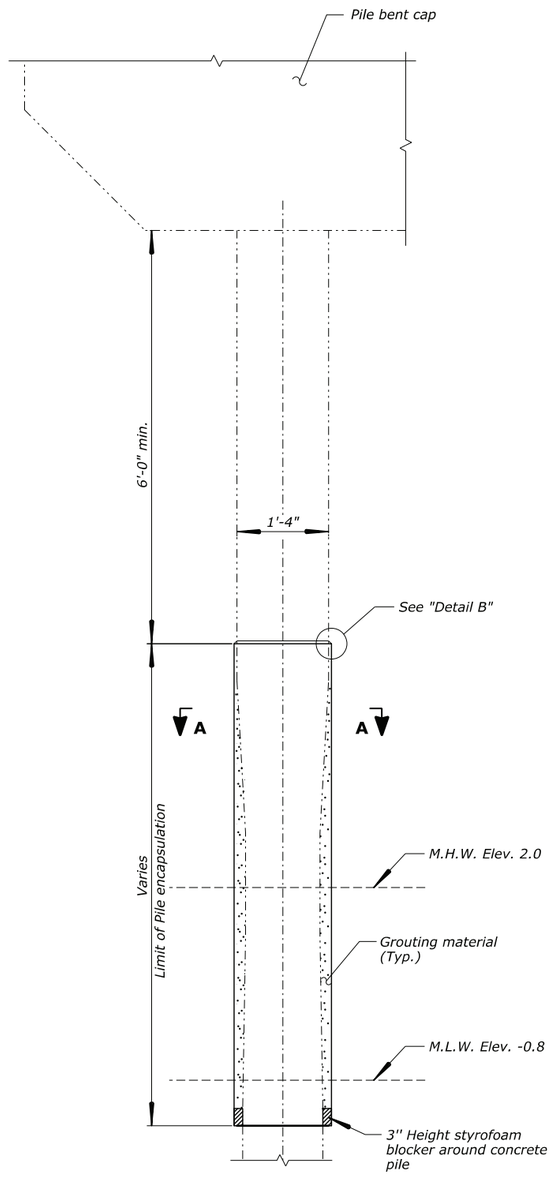
CONCRETE REPAIR - SPANS 34-36 REFLECTIVE DECK

PRELIMINARY
NOT FOR CONSTRUCTION

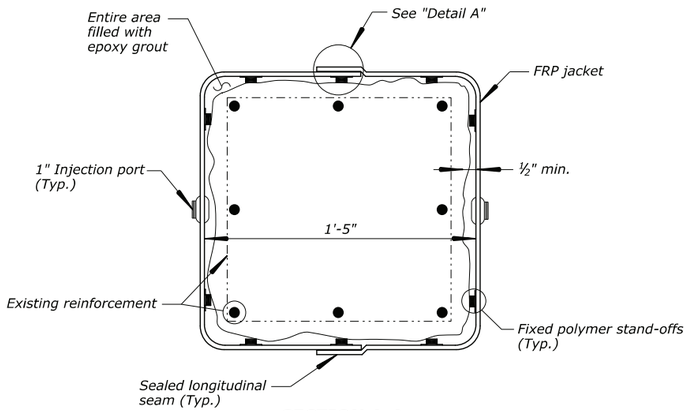
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	41 of 50	June 2022	BRP-1312

ACTUAL FILE:4290-025P Pier.DGN
M:\PROJECTS\col\Vol4 1d48 1e15\BridgeMicrostation\Bridge Design Files\0_OPROJECTS.dgn
14-Jun-2022 04:05 PM

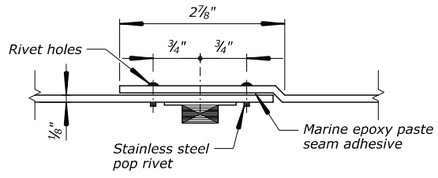
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R42



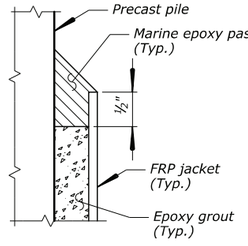
PILE ELEVATION
Scale: 1" = 1'-0"



SECTION A-A
Scale: 3" = 1'-0"
** Existing Pile width varies from 1'-1'' to 1'-4''*



DETAIL A
Not to scale



DETAIL B
Not to scale

Notes:

1. *Start Fiber Reinforced Polymer (FRP) composite shells at a minimum of 6 feet below pile cap.*
2. *Verify the locations of bents and piles with cracks and submit to the CO for approval. See "ESTIMATED CRACK REPAIR ON PILES" table for the recommended list of bents and piles. Cracks in table are primarily located at mean high water.*
3. *Refer to "CONCRETE REPAIR DETAILS" sheet for crack repair detail.*
4. *Repair cracks greater than ⅛-inch wide.*
5. *Furnish polymer stand-offs according to manufacturer's recommendations.*
6. *Pile Encapsulation Procedures:*
   a. *Verify the locations of bents and piles with spalling and submit to the CO for approval. See "ESTIMATED PILE ENCAPSULATION QUANTITIES" table for the recommended list of bents and piles.*
   b. *Clean the piles identified for repair to the bare concrete surface.*
   c. *Install fixed polymer stand-offs at 8 inches along the entire length of the jacket.*
   d. *Install Fiber Reinforced Polymer (FRP) pile encapsulation system according to Section 576.*

ESTIMATED PILE ENCAPSULATION QUANTITIES

Bent Number*	Pile Number*	Approx. Location	Approx. Length of FRP (ft.) per Bent
8	1,2,4	Deep below water	9
9	3,4	From bottom of existing jacket	4
10	3,4	From bottom of existing jacket	4
11	1,3,4	From bottom of existing jacket	6
13	1,2,3,4	3'-6" Below M.H.W.	16
14	1,4,5	3'-0" Below M.H.W.	6
15	1,2,3,4	3'-0" Below M.H.W.	12
16	1,2,3,4	3'-0" Below M.H.W.	16
		Total:	73

ESTIMATED CRACK REPAIR ON PILES

Bent Number*	Pile Number*	Total Length of Cracks (ft.)
3	1,2	3
4	1,4	5
18	2	5
26	3	2.5
	Total:	15.5

** See "PLAN AND ELEVATION" and "TYPICAL SECTION" sheets for pile bents and piles number convention.*

Structure Number : 4290-025P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

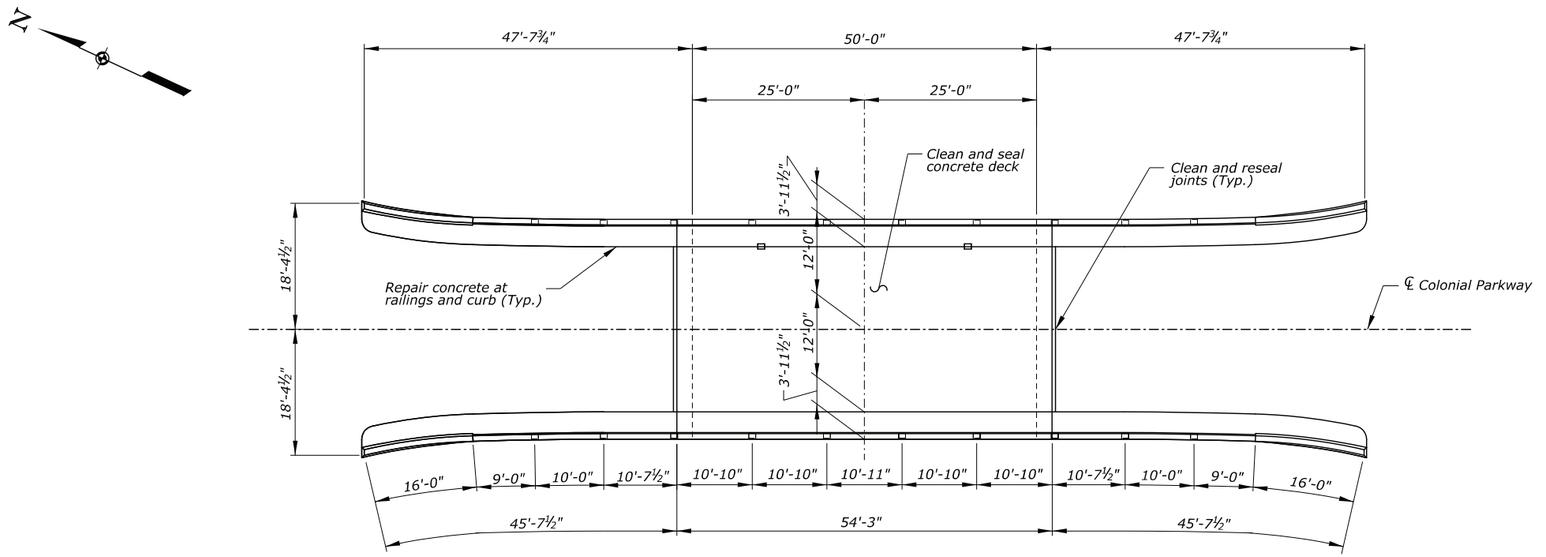
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
POWHATAN CREEK BRIDGE

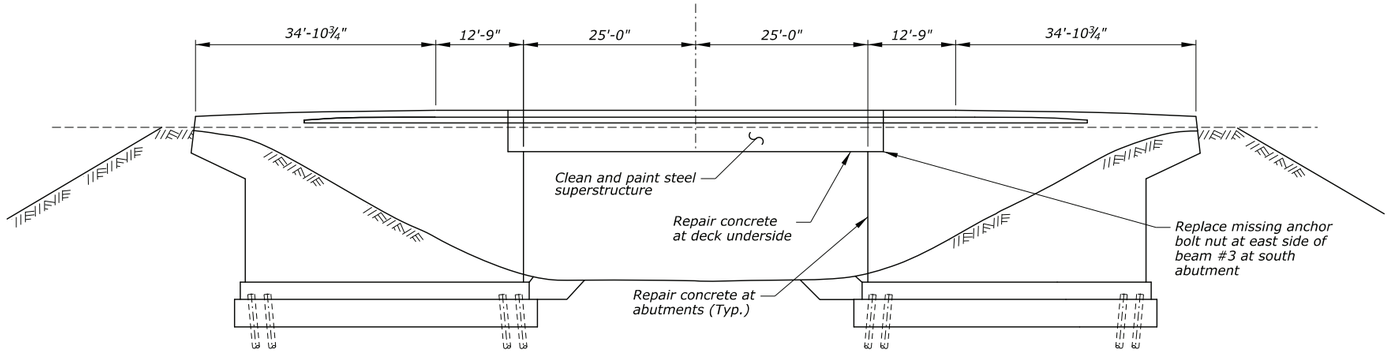
CONCRETE PILE ENCAPSULATION

PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	As Shown	Christopher Negley	42 of 50	June 2022	BRP-1312



PLAN



ELEVATION

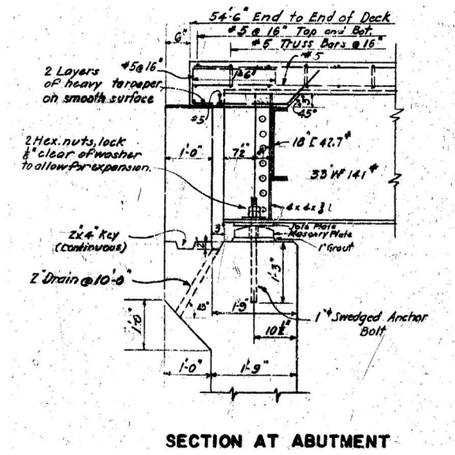
ESTIMATED CONCRETE REPAIR		
Approximate location	*Units*	*Quantity*
Spalling at both abutments	*SQFT*	*10*
Spalling at deck underside	*SQFT*	*10*
Spalling at Railings and curb	*SQFT*	*4*
Clean and coat exposed reinforcement at railings and curb	*LNFT*	*4*

PRELIMINARY
NOT FOR CONSTRUCTION

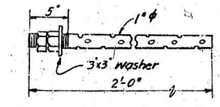
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R43

Notes:

1. *Repair 3 sagging utility conduits suspended from the deck underside. Repair a sagging utility pipe with torn insulation between beams #1 and #2.*
2. *Clean and paint all steel surfaces according to Section 563.*
3. *As-builts are shown for information only.*
4. *See "JOINT DETAILS" sheet for joint details.*
5. *Refer to "CONCRETE REPAIR DETAILS" sheet for all concrete repairs.*
6. *Before repairing concrete, identify concrete repair areas and locations, and submit to the CO for approval. See "ESTIMATED CONCRETE REPAIR" table for the recommended locations and quantities of repairs.*
7. *Clean and coat all exposed reinforcment using a patching compound conforming to ASTM D3963 where concrete is not being repaired.*
8. *Remove vegetation on or within 5 feet of the structure.*



SECTION AT ABUTMENT



SWEDGED ANCHOR BOLT

Structure Number : 4290-026P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B AND D
ISTHMUS BRIDGE

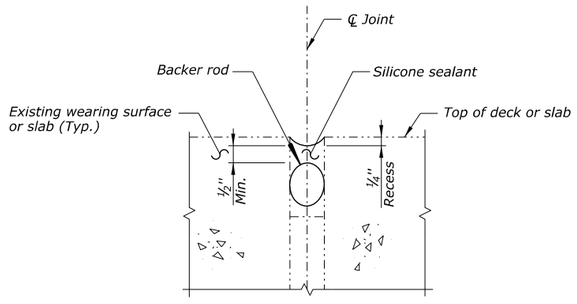
PLAN AND ELEVATION (STRUCTURE 4290-026P)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	No Scale	Christopher Negley	43 of 50	June 2022	BRP-1312

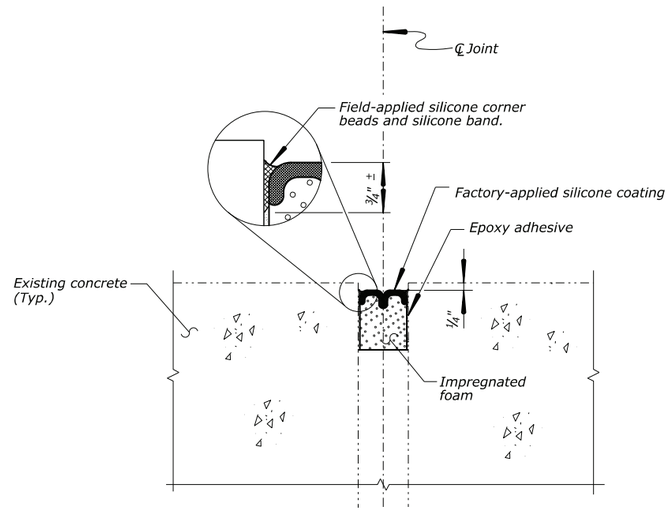
PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R44

Notes:

1. *Verify dimensions before fabrication of expansion joint seal.*
2. *Install a continuous expansion joint seal.*
3. *Pourable joint sequence of work:*
   a. *Remove existing joint material, clean joint opening of debris and remove laitance with oil-free compressed air.*
   b. *Install new precompressed hybrid seal expansion joint material according to manufacturer's recommendations.*
4. *Furnish silicone joint sealant conforming to Subsection 712.01(e) for horizontal joints.*



EXISTING POURABLE SEAL JOINT
(For information only)



PRECOMPRESSED HYBRID SEAL JOINT DETAIL

Structure Number : 4290-023P, 4290-024P, 4290-025P, 4290-026P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

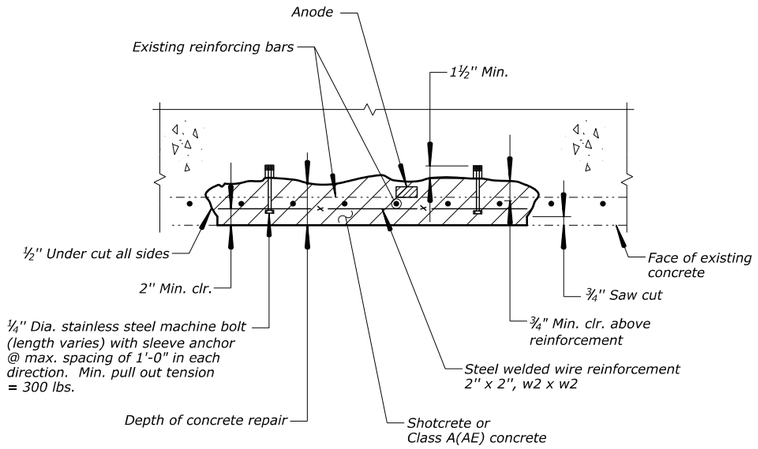
SCHEDULE B
COLLEGE CREEK BRIDGE,
MILL CREEK BRIDGE,
POWHATAN CREEK,
AND ISTHMUS BRIDGE,

JOINT DETAILS

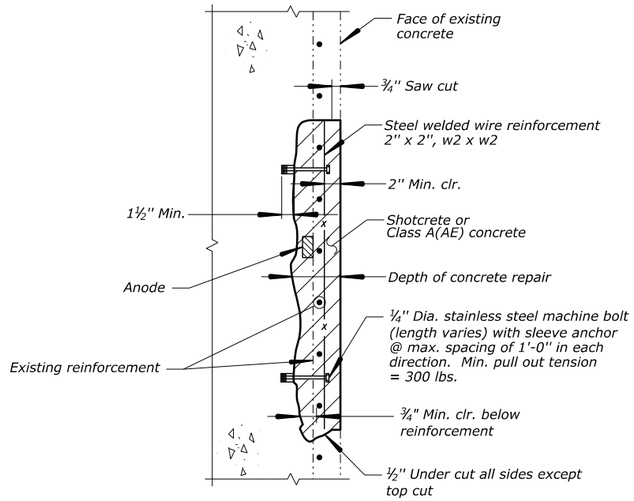
PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	[illegible]	Not to Scale	Christopher Negley	44 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R45



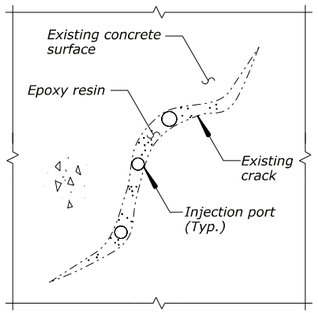
OVERHEAD CONCRETE REPAIR



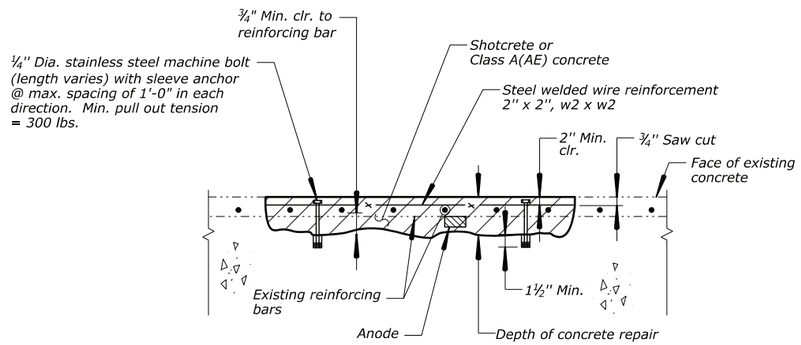
VERTICAL CONCRETE REPAIR

Notes:

1. *Concrete repairs are located on both faces of the bent and the face of each abutment, at the underside of the deck, and are approximate in size. Depth of concrete reinforcement may vary.*
2. *Perform concrete sounding throughout the concrete surface.*
3. *Saw cut 3/4-inch deep along a square or rectangular perimeter around the designated repair area as approved by the CO.*
4. *Remove loose and deteriorated concrete to sound concrete or to a depth of at least 1-inch clear of existing reinforcement, without incurring any damage to existing steel reinforcement.*
5. *Clean existing steel and concrete by wire brush, abrasive blasting, or water jetting as required according to Section 203.*
6. *Replace reinforcing steel with more than 25% section loss. Match existing reinforcing steel diameter and coating.*
7. *Fasten welded wire fabric and zinc lath to existing reinforcement and secure to concrete with machine bolts as needed.*
8. *Install Anodes for corrosion protection on repair areas according to manufacturer's recommendations, as approved by the CO.*
9. *On areas where zinc lath is used, place shotcrete on repair area up to location of zinc lath, install zinc lath according to Note 7 and continue shotcrete placement.*
10. *Moisten sound concrete surface until SSD condition is achieved and place shotcrete or Class A(AE) concrete for patching material according to Section 552.*
11. *Stain all concrete repairs to match existing concrete according to manufacturer's recommendations, as approved by the CO.*
12. *Do not permit debris to enter waterways and travel lanes.*
13. *Repair concrete cracks according to Section 561.*



CONCRETE CRACK REPAIR
(See Note 13)



HORIZONTAL CONCRETE REPAIR

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-023P, 4290-024P, 4290-025P, 4290-026P

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

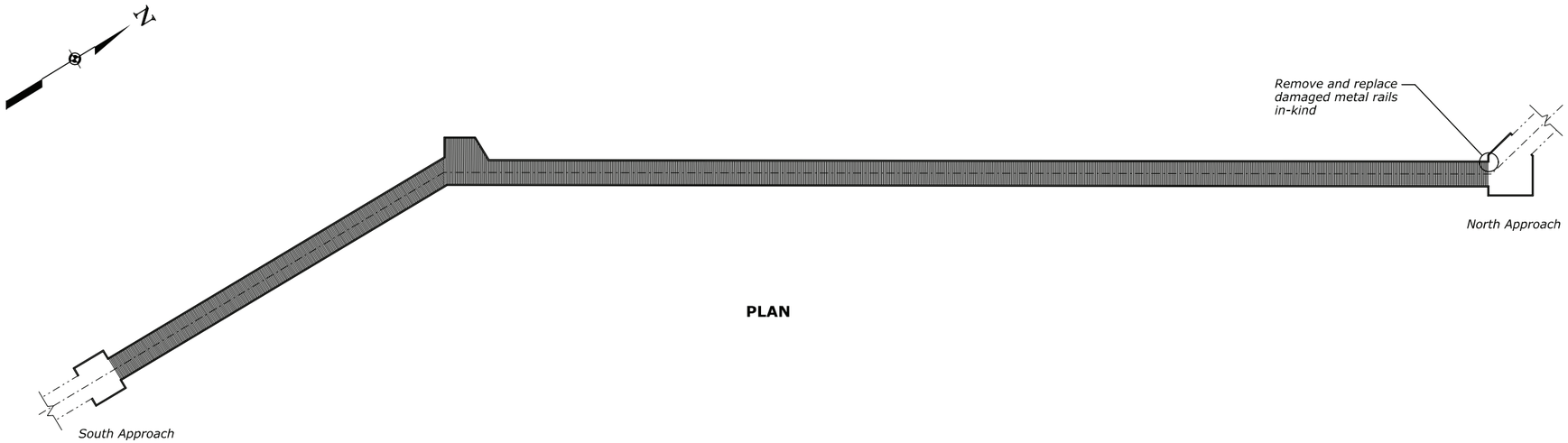
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE B
COLLEGE CREEK BRIDGE,
MILL CREEK BRIDGE,
POWHATAN CREEK,
AND ISTHMUS BRIDGE,

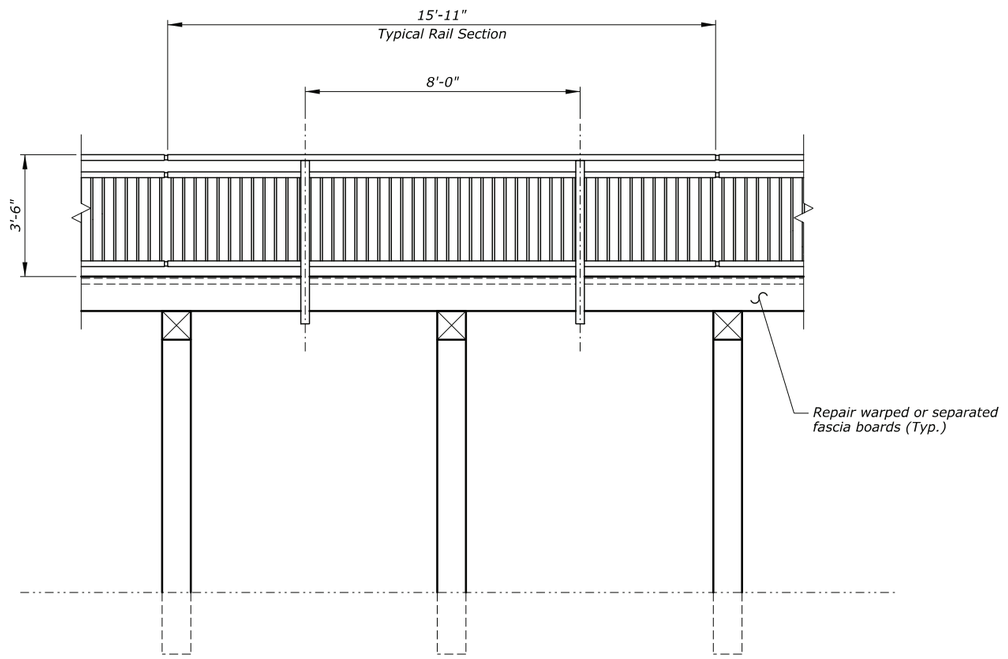
CONCRETE REPAIR DETAILS

NO.	DATE			NO.	DATE			DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to scale	Christopher Negley	45 of 50	June 2022	BRP-1312

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R46



PLAN



TIMBER BOARDWALK ELEVATION

Notes:

1. *See "METAL RAIL DETAILS" sheet for more information on rails.*
2. *Salvage and replace integral lighting system in-kind at sections where railing is being replaced. See "METAL RAIL DETAILS" and "PARTIAL BRIDGE ELECTRICAL PLAN - NORTH SECTION" sheets for details on lighting system.*

PRELIMINARY
NOT FOR CONSTRUCTION

Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

PLAN AND ELEVATION
(STRUCTURE 4290-039T)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	46 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY	PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
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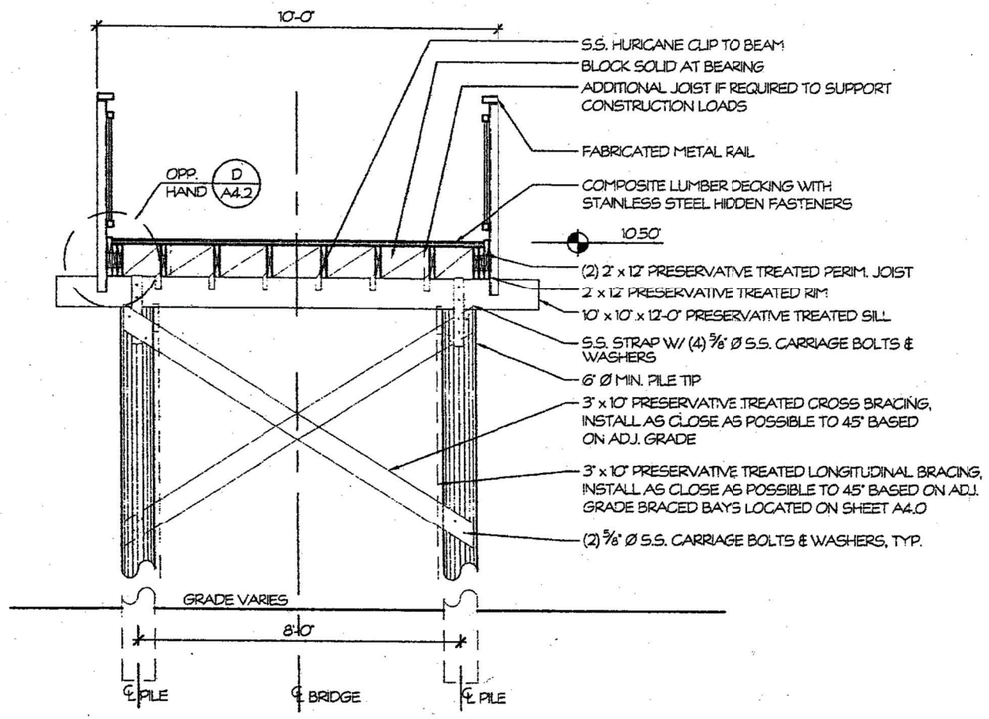
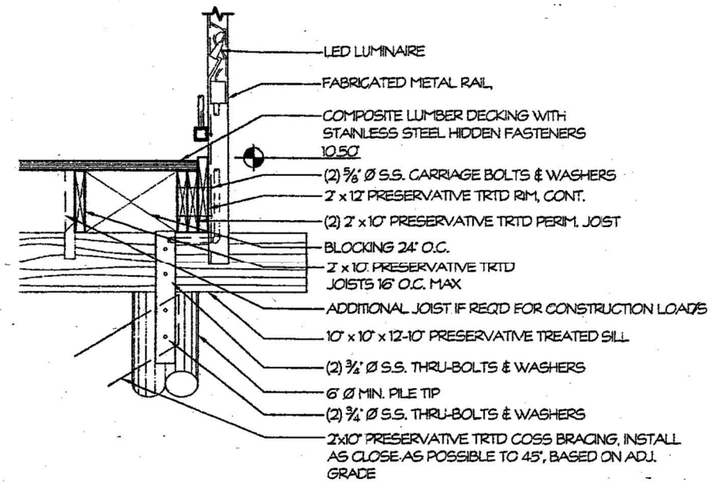


TIMBER BOARDWALK SECTION



GUARDRAIL ATTACHMENT

Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
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COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

TYPICAL SECTION (STRUCTURE 4290-039T)

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	47 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY	PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
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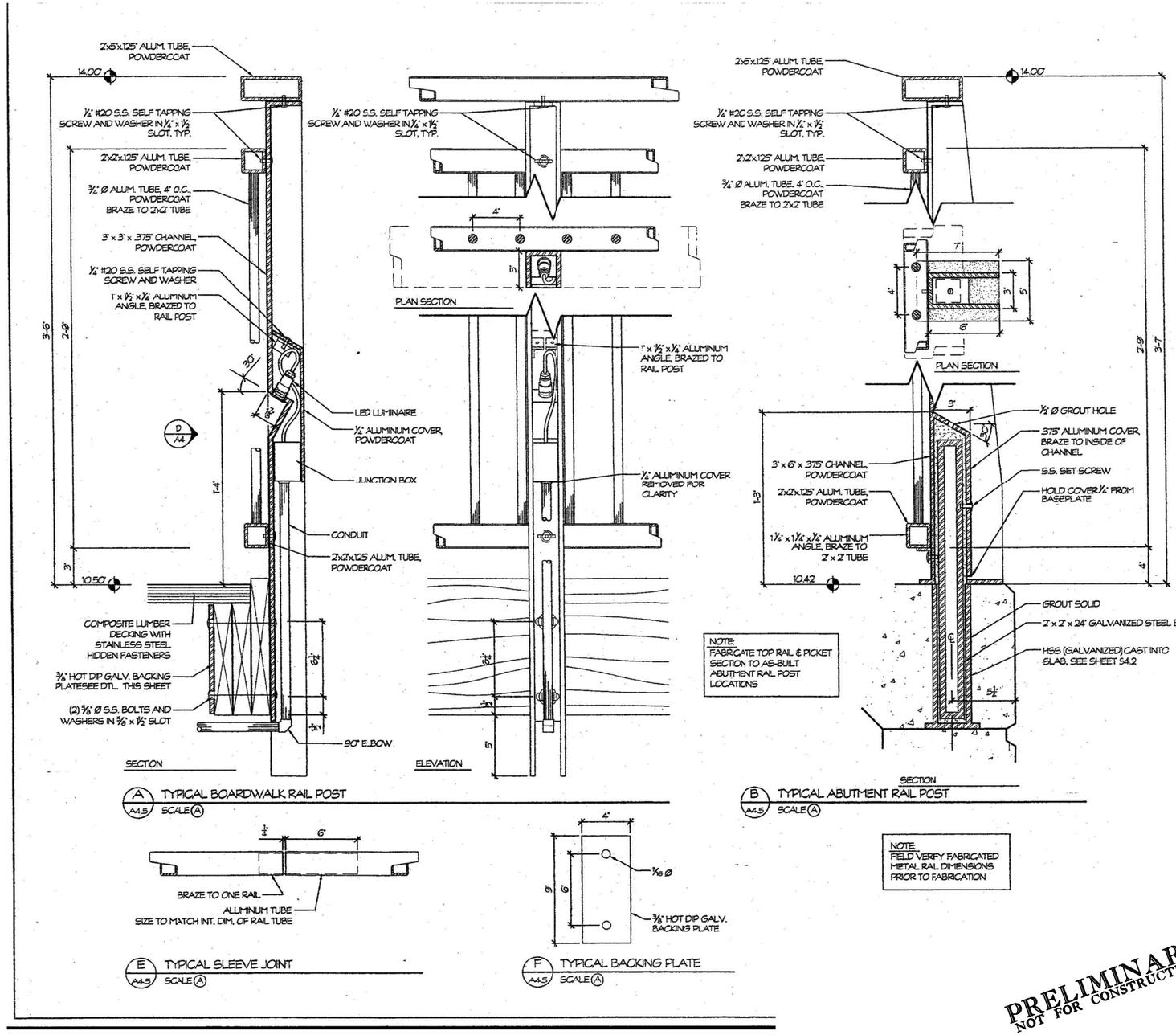


Notes:

1. *Coordinate rail picket spacing with rail post locations to ensure pickets do not obscure built in lights.*

Structure Number : 4290-039T

PRELIMINARY
NOT FOR CONSTRUCTION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

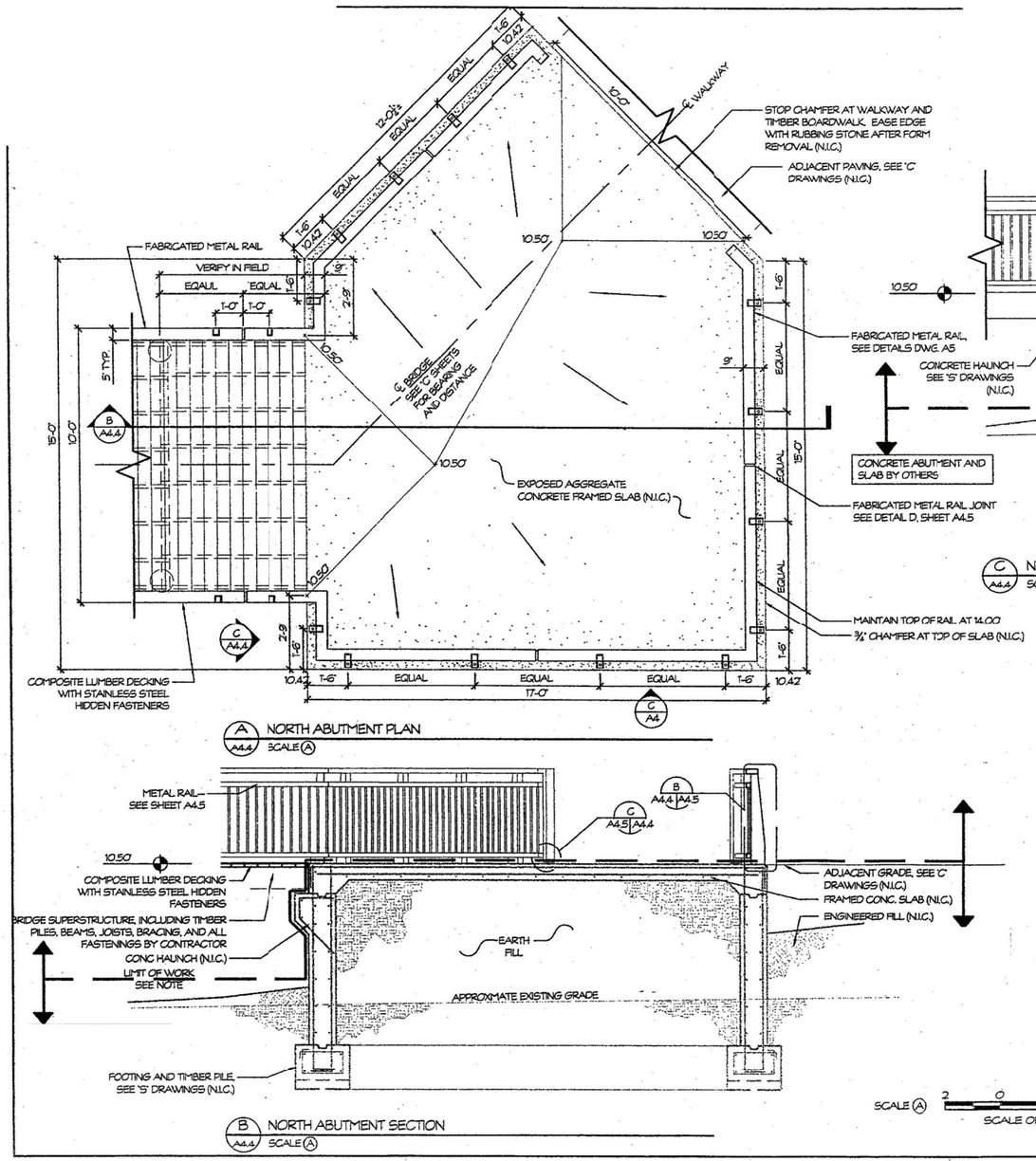
COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

METAL RAIL DETAILS

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	48 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY	PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
	222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R49



Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

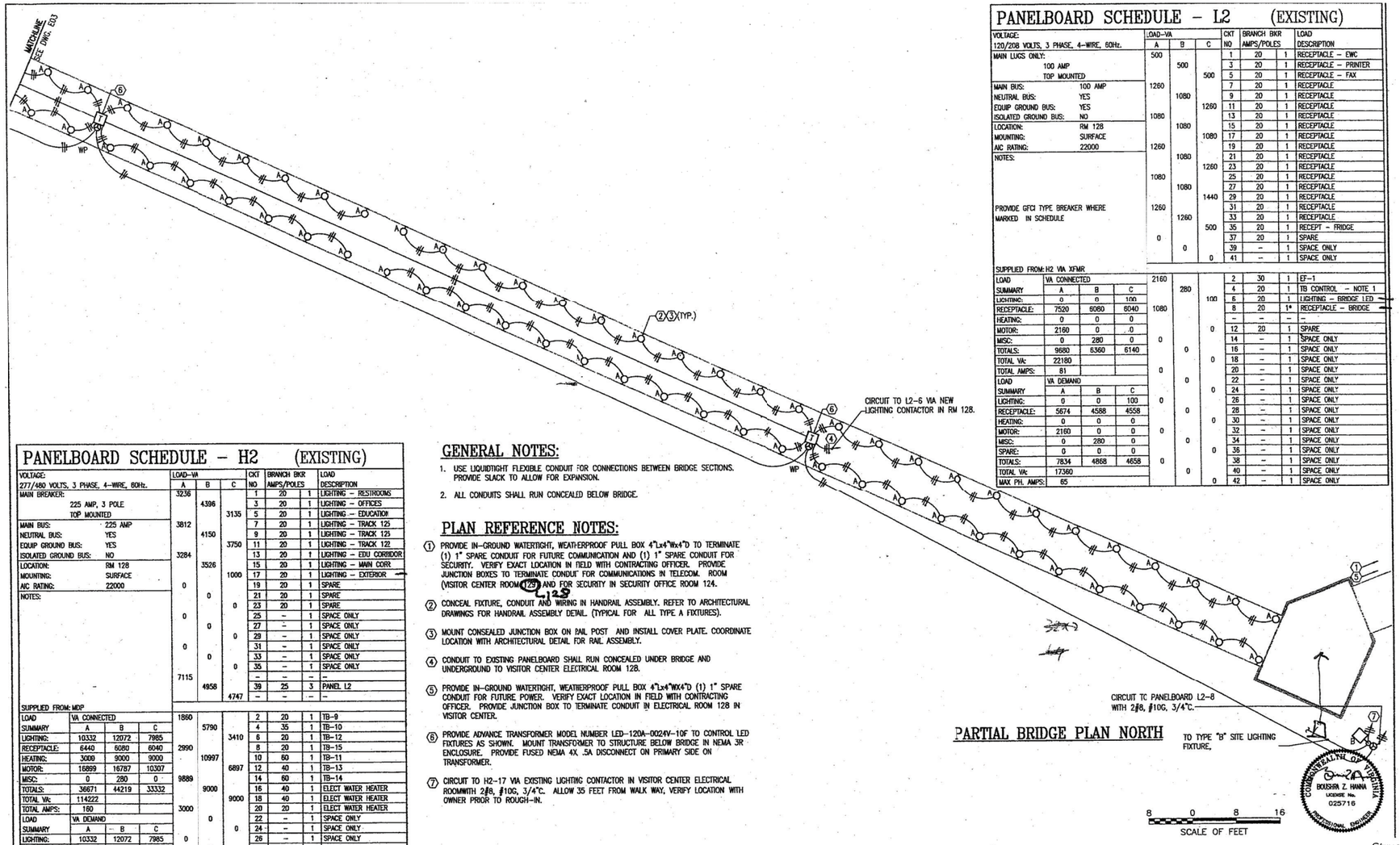
NORTH ABUTMENT RAIL DETAILS

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	49 of 50	June 2022	BRP-1312

FOR INFORMATION ONLY

PMIS NO.	NPS NO.	STATE	PROJECT	SHEET NUMBER
222636, 222632, 323954, 222594 222622, 222643, 222642, 321154	333 180254	VA	VA NP COLO 1C14, 1D48, 1E15	R50



PARTIAL BRIDGE PLAN NORTH

PANELBOARD SCHEDULE – H2 (EXISTING)

VOLTAGE: 277/480 VOLTS, 3 PHASE, 4-WIRE, 60Hz.	LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
MAIN BREAKER: 225 AMP, 3 POLE TOP MOUNTED	3236			1	20	1	LIGHTING – RESTROOMS
		4396		3	20	1	LIGHTING – OFFICES
			3135	5	20	1	LIGHTING – EDUCATION
MAIN BUS: 225 AMP	3812			7	20	1	LIGHTING – TRACK 125
NEUTRAL BUS: YES		4150		9	20	1	LIGHTING – TRACK 125
EQUIP GROUND BUS: YES			3750	11	20	1	LIGHTING – TRACK 122
ISOLATED GROUND BUS: NO	3284			13	20	1	LIGHTING – EDU CORRIDOR
LOCATION: RM 128		3526		15	20	1	LIGHTING – MAIN CORR
MOUNTING: SURFACE			1000	17	20	1	LIGHTING – EXTERIOR
AIC RATING: 22000	0			19	20	1	SPARE
NOTES:		0		21	20	1	SPARE
			0	23	20	1	SPARE
	0			25	–	1	SPACE ONLY
		0		27	–	1	SPACE ONLY
			0	29	–	1	SPACE ONLY
	0			31	–	1	SPACE ONLY
		0		33	–	1	SPACE ONLY
			0	35	–	1	SPACE ONLY
	7115			–	–	–	–
		4958		39	25	3	PANEL L2
			4747	–	–	–	–

SUPPLIED FROM: MDP

LOAD SUMMARY	VA CONNECTED A	B	C
LIGHTING:	10332	12072	7985
RECEPTACLE:	6440	6080	6040
HEATING:	3000	9000	9000
MOTOR:	16899	16787	10307
MISC:	0	280	0
TOTALS:	36671	44219	33332
TOTAL VA:	114222		
TOTAL AMPS:	160		

LOAD SUMMARY	VA DEMAND A	B	C
LIGHTING:	10332	12072	7985
RECEPTACLE:	4955	4678	4647
HEATING:	3000	9000	9000
MOTOR:	16899	16787	10307
MISC:	0	280	0
SPARE:	5497	5497	5497
TOTALS:	40683	48314	37438
TOTAL VA:	126433		
MAX PH. AMPS:	174		

LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
1860			2	20	1	TB-9
	5790		4	35	1	TB-10
		3410	6	20	1	TB-12
2990			8	20	1	TB-15
	10997		10	60	1	TB-11
		6897	12	40	1	TB-13
9889			14	60	1	TB-14
	9000		16	40	1	ELECT WATER HEATER
		9000	18	40	1	ELECT WATER HEATER
3000			20	20	1	ELECT WATER HEATER
	0		22	–	1	SPACE ONLY
		0	24	–	1	SPACE ONLY
0			26	–	1	SPACE ONLY
	0		28	–	1	SPACE ONLY
		0	30	–	1	SPACE ONLY
0			32	–	1	SPACE ONLY
	0		34	–	1	SPACE ONLY
		0	36	–	1	SPACE ONLY
0			38	–	1	SPACE ONLY
	0		40	–	1	SPACE ONLY
		0	42	–	1	SPACE ONLY

PANELBOARD SCHEDULE – L2 (EXISTING)

VOLTAGE: 120/208 VOLTS, 3 PHASE, 4-WIRE, 60Hz.	LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
MAIN LUGS ONLY: 100 AMP TOP MOUNTED	500			1	20	1	RECEPTACLE – EWC
		500		3	20	1	RECEPTACLE – PRINTER
			500	5	20	1	RECEPTACLE – FAX
MAIN BUS: 100 AMP	1260			7	20	1	RECEPTACLE
NEUTRAL BUS: YES		1080		9	20	1	RECEPTACLE
EQUIP GROUND BUS: YES			1260	11	20	1	RECEPTACLE
ISOLATED GROUND BUS: NO	1080			13	20	1	RECEPTACLE
LOCATION: RM 128		1080		15	20	1	RECEPTACLE
MOUNTING: SURFACE			1080	17	20	1	RECEPTACLE
AIC RATING: 22000	1260			19	20	1	RECEPTACLE
NOTES:		1080		21	20	1	RECEPTACLE
			1260	23	20	1	RECEPTACLE
	1080			25	20	1	RECEPTACLE
		1080		27	20	1	RECEPTACLE
			1440	29	20	1	RECEPTACLE
PROVIDE GFCI TYPE BREAKER WHERE MARKED IN SCHEDULE	1260			31	20	1	RECEPTACLE
		1260		33	20	1	RECEPTACLE
			500	35	20	1	RECEPT – FRIDGE
	0			37	20	1	SPARE
		0		39	–	1	SPACE ONLY
			0	41	–	1	SPACE ONLY

SUPPLIED FROM: H2 VIA XFMR

LOAD SUMMARY	VA CONNECTED A	B	C
LIGHTING:	0	0	100
RECEPTACLE:	7520	6080	6040
HEATING:	0	0	0
MOTOR:	2160	0	0
MISC:	0	280	0
TOTALS:	9680	5360	6140
TOTAL VA:	22180		
TOTAL AMPS:	81		

LOAD SUMMARY	VA DEMAND A	B	C
LIGHTING:	0	0	100
RECEPTACLE:	5674	4588	4558
HEATING:	0	0	0
MOTOR:	2160	0	0
MISC:	0	280	0
SPARE:	0	0	0
TOTALS:	7834	4868	4658
TOTAL VA:	17360		
MAX PH. AMPS:	85		

LOAD-VA A	B	C	CKT NO	BRANCH BKR AMPS/POLES		LOAD DESCRIPTION
2160			2	30	1	EF-1
	280		4	20	1	TB CONTROL – NOTE 1
		100	6	20	1	LIGHTING – BRIDGE LED
1080			8	20	1*	RECEPTACLE – BRIDGE
		0	–	–	–	–
			12	20	1	SPARE
0			14	–	1	SPACE ONLY
	0		16	–	1	SPACE ONLY
		0	18	–	1	SPACE ONLY
0			20	–	1	SPACE ONLY
	0		22	–	1	SPACE ONLY
		0	24	–	1	SPACE ONLY
0			26	–	1	SPACE ONLY
	0		28	–	1	SPACE ONLY
		0	30	–	1	SPACE ONLY
0			32	–	1	SPACE ONLY
	0		34	–	1	SPACE ONLY
		0	36	–	1	SPACE ONLY
0			38	–	1	SPACE ONLY
	0		40	–	1	SPACE ONLY
		0	42	–	1	SPACE ONLY

GENERAL NOTES:

1. USE LIQUIDTIGHT FLEXIBLE CONDUIT FOR CONNECTIONS BETWEEN BRIDGE SECTIONS. PROVIDE SLACK TO ALLOW FOR EXPANSION.
2. ALL CONDUITS SHALL RUN CONCEALED BELOW BRIDGE.

PLAN REFERENCE NOTES:

① PROVIDE IN-GROUND WATERTIGHT, WEATHERPROOF PULL BOX 4"Lx4"Wx4"D TO TERMINATE (1) 1" SPARE CONDUIT FOR FUTURE COMMUNICATION AND (1) 1" SPARE CONDUIT FOR SECURITY. VERIFY EXACT LOCATION IN FIELD WITH CONTRACTING OFFICER. PROVIDE JUNCTION BOXES TO TERMINATE CONDUIT FOR COMMUNICATIONS IN TELECOM. ROOM (VISITOR CENTER ROOM 129 AND FOR SECURITY IN SECURITY OFFICE ROOM 124. 125

② CONCEAL FIXTURE, CONDUIT AND WIRING IN HANDRAIL ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS FOR HANDRAIL ASSEMBLY DETAIL. (TYPICAL FOR ALL TYPE A FIXTURES).

③ MOUNT CONSEALED JUNCTION BOX ON RAIL POST AND INSTALL COVER PLATE. COORDINATE LOCATION WITH ARCHITECTURAL DETAIL FOR RAIL ASSEMBLY.

④ CONDUIT TO EXISTING PANELBOARD SHALL RUN CONCEALED UNDER BRIDGE AND UNDERGROUND TO VISITOR CENTER ELECTRICAL ROOM 128.

⑤ PROVIDE IN-GROUND WATERTIGHT, WEATHERPROOF PULL BOX 4"Lx4"Wx4"D (1) 1" SPARE CONDUIT FOR FUTURE POWER. VERIFY EXACT LOCATION IN FIELD WITH CONTRACTING OFFICER. PROVIDE JUNCTION BOX TO TERMINATE CONDUIT IN ELECTRICAL ROOM 128 IN VISITOR CENTER.

⑥ PROVIDE ADVANCE TRANSFORMER MODEL NUMBER LED-120A-0024V-10F TO CONTROL LED FIXTURES AS SHOWN. MOUNT TRANSFORMER TO STRUCTURE BELOW BRIDGE IN NEMA 3R ENCLOSURE. PROVIDE FUSED NEMA 4X .5A DISCONNECT ON PRIMARY SIDE ON TRANSFORMER.

⑦ CIRCUIT TO H2-17 VIA EXISTING LIGHTING CONTACTOR IN VISITOR CENTER ELECTRICAL ROOMWITH 2#8, #10G, 3/4"C. ALLOW 35 FEET FROM WALK WAY, VERIFY LOCATION WITH OWNER PRIOR TO ROUGH-IN.

N

PRELIMINARY NOT FOR CONSTRUCTION

Structure Number : 4290-039T

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

COLONIAL NATIONAL HISTORICAL PARK

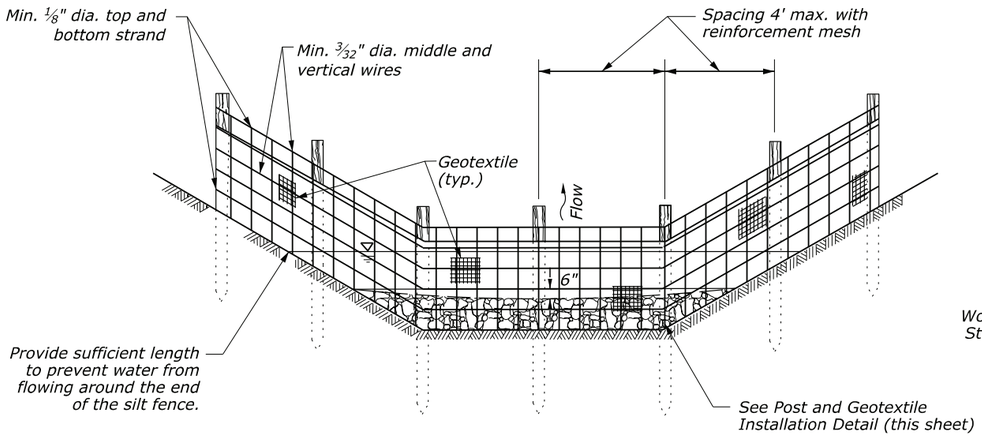
SCHEDULE C
JAMESTOWN VISITOR CENTER
PEDESTRIAN BRIDGE

PARTIAL BRIDGE ELECTRICAL PLAN - NORTH SECTION

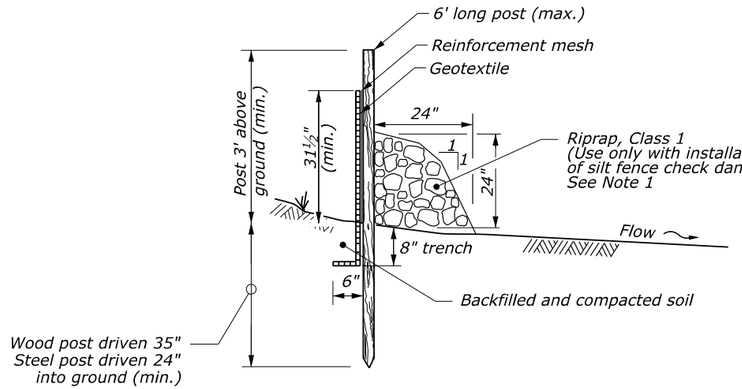
NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE PLAN SHEET	DATE	BRP NO.
								KDN	KDN	DL	Not to Scale	Christopher Negley	50 of 50	June 2022	BRP-1312

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

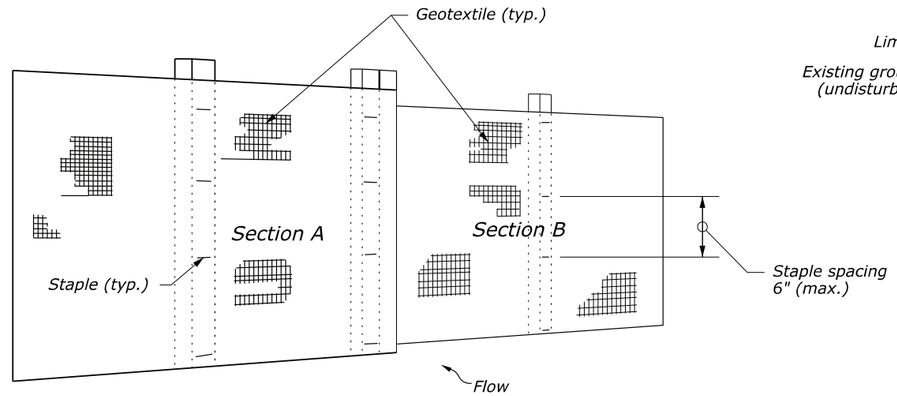
STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S01



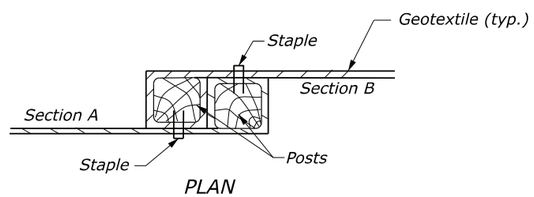
WIRE-BACKED SILT FENCE WITH CHECK DAM



POST AND GEOTEXTILE INSTALLATION

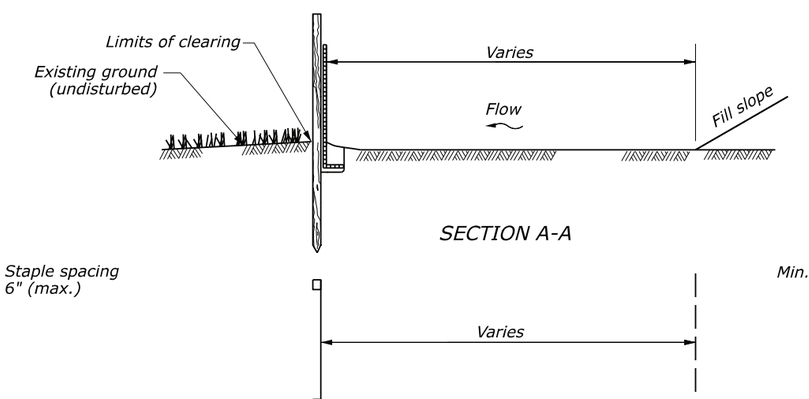


ELEVATION

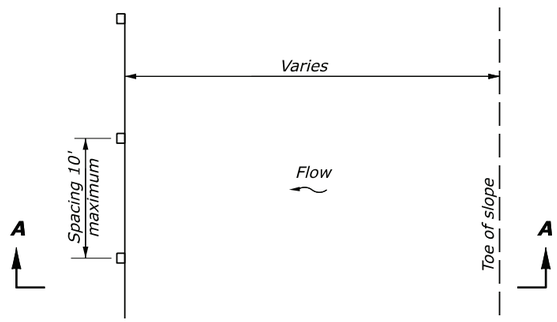


PLAN

JOINING TWO ADJACENT SILT FENCE SECTIONS
(See Note 4)

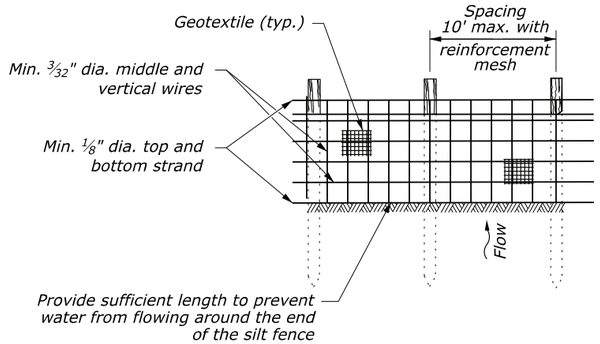


SECTION A-A



PLAN

WIRE-BACKED SILT FENCE INSTALLATION AT TOE OF FILL



ELEVATION

NOTES:

1. Install silt fence with Class 1 riprap only in low-flow drainage ditches where shown on the Erosion and Sediment Control Plan.
2. Install pre-assembled silt fence according to the manufacturer's recommendations.
3. Install silt fence along ground contours. Curve ends of silt fence upgrade to prevent water from running around the ends.
4. Attach geotextile and reinforcement mesh so they do not slide down posts. Provide detail for attaching to steel posts to the CO for approval.
5. Use reinforcement mesh that is a minimum of 32 inches in width and has a minimum of 6 line wires with 12-inch stay spacing.
6. Use geotextile that is a minimum of 45 inches in width and fasten adequately to the reinforcement mesh as directed by the CO.
7. Use 60-inch minimum height steel posts of the self-fastener angle steel type.
8. Use 70-inch minimum height by 3-inch diameter wood posts.
9. Extend reinforcement mesh and geotextile into trench.

NO SCALE

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FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

WIRE-BACKED SILT FENCE

DETAIL APPROVED FOR USE	DETAIL
APPROVED: MARCH 2015 REVISED: SEPTEMBER 2020	E157-02

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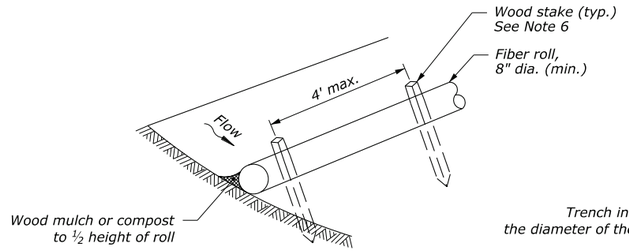
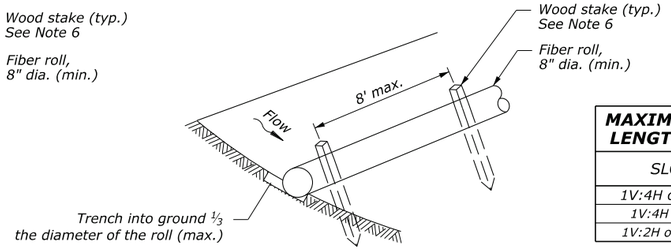
1 July 2022 10:01 AM

NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S02



UNTRENCHED INSTALLATION

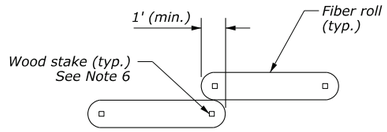


ENTRENCHED INSTALLATION

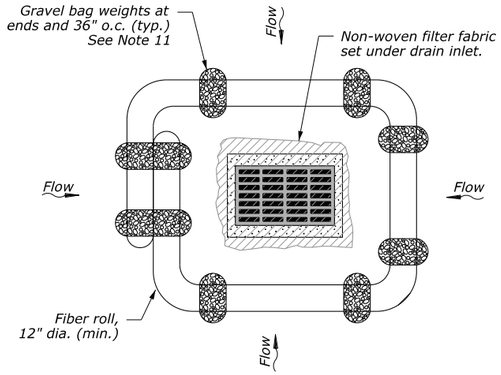
MAXIMUM ALLOWABLE SLOPE LENGTH ABOVE FIBER ROLLS

SLOPE	MAX INTERVAL
1V:4H or Flatter	20 ft
1V:4H - 1V:2H	15 ft
1V:2H or Steeper	10 ft

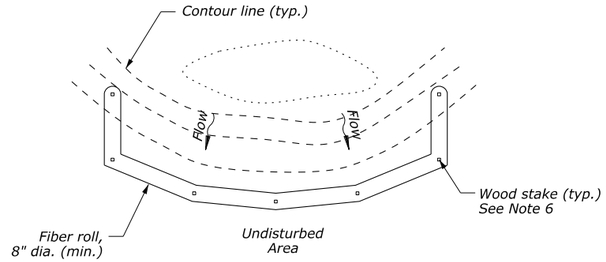
FIBER ROLL ISOMETRIC VIEW



FIBER ROLL OVERLAP



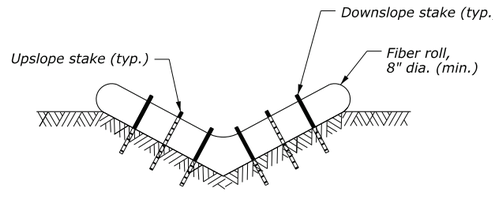
INLET PROTECTION



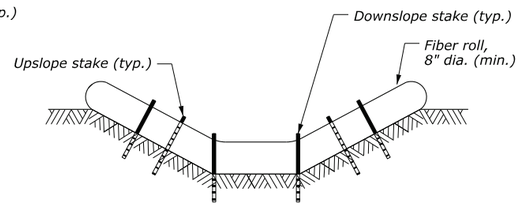
PLAN VIEW

NOTES:

1. Provide fiber rolls meeting the requirements of Subsection 713.12.
2. Use fiber rolls with a minimum 8-inch diameter. For drain inlet protection, use fiber rolls with a minimum 12-inch diameter.
3. Prior to installation, clear all obstructions including rocks, clods, and debris greater than 1-inch that may interfere with proper function of the fiber roll.
4. For untrenched installation, blow or hand place mulch or compost on uphill side of the slope along the fiber roll.
5. Place fiber rolls on level grade and parallel to contours. Extend both ends of the fiber roll at least 8 feet upslope at 45 degrees to the main alignment.
6. Use wood stakes with a minimum nominal cross section of 2-inch x 2-inch and of sufficient length to attain a minimum of 12 inches into the ground and 3 inches protruding above the roll. Furnish wood stakes meeting the requirements of Subsection 713.08(a).
7. When more than one fiber roll is needed, overlap ends 12 inches minimum and stake.
8. Remove sediment deposits when accumulation is one-half the height of the exposed fiber roll.
9. Replace biodegradable fiber rolls 6 months after installation and photodegradable fiber rolls 12 months after installation.
10. When fiber rolls are required on paved surfaces, use gravel bags to support them as shown on the inlet protection detail.
11. Provide gravel bag weights meeting the requirements of Subsection 713.13.

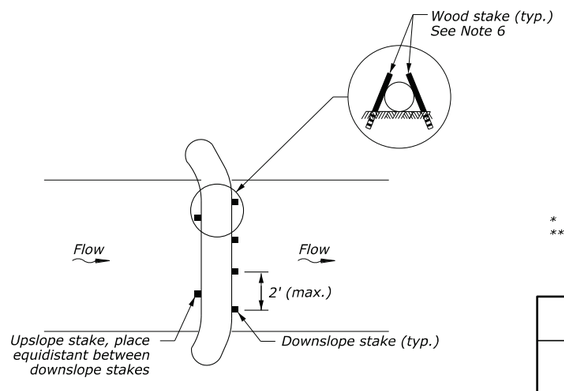


V-DITCH



TRAPEZOIDAL DITCH

FIBER ROLL CHECK DAM CROSS SECTIONS



FIBER ROLL CHECK DAM PLAN VIEW

FIBER ROLL CHECK DAM SPACING TABLE

DITCH GRADE *	CHECK DAM SPACING (S)**	
	8" HIGH	12" HIGH
2%	33'	50'
3%	22'	33'
4%	16'	25'
5%	13'	20'

* Do not install check dams on grades below 2%
** Adjust spacing as approved based on site conditions

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

FIBER ROLL

DETAIL APPROVED FOR USE
APPROVED: MAY 2016
REVISED: SEPTEMBER 2020

DETAIL
E157-04

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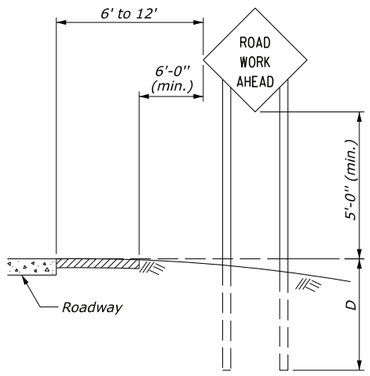
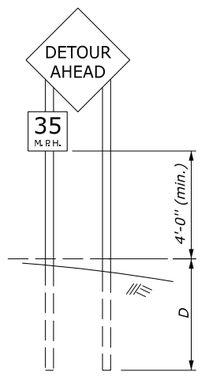
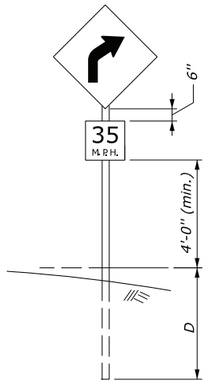
NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

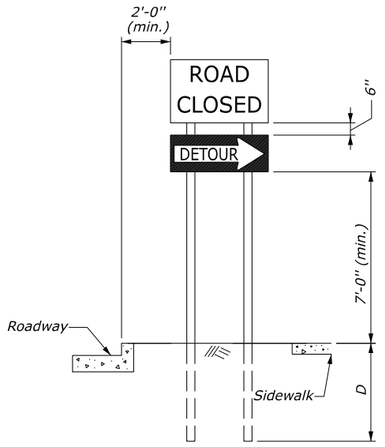
STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S03







RURAL AREA

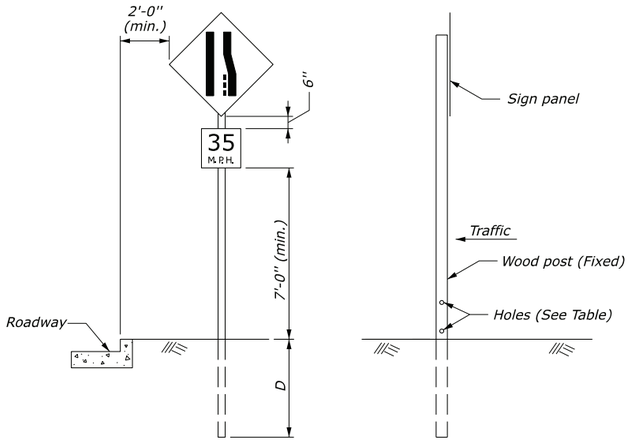


URBAN AREA

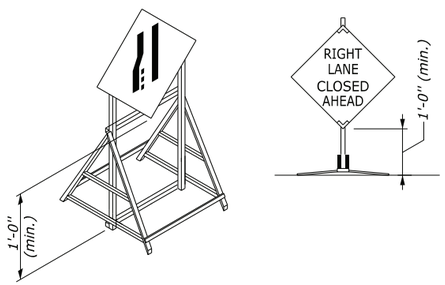
NOTES:

1. *Mount signs that are wider than 3 feet or larger than 10 square feet on double posts.*
2. *All lumber dimensions are nominal.*
3. *Submit alternate details for portable signs. Ensure sign mounts hold the sign face in a vertical plane. Portable signs may be mounted lower than fixed signs when approved by the CO. Ensure all portable sign supports meet the requirements of the NCHRP Report 350 for crashworthiness.*
4. *When parking is permitted within 200 feet of the sign, mount the sign a minimum of 7 feet above the pavement surface.*
5. *When approved by the CO and the Utility Company, utility poles may be used for sign mounting.*
6. *For 4- by 6-inch and greater posts, see the Breakaway Sign Support View. If breakaway design cannot be used due to post spacing, place the sign outside the clearzone or shield with a barrier. Do not place holes in posts of non-breakaway signs.*
7. *Signs requiring 6- by 6-inch and greater posts are considered non-breakaway if multiple posts are required and the posts cannot be spaced a minimum of 7 feet apart.*

FIXED ROADWAY SIGNS



BREAKAWAY SIGN SUPPORT
(FIXED SIGNS 4" X 6" AND GREATER POSTS)
(See Notes 6 and 7)



PORTABLE SIGNS
(See Notes 3 and 4)

POST SIZE TABLE

POST SIZE	D	HOLE DIAMETER	MAXIMUM SIGN AREA (SQFT)			
			1 Post	2 Post	3 Post	4 Post
4" x 4"	4'	None Required	10	20	X	X
4" x 6"	4'	1.5"	X	35	50	70
6" x 6"	5'	2"	X	50	75	100
6" x 8"	5'	3"	X	85	125	165

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

DETAIL APPROVED FOR USE
APPROVED: MAY 2011
REVISED: SEPTEMBER 2020

DETAIL
E635-01

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NPS PMIS No. 222636, 222632, 323954, 222594
NPS PMIS No. 222622, 222643, 222642, 321154 NPS Drwg No. 333/180254

STATE	PROJECT	SHEET NUMBER
VA	VA NP COLO 1C14, 1D48, 1E15	S04

LENGTH AND SPACING TABLE

APPROACH SPEED*	MINIMUM TAPER LENGTH	BUFFER SPACE LENGTH	CHANNELIZING DEVICE		
			TAPER AREA	BUFFER SPACE	WORK SPACE
MPH	FEET	FEET	SPACING IN FEET		
20	Shifting taper formula:	115	20	40	40
25	$L = \frac{WS^2}{120}$ for S ≤ 40 MPH	155	25	50	50
30		200	30	60	60
35	$L = \frac{WS}{2}$ for S ≥ 45 MPH	250	35	70	70
40		305	40	80	80
45	Where:	360	45	90	90
50	L = Minimum length of taper	425	50	100	100
55	W = Width of offset in feet	495	55	110	110
60	S = Numerical value of posted speed limit or 85 percentile speed prior to work in miles per hour	570	60	120	120
65		645	65	130	130
70		730	70	140	140

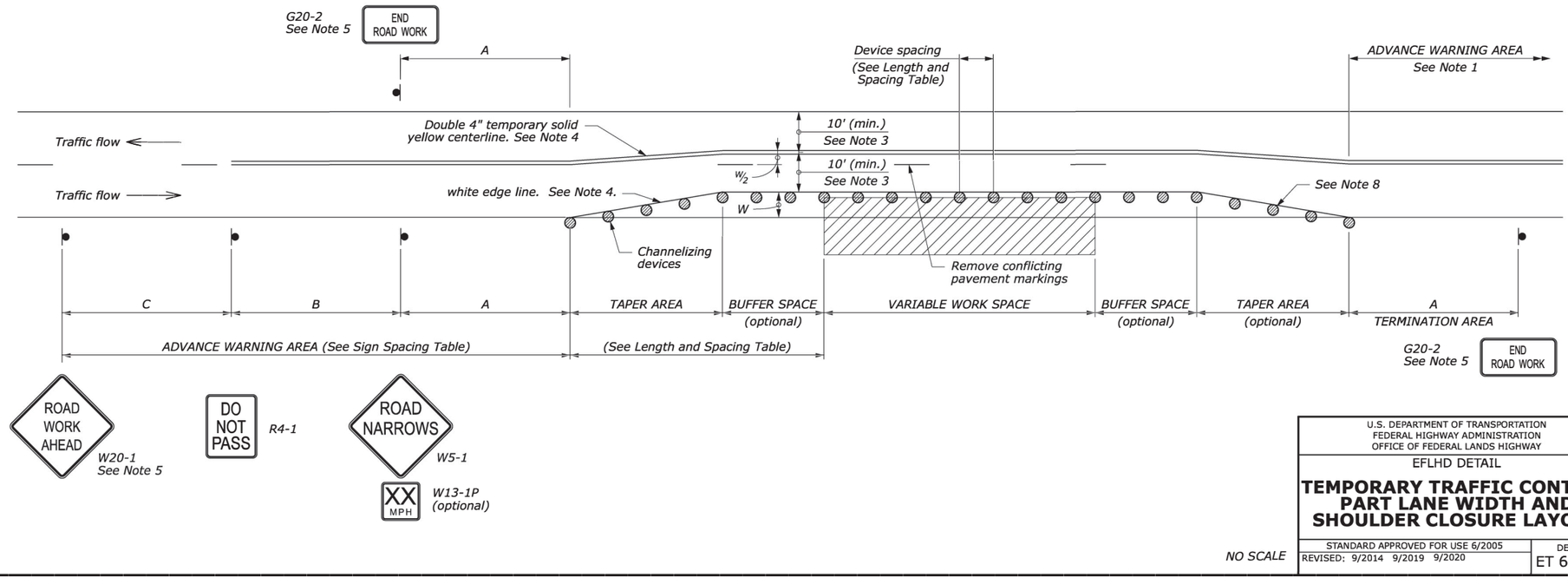
* Approach speed based on the regulatory posted speed, not the advisory speed.

SIGN SPACING TABLE

ROAD TYPE	DISTANCE BETWEEN SIGNS IN FEET		
	A	B	C
Urban and Rural 30 MPH and less	100	100	100
Urban and Rural 35 MPH to 50 MPH	350	350	350
Rural greater than 50 MPH	500	500	500
Expressway / Freeway	1000	1500	2640

NOTES:

1. Signs are shown for one direction of travel only. Place signs similar to those depicted for the opposite direction of travel.
2. Final location and spacing of traffic control devices may be changed to fit field conditions as approved by the CO.
3. Use minimum width shown unless otherwise specified in Section 156.
4. If the roadway surface is paved, install temporary pavement markings. If nearest no-passing zone is within 400 feet, extend markings to connect zones.
5. If closure is completely within the project limits, eliminate the "ROAD WORK AHEAD" (W20-1) and "END ROAD WORK" (G20-2) signs.
6. Install "PASS WITH CARE" sign (R4-2) at ends of no-passing zone if directed by the CO.
7. Do not allow equipment, materials, or vehicles to be parked or stored in the buffer space.
8. Reduce or eliminate drums in downstream taper if necessary to provide access to work space as approved by the CO.



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

TEMPORARY TRAFFIC CONTROL PART LANE WIDTH AND SHOULDER CLOSURE LAYOUT

STANDARD APPROVED FOR USE 6/2005
REVISED: 9/2014 9/2019 9/2020

DETAIL ET 635-11

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28 June 2022 3:45 PM

Virginia Marine Resources Commission
Permit Application 20231994
Printed: Thursday August 31, 2023 7:13 AM

Applicant: Colonial National Historical Park
Post Office Box 210
Yorktown, VA 23690

Application Number:	20231994	**Engineer:**	Mike Johnson
Application Date:	August 28, 2023	**Locality:**	James City
Permit Type:		**Waterway:**	
Permit Status:	Pending	**Expiration Date:**	
Wetlands Board Action:		**Public Hearing Date:**	

Project Description: Jamestown Island Bridge Maintenance